

20th
EDITION

Mosby's
Comprehensive
Review of Nursing for the

NCLEX-RN[®]
EXAMINATION

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Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination

TWENTIETH EDITION

Patricia M. Nugent, RN, EdD

Nugent Books, Inc., President; Professor Emerita, Nassau Community College, Garden City, New York

Judith S. Green, RN, MA

Professor Emerita, Nassau Community College, Garden City, New York

Mary Ann Hellmer Saul, RNCS, PhD

Professor, Nassau Community College, Garden City, New York

Phyllis K. Pelikan, RN, MA

President, PKP Books, Inc.; Professor Emerita, Nassau Community College, Garden City, New York





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3251 Riverport Lane
St. Louis, Missouri 63043

MOSBY'S COMPREHENSIVE REVIEW OF NURSING FOR THE NCLEX-RN® EXAMINATION

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Contributing Authors

Jane K. Brody, RN, PhD, Professor
Nassau Community College
Garden City, New York

Catherine R. Coverston, PhD, Professor Emerita
Brigham Young University
Provo, Utah

Christina Algiere Kasprisin, RN, EdD, Consultant
South Hero, Vermont

Barbara A. Vitale, RN, MA, Professor Emerita
Nassau Community College
Garden City, New York



Contributing Item Writers

Arline J. Borella, RN, BSN, CIC, Consultant
Seattle, Washington

Linda Carman Copel, RN, PhD, Villanova University College of Nursing
Villanova, Pennsylvania

Theresa M. Dobrzykowski, RN, DNS, APRNC, Indiana University of South Bend
South Bend, Indiana

Carmel A. Esposito, RN, EdD, Nurse Educator
Follansbee, West Virginia

Jane E. Flickinger, RN, MSN, Rochester Community College, Retired
Rochester, Minnesota

Michael W. Mangino, RN, MSN, NP—Psychiatry, Suffolk County Community College
Selden, New York

Cynthia C. Small, RN, MSN, APRN-BC, Lake Michigan College
Benton Harbor, Michigan

Darlene R. Sredl, RN, PhD, University of Missouri
St. Louis, Missouri

Judy E. White, RNC, MA, MSN, Southern Union State Community College
Opelika, Alabama

Reviewers

Teresa Burckhalter, MSN, RN, BC, *Nursing Faculty*
Technical College of the Lowcountry
Beaufort, South Carolina

Mary Helen Freter, MS, RN, CNE, *Assistant Professor of Nursing*
Health Sciences Division
Tulsa Community College
Tulsa, Oklahoma

Norlyn Hyde, RN, BC, MSN, CNS, *Professor of Nursing*
Division of Nursing
Louisiana Technical University
Ruston, Louisiana

Norah Johnson, PhD, RN, CPNP, *Assistant Professor*
College of Nursing
Marquette University
Milwaukee, Wisconsin

Pamela Newland, PhD, RN, *Assistant Professor*
School of Nursing
Southern Illinois University Edwardsville
Edwardsville, Illinois

Linda Rosier, RN, MSN, IBCLC, *Associate Professor*
Nursing Program
Montgomery College
Takoma Park, Maryland

Donna Russo, RN, MSN, CCRN, CNE, *Nursing Instructor*
ARIA Health School of Nursing
Philadelphia, Pennsylvania

Kim Silvey, MSN, RN, *Assistant Professor*
Department of Nursing
Morehead State University
Morehead, Kentucky

Katrina Allen Thomas, RN, MSN, CCRN, *Nursing Instructor*
Nursing
Faulkner State Community College
Bay Minette, Alabama

Companion CD Audio Key Points

Written by:

Sharon Souter, PhD, RN, CNE, *Dean and Associate Professor*
Scott and White College of Nursing
University of Mary Hardin-Baylor
Belton, Texas

Narrated by:

Carolyn Kruse, *Above the Dogs*
St. Peters, Missouri



Dedication

To my husband Neil, the love of my life

Thank you for always being there for me

Patricia Nugent

To my family

Dale and Art, Richard, Eric and Miriam, Cheryl, and Steven

Thank you for your unconditional support

Judith Green

To my children George, Matt, and Meredith

for their inspiration and for teaching me so many valuable life lessons

Mary Ann Hellmer Saul

To my family

The proverbial “Wind beneath my Wings”

Phyllis K. Pelikan



Preface

The information in *Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination* has been totally revised and updated for this 20th edition. The progression of subject matter in each area reflects the consistent approach that has been used throughout the book. Information presented incorporates the latest knowledge, newest trends, and current practices in the profession of nursing.

The Introduction for Students Preparing for the Licensure Examination provides information about the NCLEX-RN® Examination, including the classifications used in the test plan structure. It also reviews clues for answering multiple-choice questions, provides examples of alternate-format items, and discusses the comprehensive exams and how to use this book when studying. Foundations of Nursing Practice—Unit I ([Chapters 1](#) through [3](#))—discusses factors that influence client needs, the basics of nursing practice, and integral aspects of nursing care. These chapters present information essential to the practice of nursing that is common to all of the clinical areas. Content related to Medical-Surgical Nursing is presented in Unit 2 ([Chapters 5](#) through [13](#)); content related to Mental Health/Psychiatric Nursing is presented in Unit 3 ([Chapters 15](#) through [21](#)); content related to Childbearing and Women's Health Nursing is presented in Unit 4 ([Chapters 23](#) through [27](#)); and content related to Child Health Nursing is presented in Unit 5 ([Chapters 29](#) through [34](#)). [Chapters 4](#), [14](#), [22](#), [28](#), and [35](#) consist of questions with their answers and rationales that relate to Foundations of Nursing Practice, Medical-Surgical Nursing, Mental Health Nursing, Childbearing and Women's Health Nursing, and Child Health Nursing, respectively. [Chapter 36](#) in Unit 6 contains a 265-item Comprehensive Exam that mirrors the NCLEX-RN® Examination. [Chapter 37](#) in Unit 6 contains two Study Worksheets: *Focus For Study Worksheet—Adapted NCLEX-RN Test Plan* and *Focus For Study Worksheet—Content Areas*. These worksheets promote an individualized assessment that can focus future study.

The Medical-Surgical, Mental Health/Psychiatric, Childbearing and Women's Health, and Child Health Nursing chapters incorporate information from the basic sciences, nutrition, pharmacology, acute and long-term care, and physical and emotional nursing care. We continue to present the material in the traditional clinical groupings for we still believe that when preparing for a comprehensive examination, the average student will study all of the distinct parts before attempting to put them together. Although we believe that in practice the nursing process is continually evolving rather than remaining a clearly defined step-by-step process, we present the content under the following headings: Assessment/Analysis, Planning/Implementation, and Evaluation/Outcomes. We believe that this grouping avoids needless repetition, recognizes the abilities of our readers, and reflects current practice.

Over 4200 questions have been included in this edition of *Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination*. More than 500 of them are new questions that reflect the increased emphasis on Management of Care, Reduction of Risk Potential, and Alternate Format Items. Although the majority of the questions are multiple-choice, the number of alternate format items (e.g., multiple-response items, ordered-response items, fill-in-the-blank items, hot spot items, and exhibit items) in the book was increased to 618.

The questions in [Chapters 4](#), [14](#), [22](#), [28](#), and [35](#) are grouped according to the chapter in which the content of the question is presented. For every question in this edition and on the CD-ROM we have provided rationales that state the reason why the correct answer is correct, as well as why the

incorrect answers are incorrect. To further assist the user in studying/reviewing by a specific content area, the questions are classified according to Client Need, Cognitive Level, Nursing Process, Integrated Process (if applicable), and Reference. The Reference category at the end of each answer/rationale refers the student to the chapter and major headings under which the content in the question is presented in more detail in *Mosby's Comprehensive Review of Nursing for the NCLEX-RN Examination*.

One Comprehensive Exam is included in this textbook and on the Companion CD, along with a second Comprehensive Exam that appears only on the Companion CD-ROM. These comprehensive exams provide an opportunity for the test taker to experience testing situations that approximate the NCLEX-RN®. To parallel the NCLEX-RN®, the first 75 questions in each test reflect the minimal testing experience for students taking the NCLEX-RN®. The total number of 265 questions in each test reflects the maximum number of questions that a student can take on the NCLEX-RN®. On the CD all of the questions in the comprehensive exams have been analyzed as to Client Need, Cognitive Level, Nursing Process, Integrated Processes (if applicable), and Reference to content in *Mosby's Comprehensive Review of Nursing for the NCLEX-RN Examination*.

The Companion CD-ROM contains the 2245 questions from the book, as well as 1965 additional test questions that can be used in both study and test format. These questions also have been categorized by Client Need, Cognitive Level, Nursing Process, and Integrated Process (if applicable). Whether the test taker answers these questions in a written or computerized format the information being tested remains constant. To reinforce learned information and build confidence in taking a computerized test, we suggest that students practice answering questions on this CD to simulate the computerized NCLEX-RN®. The Companion CD has three practice modes: Study, Quiz, and Exam. The Study and Quiz modes allow a selection of topics and categories to create an exam consisting of as many items as desired. The Study mode provides immediate feedback and rationales as each question is answered. The Quiz mode provides an analysis of performance once all the questions on the exam have been answered. The Exam mode includes two Comprehensive Exams with 265 questions each that will appear in random order each time the test is taken. A third option, Comprehensive Exam Random generates 265 questions randomly from all questions available. Content selection allows for a choice of questions by client need, step of the nursing process, or content area to individualize a focused study. The Companion CD also includes brand new mp3 key point summaries that can be downloaded for on-the-go review.

All of the questions used in this edition have been submitted by outstanding educators and practitioners/health care providers of nursing. Initially the editorial board reviewed all questions, selecting the most pertinent for inclusion in a mass field-testing project or analysis by a panel of expert nursing educators. Students graduating from baccalaureate, associate degree, and diploma nursing programs in various locations in the United States provided a diverse group for the mass field-testing project or focus group sessions. Results were statistically analyzed. This analysis, in addition to the input from the panel of expert nursing educators, was used to select questions for inclusion in the book.

We would like to take this opportunity to thank Kristin Geen, Executive Editor, for her masterful leadership; Jamie Horn, Senior Developmental Editor, for her dedication to this project and for keeping us focused; Johnny Gabbert, Project Manager, for being always available and having the answers to all of our questions; Karen Pauls, Designer, for taking a complex manuscript and making it easy on the eyes and brain; Debbie Prato, Copyeditor, for ensuring a crisp, accurate manuscript; and finally Eloise DeHaan, Proofreader, for her meticulous attention to detail in relation to content

and format.

In addition, we recognize the exemplary work of the Contributing Authors, Contributing Item Writers, and Reviewers that reflects their dedication and expertise. We thank our proofreaders Erin Mitchell, Frances Timcheck, Kathleen Ashker, Cheryl Wolff, and Dorene Lebowitz for their help in the final stages of manuscript preparation. A special thank you goes to Barbara Vitale for work over and beyond the call of her content editorial duties. We especially appreciate our families for their patience and understanding when the production of this book consumed most of our time and energy.

Patricia M. Nugent

Judith S. Green

Mary Ann Hellmer Saul



Introduction for Students Preparing for the NCLEX-RN® Examination

Overview

The NCLEX-RN® examination is integrated and comprehensive. Nursing candidates are required to answer questions that necessitate a recognition and understanding of the physiologic, biologic, and social sciences, as well as the specific nursing skills and abilities involved in a given client situation.

This textbook and CD contain a total of 4210 questions. They include objective multiple-choice questions, as well as alternate-format questions (615 items) such as multiple-response items, ordered-response items, fill-in-the-blank items, hot spot items, exhibit items, and audio items. To answer the questions appropriately, a candidate needs to understand and correlate certain aspects of anatomy and physiology, the behavioral sciences, fundamentals of nursing, the effects of medications administered, the client's attitude toward illness, and other pertinent factors such as legal responsibilities, leadership and management, and critical thinking. Most questions are based on nursing situations similar to those with which candidates have had experiences because they emphasize the nursing care of clients with representative common health problems. Some questions, however, require candidates to apply basic principles and techniques to clinical situations with which they have had little, if any, actual experience.

To prepare adequately for an integrated comprehensive examination, it is necessary to understand the discrete parts that compose the universe of material under consideration. This is one of the major principles of learning that has contributed to the development of *Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination*.

Using this principle, the text begins with Unit 1—Foundations of Nursing Practice. The information in this unit is essential to each of the major clinical areas: Unit 2—Medical-Surgical Nursing, Unit 3—Mental Health/Psychiatric Nursing, Unit 4—Childbearing and Women's Health Nursing, and Unit 5—Child Health Nursing. Chapters at the end of each unit contain questions that test the student's knowledge of principles and theories underlying nursing care specific to the content within the unit. The questions represent a variety of situations, in a variety of settings, and with a variety of nursing objectives. Each question has rationales for the correct answer and incorrect options, as well as a classification of the question that reflects the NCLEX-RN® examination test plan. The following descriptions are presented to assist in the understanding of these classifications.

Classification of Questions

Every question in the book and in both comprehensive exams is classified by the following categories: Client Need, Cognitive Level, Integrated Process, Nursing Process, and a Reference to content within *Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination*. In the Comprehensive Exams the percentage of test questions assigned to each Client Need category and subcategory reflects the 2010 NCLEX-RN Test Plan. These percentages are included adjacent to the specific Client Need category.

Client Need

These categories reflect activities most frequently performed by entry-level nurses.

1. Safe and Effective Care Environment

Management of Care (16% to 22%): These questions provide or direct the nursing activities that promote the delivery of care to clients, family members, significant others, and other health care personnel.

Safety and Infection Control (8% to 14%): These questions address the protection of clients, family members, significant others, and health care personnel from health and environmental hazards.

2. Health Promotion and Maintenance (6% to 12%)

These questions provide or direct the nursing care of the client, family members, and significant others. They include knowledge of the principles of growth and development, prevention and/or detection of health problems, and interventions to achieve optimum health.

3. Psychosocial Integrity (6% to 12%)

These questions provide or direct the nursing care that supports and promotes the emotional, mental, and social well-being of the client, family members, and significant others experiencing stressful events, as well as clients with acute or chronic mental health illness.

4. Physiological Integrity

Basic Care and Comfort (6% to 12%): These questions address the provision of comfort and support in the performance of the activities of daily living. These include elimination, mobility, hydration, nutrition, hygiene, comfort, rest, and sleep.

Pharmacological and Parenteral Therapies (13% to 19%): These questions address the provision of care related to the administration of medications, parenteral therapies, and blood products.

Reduction of Risk Potential (10% to 16%): These questions address the nursing care that may limit the likelihood of the development of complications or health problems related to existing disorders, treatments, or procedures.

Physiological Adaptation (11% to 17%): These questions address the provision and management of the nursing care for clients with acute, chronic, or life-threatening physical health problems.

Cognitive Level

This category reflects the thinking processes required to answer the question.

Knowledge: These questions require the test taker to recall information from memory. For example, they involve knowledge of facts, principles, generalizations, terminology, and trends.

Comprehension: These questions require the test taker to understand information. They involve the interpretation, paraphrasing, and summarization of information, as well as the determination of

implications and consequences of information.

Application: These questions require the test taker to use information, principles, or concepts. They involve identifying, manipulating, changing, or modifying information as well as performing mathematical calculations.

Analysis: These questions require the test taker to interpret a variety of information. It involves the recognition of commonalities, differences, and interrelationships among data, concepts, principles, and situations.

Integrated Process

Integrated processes are fundamental components critical to the practice of nursing. They include the nursing process, caring, communication and documentation, and teaching and learning. Because the nursing process (a scientific problem-solving process that involves critical thinking) is essential to all nursing care, it is included in each answer/rationale.

Caring: These questions reflect interactions between the nurse and client/significant others that demonstrate mutual trust and respect. They include the nursing care that provides support, encouragement, hope, and compassion.

Communication/Documentation: These questions involve verbal and nonverbal interactions between the nurse and client, significant others, and members of the health care team. Client status, events, and interventions are communicated and documented according to rights, responsibilities, and standards of care.

Teaching/Learning: These questions include nursing assessments and interventions that relate to the attainment of knowledge, skills, or attitudes that meet client needs.

Phases of the Nursing Process

This category reflects the problem-solving process used by nurses to identify client needs, plan and implement nursing care, and evaluate client responses to care.

Assessment/Analysis: This phase requires the nurse to obtain objective and subjective data from primary and secondary sources, to identify and group significant data, and to communicate this information to other members of the health team. This phase also requires the nurse to interpret data gathered through assessment in order to make nursing decisions. Client and family needs are identified, and short-term and long-term goals/outcomes are set.

Planning/Implementation: This phase requires the nurse to design and implement a regimen with the client, family, and other health team members to achieve goals/outcomes set during the assessment/analysis phase. It also requires setting priorities for intervention. The client may be given total care or may be assisted and encouraged to perform activities of daily living or follow the regimen prescribed by the health care provider. In addition, it involves activities such as counseling, teaching, and supervising health team members.

Evaluation/Outcomes: This phase requires the nurse to determine the effectiveness of nursing care. Care is reviewed, the client's response to intervention is identified, and a determination is made as to whether the client has achieved the predetermined outcomes and goals. It also includes the appraisal of factors that influence goal achievement (e.g., the client's abilities to fulfill the health care plan—physical, emotional, financial) and modification of the original plan as needed.

Reference

Each question in the book and questions in both comprehensive examinations on the CD refer the test taker to the section where the related content concerning the question is within *Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination*. This promotes a review of the specific information as it relates to the question and permits a more thorough review of related information.

General Clues for Answering Multiple-Choice Questions

On a multiple-choice test, the question and possible answers are called a *test item*. The part of the item that asks the question or poses a problem is called the *stem*. All of the possible answers presented are called *options*. One of the options is the correct answer or *key*; the remaining options are incorrect. The incorrect options are called *distractors* because their major purpose is to distract the test taker from the correct answer.

A Read the question carefully before looking at the answers.

1. Determine what the question is really asking; look for key words.
2. Read each answer thoroughly and see if it completely covers the material asked by the question.
3. Narrow the choices by immediately eliminating answers you know are incorrect.

B Because few things in life are absolute without exceptions, avoid selecting answers that include words such as *always*, *never*, *all*, *every*, and *none*. Answers containing these key words are rarely correct.

C Attempt to select the answer that is most complete and includes the other answers within it. An example might be as follows. A stem might ask “A child’s intelligence is influenced by:” and three options might be *genetic inheritance*, *environmental factors*, and *past experiences*. The fourth option might be *multiple factors*, which is a more inclusive choice and therefore the correct answer.

D Make certain that the answer you select is reasonable and obtainable under ordinary circumstances and that the action can be carried out in the given situation.

E Watch for grammatical inconsistencies. If one or more of the options is not grammatically consistent with the stem, the alert test taker can identify it as a probable incorrect option. When the stem is in the form of an incomplete sentence, each option should complete the sentence in a grammatically correct way.

F Avoid selecting answers that state hospital rules or regulations as a reason or rationale for action.

G Look for answers that focus on the client or are directed toward feelings.

H If the question asks for an immediate action or response, all of the answers may be correct, so base your selection on identified priorities for action.

I Do not select answers that contain exceptions to the general rule, controversial material, or degrading responses.

J Reread the question if the answers do not seem to make sense, because you may have missed words such as *not* or *except* in the statement.

K Do not worry if you select the same numbered answer repeatedly, because there usually is no pattern to the answers.

L Mark the number next to the answer you have chosen.

M Answer every question because on the NCLEX-RN® exam you must answer a question before you can move on to the next question.

Alternate Item Formats

In addition to multiple-choice questions, the NCLEX-RN® exam includes alternate-format questions. These questions consist of five types: multiple-response items, ordered-response (drag and drop) items, fill-in-the-blank items, hot spot, and exhibit items. The following examples reflect these alternate item formats.

Multiple-Response Item

Multiple-response items pose a question and then include a list of responses that may or may not answer the question. The test taker is directed to indicate all the correct options.

The nurse suspects that a postpartum client is experiencing postpartum depression without psychotic features. Which assessment findings support this conclusion? **Select all that apply.**

1. ☐ Delusions
2. ☐ Somnolence
3. ☐ Ambivalence
4. ☐ Increased appetite
5. ☐ Emotional lability

Answer: 2, 4, 5.

1. Delusions occur 50% of the time with postpartum depression with psychotic features.
2. **A yearning for sleep, sleeping heavily, and an inability to go back to sleep if awakened are all associated with postpartum depression without psychotic features.**
3. Ambivalence is experienced by many postpartum women and during postpartum blues. With postpartum depression without psychotic features the woman is often fearful, anxious, angry, and despondent.
4. **Women with postpartum depression without psychotic features often have odd food cravings (often desserts) and tend to binge eat and gain weight.**
5. **These women are irritable, and their behavior escalates with little provocation. They experience spontaneous crying episodes and have severe anxiety and panic attacks.**

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Postpartum Period, Data Base

Ordered-Response (Drag and Drop) Item

Ordered-response items present information or a series of statements and then ask the test taker to place them in order of priority.

A client is receiving an IV piggyback oxytocin (Pitocin) infusion to induce labor. The client experiences three contractions that are 90 seconds long and occur less than 2 minutes apart. List in order of priority the nursing actions that should be taken.

1. ☐ Administer oxygen
2. ☐ Call the health care provider
3. ☐ Interrupt the oxytocin infusion
4. ☐ Assess maternal/fetal responses
5. ☐ Document fetal/maternal responses

Answer: 3, 1, 4, 2, 5.

3. The dose of oxytocin is excessive, causing prolonged, intense uterine contractions that can precipitate uterine rupture. The oxytocin (Pitocin) must be stopped immediately.
1. Excessive contractions decrease blood flow to the placenta; this can result in fetal heart rate decelerations (e.g., bradycardia, diminished variability, late decelerations) and fetal hypoxia. Oxygen will improve the amount of oxygen being supplied to the placenta and eventually to the fetus.
4. Maternal and fetal responses to the cessation of the oxytocin infusion and the administration of oxygen should be evaluated next. The mother and fetus are the priority.
2. The health care provider should be notified as soon as the initial interventions are implemented and the maternal and fetal responses are evaluated.
5. Documentation of the event (e.g., length and intensity of contractions, nursing interventions, maternal and fetal responses, and notification of the health care provider) is done last after the needs of the mother and fetus are met.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Induction or Stimulation of Labor, Nursing Care of Women during Induction or Stimulation of Labor

Fill-in-the-Blank Item

Fill-in-the-blank items involve a calculation. The question presents information and requires the test taker to manipulate the information to solve the problem posed, and then the test taker must record the solution to the problem.

The health care provider prescribes an IVPB infusion of 500 mg of an antibiotic to be added to 50 mL of normal saline to be administered four times daily. The antibiotic is supplied in single-dose vials containing 1 g each. The directions advise that the instillation of 0.8 mL of normal saline will yield 1.2 mL of solution. How much antibiotic solution should be added to the 50 mL of normal saline? **Record your answer using one decimal place.**

Answer: _____ mL

Answer: 0.6 mL. First convert 500 mg to 1 g by using ratio and proportion. Then solve the problem by using ratio and proportion.

$$\text{Desire } 500 \text{ mg} = X \text{ g}$$

$$\text{Have } 1000 \text{ mg } 1 \text{ g}$$

$$1000X = 500$$

$$X = 500 \div 1000$$

$$X = 0.5 \text{ g}$$

$$\text{Desire } 0.5 \text{ g} = X \text{ mL}$$

$$\text{Have } 1 \text{ g } 1.2 \text{ mL}$$

$$X = 0.5 \times 1.2$$

$$X = 0.6 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

Hot Spot Item*

Hot spot items present a problem in relation to a figure. You are asked to answer the question by placing an X over an area on the figure. These items may focus on areas to be assessed or sites of clinical manifestations.

A nurse is assessing a client with the diagnosis of hypoparathyroidism. As part of the assessment the nurse assesses the client for Chvostek's sign. Place an X where the nurse should tap to elicit this sign.



Answer: Low serum calcium levels increase the movement of sodium across excitable membranes; depolarization occurs more easily. Tapping the face just below and in front of the ear stimulates the facial nerve; in the presence of hypocalcemia, muscle twitching on one side of the mouth, nose, and cheek occurs (Chvostek's sign).



Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Hypoparathyroidism, Nursing Care

Exhibit Item

Exhibit items present a situation and ask a question. A variety of objective and subjective information is presented about the client in formats such as the hospital record (e.g., laboratory test results, results of diagnostic procedures, progress notes, health care provider orders, medication administration record, health history), physical assessment data, and nurse/client interactions. After analyzing the information presented, the test taker answers the question. These questions usually reflect the analysis level of cognitive thinking.

Vital Signs
Temperature: 97.7° F (36.5° C) Heart rate: 110 beats per minute Respiration: 40 breaths per minute Blood pressure: 100/64
Physical Assessment
Thin appearance Experiencing fatigue Height and weight at 25th percentile for age Pale mucous membranes and conjunctiva
Laboratory Values
WBC: 6000/mm ³ RBC: $2.7 \times 10^6/\mu\text{L}$ Hb: 7.8 g/dL Hct: 22.3% Platelets: 278,000 μL

A parent brings a 4-year-old child to the clinic because the child is no longer able to keep up with older siblings when playing sports in the yard. The nurse obtains the child's vital signs, performs a physical assessment, and reviews the child's laboratory reports. What should be the nurse's **primary** intervention?

1. Preventing bleeding
2. Instituting contact precautions
3. Initiating a strict intake and output
4. Monitoring for cardiac decompensation

Answer: **4 This child is severely anemic. The decreased red blood cells (the expected range for a 4-year-old is 4.0 to $5.5 \times 10^6/\mu\text{L}$), low hematocrit (the expected range for a 4-year-old is 30% to 40%), and low hemoglobin (the expected range for a 4-year-old is 9.5 to 14 g/dL) place the child at risk for cardiac decompensation and heart failure. The child's cardiovascular status must be monitored closely.**

1. There is no information to indicate that the child is at risk for bleeding. The child's platelet count is within the expected range of 150,000 to 400,000/mm³.
2. The child's WBC count is within the expected range of 5000 to 10,000/mm³. There is no information to indicate that the child has an infection.
3. Although this may be done, it is not the priority.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Iron Deficiency Anemia, Data Base

Comprehensive Examinations and Focus for Study Worksheets

Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination contains two comprehensive examinations, one in [chapter 36](#) and one on the enclosed Companion CD. These tests approximate the NCLEX-RN® test plan. The first 75 questions in each examination reflect the minimum testing experience for students taking the NCLEX-RN® examination. The 265 questions in each test reflect the maximum number of questions a student will be asked on the NCLEX-RN® exam. The questions require the test taker to cross clinical disciplines and respond to individual and specific needs associated with given health problems. Rationales are also provided for the correct answers and the incorrect options to these questions. In addition, each question is classified according to client need, cognitive level, integrated process, and nursing process, and a reference is provided as to where the content in the question can be found in *Mosby's Comprehensive Review of Nursing for the NCLEX-RN Examination*. The purpose of these comprehensive tests is to provide students with an opportunity to simulate the NCLEX-RN® exam experience at the completion of a personalized program review.

In [chapter 37](#), Focus for Study Worksheets, two tools are present to help students analyze their test performance and provide information for designing a plan for study. The Focus for Study Worksheet—Adapted NCLEX-RN Test Plan addresses the classifications used to reflect content on the NCLEX-RN examination. The Focus for Study Worksheet—Content Areas reflects content within the domain of nursing and where the information can be found in *Mosby's Comprehensive Review of Nursing for the NCLEX-RN Examination*.

Companion CD

The Companion CD contains the 2245 questions that are in the book and an additional 1965 bonus questions, for a total of 4210 questions. Of these questions, 615 are alternate format items. It contains three practice modes: Study, Quiz, and Exam. The Study and Quiz modes allow the test taker to select topics and categories to create an exam consisting of as many items as desired. The Study mode provides immediate feedback and rationales as each question is answered. The Quiz mode provides an analysis of the test taker's performance once all of the questions on the exam have been answered. The Exam mode includes two Comprehensive Exams with 265 questions each that will appear in random order each time a test is taken. A third option, Comprehensive Exam Random, generates 265 questions randomly from all of the questions available. Items can be selected by client need, the step of the nursing process, and the content area so that the test taker can focus studying based on a self-assessment of individual needs or the results of a personal analysis from the Study Worksheets.

How to Use This Book When Studying

A Start in one area. Study the material covered by the section. Refer to other textbooks to find additional details if you are unsure of a specific fact.

B Answer the questions following the area. As you answer each question, write a few words about why you think that answer is correct; in other words, justify why you selected that answer. If an answer you provide is a guess, mark the question to identify it. This will permit you to recognize areas that need further review. It will also help you to see how correct your “guessing” can be. Remember: on the licensure examination you must answer each question before moving on to the next question.

C Record the answer by circling the number of the option you believe is correct.

D Compare your answers with those provided. If you answered the item correctly, check your reason for selecting the answer with the rationale presented. If you answered the item incorrectly, read the rationale to determine why the option you selected was incorrect. In addition, you should review the correct answer and rationale for each item answered incorrectly. If you still do not understand your mistakes, review the material pertaining to these questions. The Content Area following the answers and rationales informs you of the area within *Mosby's Comprehensive Review of Nursing for the NCLEX-RN® Examination* where you can find related information included in the question. You should carefully review all questions and rationales for items you identify as guesses because you do not have mastery of the material being questioned.

E Following the rationales for the correct answer and the incorrect options, you will find that each question in the book is classified according to Client Need, Cognitive Level, Integrated Process, Nursing Process, and Reference. These categories were described previously in this Introduction and should help you to understand the question in relation to the NCLEX-RN® examination test plan.

F After you have completed the area questions, begin taking the comprehensive tests because they will assist you in applying knowledge and principles from the specific clinical area to any nursing situation.

1. Arrange a quiet, uninterrupted time span for each part of a comprehensive test.
2. Avoid spending excessive time on any one question. Most questions can be answered in 1 to 2 minutes.
3. Make educated guesses when necessary.
4. Read carefully and answer the question asked; pay attention to specific details in the question.
5. Try putting questions and answers in your own words to test your understanding.

G To help analyze your mistakes on the comprehensive examinations and to provide a data base for making future study plans, Study Worksheets follow each of the comprehensive tests. These worksheets are designed to aid you in identifying and recording errors in the way you apply information and to help you identify and record gaps in knowledge.

H After completing your worksheets, do the following:

1. Identify the frequency with which you made particular errors. As you review material in class notes or this review book, pay special attention to acquiring information related to content that you found difficult on the tests.
2. Identify the topics you want to review. It might be helpful to set priorities; review the most difficult topics first so you will have time to review them more than once.

I Use the Companion CD to individualize your style of review. Use one or more of the practice modes (e.g., Study, Quiz, and Exam) to personalize your focus of study based on a self-assessment of needs

and/or an analysis of your Study Worksheets.

Taking the Licensure Examination

The computerized NCLEX-RN® exam is an individualized testing experience in which the computer chooses your next question based on the ability and competency you have demonstrated on previous questions. The minimum number of questions will be 75 and the maximum 265. You must answer each question before the computer will present the next question, and you cannot go back to any previously answered questions. Remember that you do not have to answer all of the questions correctly to pass.

The following are crucial requisites for doing well on the licensure examination:

- A sound understanding of the subject
- The ability to follow explicitly the directions given at the beginning of the test
- The ability to comprehend what is read
- The patience to read each question and set of options carefully before deciding how to answer the question
- The ability to use the computer correctly to record answers
- The determination to do well
- A degree of confidence

*Image from Thompson JM and others: *Mosby's manual of clinical nursing*, ed 5, St. Louis, 2001, Mosby.

UNIT 1

Foundations of Nursing Practice



CHAPTER 1

Concepts from Sociology

Basic Concepts

A Every human society has a process for socialization of its members

1. Cultural groups establish rules and codes of conduct using a system of rewards and punishment to govern members, and these become norms, values, and mores of a group
 - a. Reward leads to acceptance as a member of a group
 - b. Punishment for antisocial behavior leads to rejection and separation from a group
2. Role of members includes specified rights, duties, attitudes, and actions
3. Social boundaries separate one group from another; nonmembers have limited social contacts with members; causes a segmentation of relationships and provides few rewarding experiences for nonmembers
4. Leader's influence is limited to conditions placed on leader by total group

B A society is a reflection of all functional relationships that occur among its individual members; participation in society is a major influence on an individual's intellect, creativity, memory, thinking, and feeling

C Society or a group can change because of conflict among members

1. Conflict is greatest when there is absence of certain members, introduction of new members, or change in leadership
2. Ensuing reorganization goes through three stages
 - a. Tension: caused by conflict
 - b. Integration: members learn about "the other's" problem
 - c. Resolution: reconstruction of group's norms and values
3. Resolution of conflict and restoration of equilibrium
 - a. Occurs when members interact with one another and group is dynamic
 - b. Conflicts are not resolved when groups are rigid with fixed ideas

Culture and Health

A General influences

1. Culture defines for its people what is important and what is true and real
2. Age, ethnicity, gender, education, income, and belief system (e.g., worldview, religion, or spirituality) make up sociocultural profile of clients
3. Clients' perceptions of health and illness, their help-seeking behavior, and adherence to treatment depend on beliefs, social norms, and cultural values
4. When clients face increased stressors, suffering, or pain, belief systems play a greater role in their lives
5. Ethnocentrism: belief that one's own culture is generally right or best
6. Assimilation: integration of common values, beliefs, attitudes, and behaviors of dominant culture
7. Common sociocultural stressors: stereotyping, intolerance, stigma, prejudice, discrimination, and racism

B Implications for nurses

1. Nurses should be in touch with their own personal and cultural experiences
2. Culturally competent nurses have an understanding of cultural diversity to provide care within a

context that is appropriate for clients

3. Nurses must have a holistic perspective to assess sociocultural context of clients from different cultures
Nurses must appreciate that clients bring their own cultures, attitudes, and belief systems to a situation
4. Together, nurse and client should agree on the nature of a client's coping responses and set goals and behavioral outcomes within client's sociocultural context
5. Degree of compatibility between client's and nurse's belief systems often determines greater satisfaction with treatment, adherence to therapeutic regimens, and treatment outcomes

Society and Health

A Role of society

1. Societies traditionally are responsible for caring for their ill
2. Society's role in health maintenance and prevention of disease has intensified
3. Society's provision for health maintenance includes
 - a. Establishment of public health care agencies for supervision, prevention, and control of disease and illness; protection of food, water, and drug supplies; development of public education programs
 - b. Awarding scholarships/grants for health education and research
 - c. Development of unemployment insurance programs and Workers' Compensation insurance; laws to ensure universal health insurance
 - d. Establishment of Social Security and Medicare programs; establishment of social welfare services and Medicaid programs
 - e. Supervision of medical and hospital insurance programs

B Health care agencies function as a subculture of society

1. Employees develop both written and unwritten agency policies that
 - a. Set standards of acceptable behavior for both clients and staff
 - b. Provide formal delivery of nursing care (e.g., primary nursing, team nursing)
 - c. Avoid rewarding unacceptable behaviors by any members of a group, including the client
2. Health care agencies have several functions
 - a. Treatment of illness
 - b. Rehabilitation
 - c. Maintenance of health
 - d. Palliative care
 - e. Hospice care
 - f. Protection of clients' legal rights
 - g. Education of health professionals
 - h. Education of general public
 - i. Research

C Delivery of health services is the responsibility of the community

1. Health maintenance and treatment are no longer considered a privilege, but a right of all members of society
2. Members of society become active participants in prevention of illness
3. Services provided by health care agencies are influenced by community needs (e.g., based on shorter length of hospitalization; clients' need for transitional care provided by home care)

agencies, extended care, or assisted living facilities)

Groups

A Group membership helps individuals achieve goals that are not attainable through individual effort

1. Types of groups include social, self-awareness, task-oriented, and therapy
2. Group functional roles include task roles, group-building or maintenance roles, individual or self-serving roles
3. Group content refers to subject matter or task being addressed
4. Group process refers to what is happening among and to group members while working; it addresses morale, feeling tones, influence, competition, conflict
5. Types of roles assumed by members of group
 - a. Harmonizer: brings other group members into accord while reconciling opposing positions
 - b. Questioner: asks questions, seeks information, and gives constructive criticism to group members
 - c. Deserter: talks about irrelevant material; usually disruptive in some manner
 - d. Tension reducer: introduces levity when needed and appropriate
 - e. Encourager: contributes to ego of others and is a responsive member
 - f. Monopolizer: attempts to control group; does not allow others to talk
 - g. Clarifier: restates issues for clarification and then summarizes for group
 - h. Opinion giver: uses own experience to back up opinion or belief
 - i. Initiator: proposes ideas or topics for discussion and suggests possible solutions for group discussion
 - j. Listener: shows interest in group by expressions on face or by body language while making little or no comment
 - k. Negativist: pessimistic, argumentative, and uncooperative
 - l. Energizer: pushes group into action
 - m. Aggressor: hostile and aggressive, verbally attacks other group members

B Family is the primary group

1. Helps society to establish and maintain its code of behavior
2. Provides individual family members with nontangible support
 - a. Strong emotional ties that occur when members
 - (1) Experience sensory stimuli through close contacts
 - (2) Learn to care about emotional and physical well-being of one another
 - (3) Are responsive to one another's feelings, acts, and opinions
 - (4) Learn empathy by vicariously living experiences of others
 - (5) View selves through others' eyes
 - b. Feeling of security by meeting dependent needs
 - c. System of communication: overt (e.g., words) or covert (e.g., body language)
 - d. Role identification and intimacy that help internalize acceptable behavioral patterns of family
 - e. Spirit of cooperation and competition through sibling interaction
3. Changes that have influenced family's ability to indoctrinate children with norms of society
 - a. Society has progressed from an agrarian culture through Industrial Revolution to Age of Technology
 - (1) Families have undergone change from extended to nuclear units, with increased

numbers of blended, single-parent, and same-gender parent households

- (2) New social groups are established to replace the extended family
- (3) Electronic influences (e.g., Internet, cell phones) have weakened family structure
- (4) Increased mobility of individuals has reduced contact with extended or separated family members
- (5) Participation in individual activities has grown, reducing time for involvement in family activities

b. Altered male and female role patterns

- (1) Altered status of women: increase in level of education, numbers working outside home, and role in decision making
- (2) Altered status of men: increase in willingness to assume homemaking responsibilities and shared decision making with women
- (3) Increased partnership in home and financial management has resulted in less stereotyped gender roles
- (4) Increased numbers of divorced or single parents, both male and female, rearing biological or adopted offspring
- (5) Increase in number of financially independent women conceiving or adopting a child or children outside of marriage

c. Factors resulting in reduction in size of families

- (1) Choosing to marry in later adulthood
- (2) Delaying start of a family until later years
- (3) Emphasis on limited population growth
- (4) Dissemination of birth control information
- (5) Legalization of abortions
- (6) Increase in financial cost involved in raising and educating children

C Peer groups help to establish norms of behavior

1. Youth learns about society through contact with peer group, which assists in rites of passage from family group to society
2. Youth develops further self-concept in contact with other youths
3. Peer group interaction can produce change in its individual members
4. Members have a strong loyalty to peer group because of reciprocal relationships and other rewards the group offers
5. Peer group norms may conflict with family or societal norms

D Crisis intervention groups

1. Services

- a. Provide assistance for people in crises; clients' previous methods of adaptation are inadequate to meet present needs
- b. Group focus can be specific (e.g., poison control, drug-addiction centers, and suicide prevention) or general (e.g., walk-in mental health clinics and hospital emergency services)
- c. Some crisis intervention groups provide service via the phone (e.g., poison control, AIDS hotline, and suicide prevention centers); others help those who are physically present (e.g., hospital emergency services and walk-in mental health clinics)

2. Success factors

- a. Provide help requested by client or family
- b. Address immediate problem

- c. Facilitate exploring feelings
- d. Assist client in perceiving event realistically
- e. Maximize client's coping mechanisms
- f. Provide assistance in investigating alternative approaches to solve problem
- g. Identify support systems
- h. Review how present situation may help in coping with future crises
- i. Provide information about other health resources where additional assistance can be obtained

E Self-help groups

1. Services

- a. Organized by clients or their families to provide services that are not adequately supplied by other organizations
- b. Meet needs of clients and families with chronic problems requiring intervention over an extended time
- c. Focus usually is specific (e.g., Gamblers Anonymous); some address a range of problems (e.g., Association for Children with Learning Disabilities)
- d. Some are nonprofit (e.g., Alcoholics Anonymous); others are profit-making organizations (e.g., Weight Watchers International)
- e. Provide help to people who do not or cannot conform to societal expectations (e.g., addicts, child abusers, mentally ill, obese, or brain-injured); many use 12-step program developed by Alcoholics Anonymous

2. Success factors

- a. All members are accepted and respected as equals
- b. All members have experienced similar problems
- c. Members feel a decrease in sense of isolation that has occurred as a result of their problems
- d. Members address behavior and changes in behavior rather than underlying causes of behavior
- e. Members have a ready supply of human resources available, such as personal resources, help from peers, and ultimately extension of self to others as a role model
- f. Each member has identified the problem and wants help in meeting needs—self-motivation
- g. Ritual and language may be specific to the group and/or the problems
- h. Members retain leadership of group
- i. Group interaction
 - (1) Identification with peers—sense of belonging
 - (2) Group expectations—self-discipline required of members
 - (3) Small steps encouraged and, when attained, reinforced by group
- j. As member achieves success within the group, reinforcement often is received from outside the group
- k. Participation in 12-step programs is a lifelong, continuous process; one is never “recovered” but always “recovering” one day at a time

F Community is a social organization that is considered a secondary group

- 1. Relationships among members usually are more impersonal
- 2. Individuals participate in a more limited manner or in a specific capacity
- 3. Group frequently functions as a means to an end, enables diversified groups to communicate, and helps other groups identify community problems and possible solutions
- 4. Secondary group usually is large and meets on an intermittent basis; contacts usually are maintained through correspondence

5. Community leaders facilitate group interaction because they have knowledge of the community and its needs and the skill to motivate others to act
6. Secondary groups help establish laws that are necessary to limit antisocial behavior; they provide diversified groups with a common base of acceptable behavior, but they may favor and protect vested interests of specific groups within society

G Health educational groups

1. Services
 - a. Provide health information/support to change behavior
 - b. Meet needs of clients or families adapting to change
 - c. Focus usually is specific (e.g., diabetes education group, parenting group, Weight Watchers)
 - d. Majority of educational groups are conducted by health care providers and are nonprofit
 - e. In-service educational groups are included in this category
2. Success factors
 - a. All members are accepted and respected as equals
 - b. All members have the same educational needs and have experienced similar problems (e.g., managing diabetes)
 - c. Members experience a decrease in isolation and frustration as knowledge increases
 - d. Members have identified the problem and generally are motivated to manage more effectively
 - e. Nurse leader is able to educate more people more efficiently using a group structure
 - f. Members aid one another as they learn together, and share information and experiences

Hierarchy of Needs

Figure 1-1: Maslow's Hierarchy of Needs.

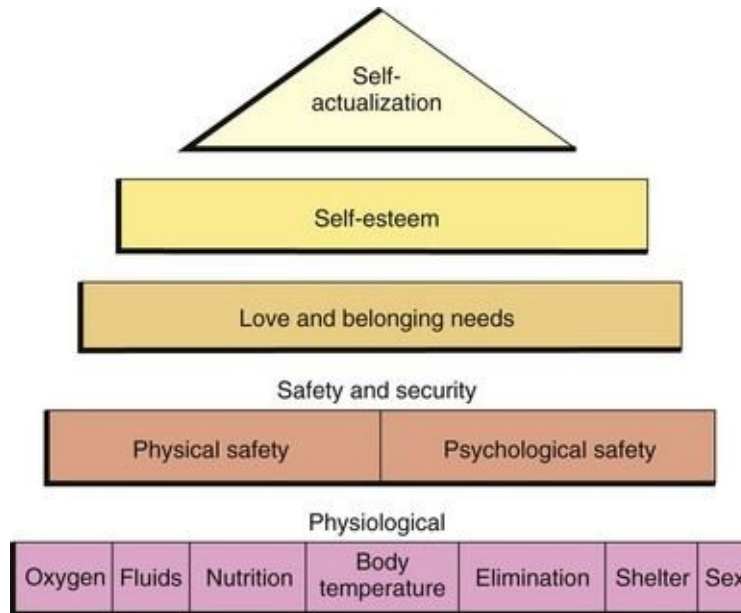


FIGURE 1-1 Maslow's Hierarchy of Needs. (Redrawn from Maslow AH: *Motivation and personality*, Upper Saddle River, NJ, 1970, Prentice Hall.)

- A Need to survive: physiologic needs for air, food, and water
- B Need for safety and comfort: physical and psychologic security
- C Interpersonal needs: social needs for love and acceptance
- D Intrapersonal needs: self-esteem and self-actualization

Individual Factors Affecting Health

A Physiologic capacity: all diseases and conditions have a genomic component; genomics refers to the study of genes and their interactions with other genes, the environment, and psychosocial factors

B Developmental level

1. Infant: must adapt to a new environment; stress caused by transition from intrauterine to extrauterine living is compounded for infant with a congenital problem
2. Child: maturation involves physical, functional, and emotional growth; it is an ever-changing process that produces stress; disabilities add factors that may quantitatively or qualitatively affect maturation
3. Adolescent: experiences physical, psychologic, and social growth spurt; asks, "Who am I?" while developing self-image; limitations cause additional stress during identity formation
4. Adult: expected to be independent, productive, provide for self and family; if one cannot partially or totally accomplish this, additional stress occurs
5. Older adult: American society tends to value youth and devalue old age; many older adults are experiencing multiple stresses (e.g., loss of loved ones, changes in lifestyle, loss of physical vigor, and thought of approaching death) at a time when ability to adapt is compromised by anatomic, physiologic, and psychologic alterations that occur during the aging process

C Intelligence: genetic intellectual potential; amount of formal/informal education; level of intellectual development; and ability to reason, conceptualize, and translate words into actions

D Level of self-esteem: attitude that reflects individual's perception of self-worth; personal subjective judgment of oneself; positively influenced by success; negatively influenced by loss of independence and unacceptable change in role

E Experiential background: knowledge derived from one's own actions, observations, or perceptions; maturation, culture, and environment influence individual's experiential foundation

F Level of motivation: internal desire or incentive to accomplish goals

G Values: factors that are important to individual; often influenced by culture and religion

H Religion: deep personal belief in higher force than humanity

I Socioeconomic status: measure of relative social and economic standing based on income, education, and occupation

J Social interaction: ability to clearly communicate needs and desires to others; support systems

K Stress control: development of varied effective coping skills

Stress Response

A Human beings must be able to perceive and interpret stimuli to interact with the environment

1. Perception and cognitive functioning influenced by
 - a. Nature of stimuli
 - b. Culture, beliefs, attitudes, and age
 - c. Past experiences
 - d. Present physical and emotional needs
2. Personality development is influenced by ability to perceive and interpret stimuli
 - a. External world is internalized through these processes
 - b. External world may in turn be distorted by perceptions

B Selye's general adaptation syndrome (GAS) is body's nonspecific physiologic response to stress; occurs in three stages: alarm, resistance, and exhaustion

1. Stress produces wear and tear on body; can be internal or external, beneficial or detrimental, and always elicits some response from or change in the individual
2. Alarm phase: sympathetic nervous system prepares body's physiologic defense for fight or flight by stimulating adrenal medulla to secrete epinephrine and norepinephrine; adrenocortical hormones (aldosterone and cortisol) are secreted ([Figure 1-2: Fight-or-flight response](#))

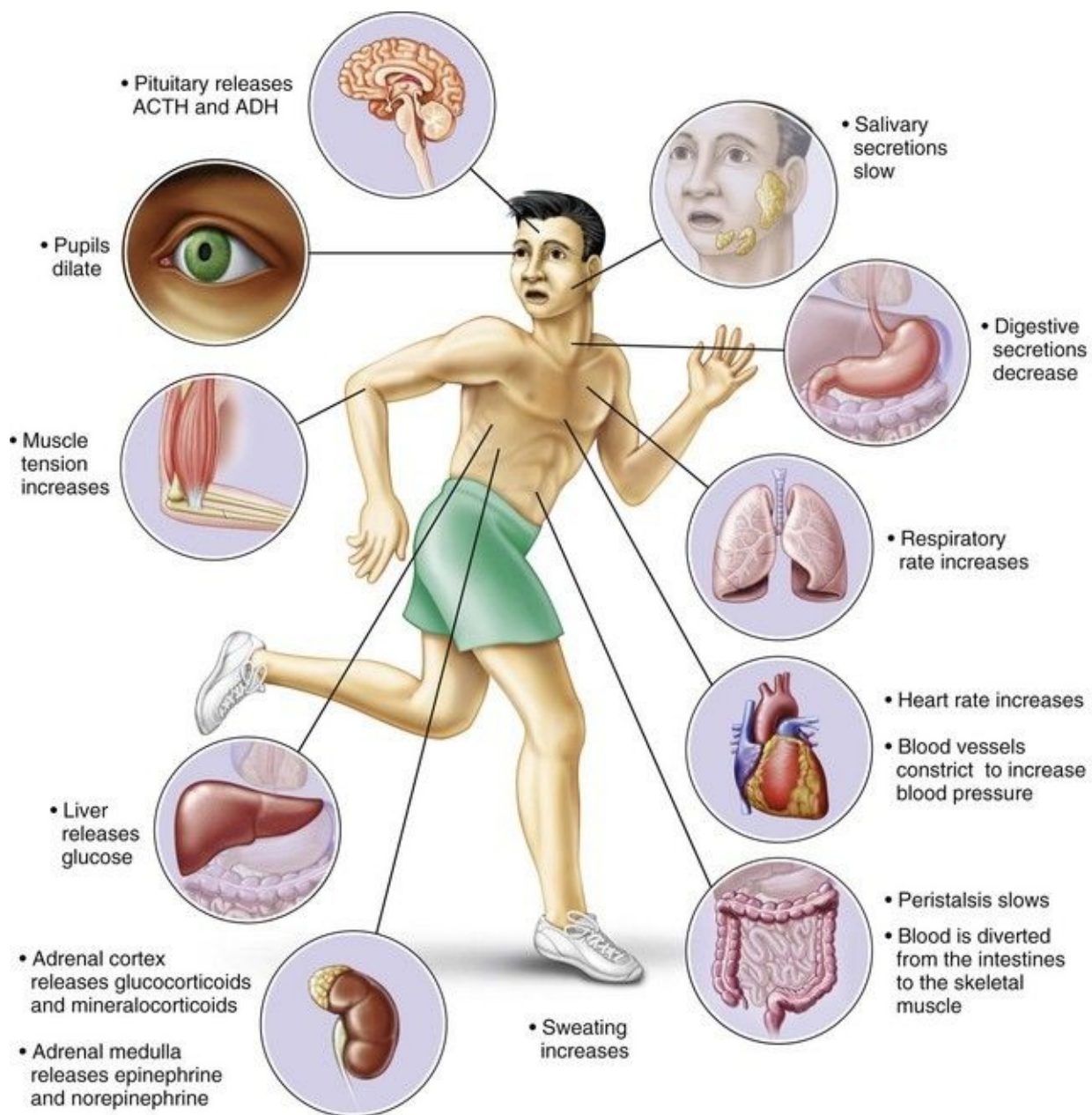


FIGURE 1-2 Fight-or-flight response. (From Harkreader H, Hogan MA, Thobaben M: *Fundamentals of nursing: caring and clinical judgment*, ed 3, St. Louis, 2007, Saunders.)

- Heartbeat increases to pump more blood to muscles
- Peripheral blood vessels constrict to provide more blood to vital organs
- Bronchioles dilate, and breathing becomes rapid and deep to supply more oxygen to cells
- Pupils dilate to increase vision
- Liver releases glucose for quick energy
- Prothrombin time is shortened to protect body from loss of blood in event of injury
- Sodium is retained to maintain blood volume

3. Resistive stage: when stress continues, increased secretion of cortisone enables body to cope with stress

4. Exhaustion: if stress continues and responses are no longer effective, the last stage is exhaustion and death

C Local inflammatory response: body's nonspecific response of tissue to injury or infection

1. Erythema (redness): histamine is released at site of injury, causing vasodilation (hyperemia)

2. Heat: vasodilation brings more core-warmed blood to area

3. Edema (swelling): histamine causes increased capillary permeability, allowing fluid, protein, and white blood cells (WBCs) to move into interstitial space
4. Pain: nerve endings are irritated by chemical mediators (e.g., serotonin, prostaglandin, and kinins) and pressure from edema
5. Loss of function: a protective response because of pain and edema

Grieving Process

Basic Concepts

A Loss is experienced when something of value (e.g., object, person) is changed or gone

- 1. Actual: can be validated by others (e.g., death of spouse)
- 2. Perceived: experienced internally; cannot be verified by others (e.g., loss of youth)
- 3. Anticipatory: occurs before loss is experienced (e.g., scheduled amputation)

B Grief: response to an actual or perceived loss

- 1. Bereavement: emotional response to loss
- 2. Mourning: behavioral response to loss; influenced by culture

Theorists: Stages of Grieving

A Kübler-Ross: denial, anger, bargaining, depression, acceptance

B Lindemann: somatic distress, preoccupation with image of the deceased, guilt, hostile reactions, loss of patterns of conduct

C Engle: shock/disbelief, developing awareness, and restitution/resolution

Grieving Process and Nursing Care

See [Table 1-1](#): Grieving Process and Nursing Care.

Table 1-1

Grieving Process and Nursing Care

Stage of Grieving	Client Response	Nursing Care
Denial, disbelief	Disbelief, intellectualization	Accept response but do not reinforce denial
Anger, hostility	Verbally hostile	Do not become defensive, meet client needs
Bargaining	Seeks to avoid loss, may express feelings of guilt	Listen attentively, refer to spiritual counselor if appropriate
Depression, sadness	Grieves about what may never be, may be verbal or withdraw n	Listen attentively, sit quietly, use touch if appropriate
Acceptance, resolution	Comes to terms with loss, may make future plans, may have decreased interest in people and surroundings	Be quiet but available, help family to accept client's behavior

Health-Illness Continuum and Rehabilitation

A Health-illness continuum: concept reflecting dynamic state of health in which one end of continuum represents high-level wellness and the other death

B Rehabilitation

1. Assists clients to attain maximum level of wellness on continuum after negative change in health; involves establishing lost function while expanding, maintaining, and supporting limited remaining function
2. Focuses on interventions that improve quality of life rather than saving life
3. Involves client, family, health care team, community, and society; not an isolated process
4. Socially significant because health problems cause disabilities that are costly personally and financially (both to individual and society)
5. Increased numbers of individuals requiring rehabilitation
 - a. Advances in technology and health science have increased survival rates from birth defects, traumatic injuries, and infection
 - b. Aging has increased incidence of chronic illness

Type of Condition Affecting Client

A Acute illness: caused by health problem that produces signs and symptoms abruptly and runs a short course; may develop into long-term illness

B Chronic illness: caused by health problem that produces signs and symptoms over time and runs a long course

1. Exacerbation: period when chronic illness becomes more active and recurrence of pronounced signs and symptoms of disease occur
2. Remission: period when chronic illness is controlled, and signs and symptoms are reduced or not obvious
3. Progressive degeneration: continuous deterioration or increased impairment of a person's physical state

C Terminal illness: caused by health problem that is expected to result in death, often within 6 months; focus of hospice and palliative care is improving quality of life, rather than cure, by meeting client's physical, psychosocial, and spiritual needs

Level of Preventive Care

A Primary prevention

1. Interventions aimed at health promotion; precedes disease or disability
2. Examples
 - a. Following a heart-healthy diet
 - b. Avoiding smoking
 - c. Being immunized
 - d. Maintaining ideal weight
 - e. Exercise

B Secondary prevention

1. Interventions directed at diagnosis and prompt intervention; prevents extension of disease or development of complications
2. Examples
 - a. Performing monthly self breast and testicular examinations
 - b. Having routine screening tests (e.g., mammography, colonoscopy, Pap smear)

C Tertiary prevention

1. Interventions that minimize effects of long-term disease or disability; maximizes individual's potential after disease or disability occurs; includes rehabilitative and end-of-life care
2. Examples
 - a. Adhering to rehabilitation programs after brain attack (cerebrovascular accident) or head trauma
 - b. Participating in a cardiac rehabilitation program
 - c. Learning to walk after amputation or joint replacement
 - d. Palliative care to support quality of life for clients and family members



CHAPTER 2

Nursing Process

A Assessment/Analysis

1. Types of data: objective (overt, measurable, detected by physical assessment); subjective (covert, feelings, sensations, and symptoms verbalized by client)
2. Sources of data: client (primary); family/friends, health care team members, clinical record and other documents, textbooks (secondary)
3. Methods of data collection: interviewing, observation of nonverbal cues, congruency between verbal and nonverbal data, physical assessment (e.g., observation, palpation, auscultation, percussion) ([Figure 2-1: Dimensions for gathering data for a health history](#))

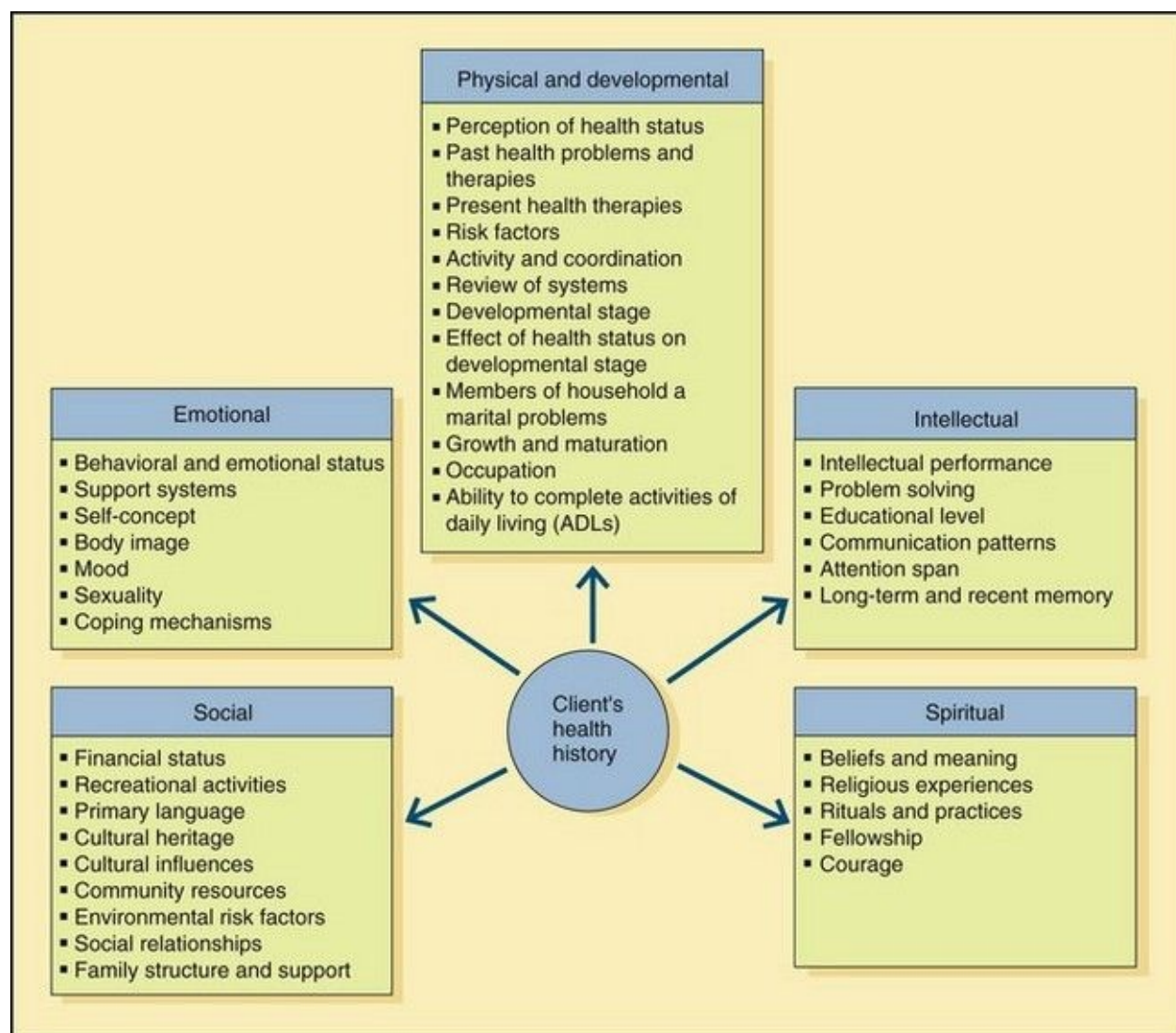


FIGURE 2-1 Dimensions for gathering data for a health history. (From Potter PA, Perry AG: *Fundamentals of nursing*, ed 7, St. Louis, 2009, Mosby.)

4. Management of data: screening, organizing, and grouping/clustering significant defining characteristics and related information
 5. Identification of client's problem, concerns, or deficits that can be altered by nursing interventions
- ## B Planning/Implementation
1. Establish client outcomes
 - a. Outcomes are expected changes in client's behavior, activity, or physical state

b. Outcomes must be objective, achievable, and measurable, and include a realistic period for accomplishment to determine whether outcome has been achieved

2. Collaborate with client, family/significant others, and appropriate health care team members to formulate a plan to reach identified outcomes; preparation for discharge begins at admission
3. Establish priorities of care using Maslow's Hierarchy of Needs (see [Figure 1-1](#))
4. Administer plan of care

C Evaluation/Outcomes

1. Assess client's response to care
2. Compare actual outcome to expected outcome
3. If outcome is not reached, previous steps must be examined to determine reason
4. Plan of care may need to be revised
5. Priorities may require reordering because process of evaluation is ongoing

Ensuring Quality Health Care

A Responsibility

1. The Joint Commission (TJC)
2. Agency-based quality assurance (QA) and quality improvement (QI) programs
3. Individual members of health team

B Practices

1. TJC National Patient Safety Goals (e.g., increasing accuracy of client identification, improving effectiveness of communication among members of health team, reducing risk of health care–associated infections and falls, improving safety of medication administration)
2. TJC standardized performance measures (e.g., core measures) to determine compliance with standards of care
3. Evidence-based practice (EBP) involves using research findings, experience, or client values to guide clinical decision making
 - a. Nurses must evaluate and participate in research that improves quality of nursing care
 - b. Levels of evidence refer to strength of support for a particular nursing strategy; levels of support range from systematic review of all relevant randomized controlled trials (RCTs) to reports of a committee of experts
4. Identification of sentinel events
 - a. An unexpected occurrence that leads to risk of or actual physical or psychological injury, or death
 - b. Root cause analysis identifies factors contributing to violations of practice associated with the event
 - c. Development and evaluation of plan to prevent recurrences

Communication

Basic Concepts

- A Need to communicate is universal
- B Through communication, humans maintain contact with reality, validate findings with others to interpret reality, and develop a concept of self in relation to others
- C Validation is enhanced when communication conveys an understanding of feelings
- D Communication is learned through the process of acculturation
- E Communication is the avenue used to make needs known and to satisfy needs

Communication Process

- A Requires: sender, message, receiver, and response
- B Modes of communication
 1. Verbal: related to anything associated with spoken word; includes speaking, writing, use of language or symbols, and arrangements of words or phrases; hearing is essential to development of effective speech because one learns to form words by hearing words of others; includes pace, intonation, simplicity, clarity, brevity, timing, relevance, adaptability, credibility, and humor
 2. Nonverbal: related to messages sent and received without use of words and is expressed through appearance, body motions, use of space, nonverbal sounds, personal appearance, posture, gait, facial expression, gestures, and eye contact; more accurately conveys feelings because behavior is less consciously controlled than verbal communication
 3. Confusion arises when there is a difference between verbal and nonverbal message received (lack of congruence in overt and covert messages)
- C Themes of communication: recurring thoughts and ideas that give insight into what client is feeling and that tie communication together
 1. Content: conversation may appear superficial, but attention to underlying theme helps nurse identify problem areas while providing insight into client's self-concept
 2. Mood: emotion or affect that client communicates to nurse; includes personal appearance, facial expressions, and gestures that reflect client's mood and feelings
 3. Interaction: how client reacts or interacts with nurse; includes how client relates and what role is assumed when communicating with nurse and others
- D Factors affecting communication process: language, psychosociocultural influences, intellectual development, gender, values and perceptions, personal space (intimate, personal, social, and public), territoriality, roles and relationships, environment, congruence of verbal and nonverbal messages, and interpersonal attitudes
- E Barriers to communication
 1. Variation in culture, language, and education
 2. Problems in hearing, speech, or comprehension (ineffective reception or perception)
 3. Refusal to listen to another point of view
 4. Use of selective inattention; may cause an interruption or distortion of messages
 5. Environmental considerations (e.g., noise, lack of privacy, room temperature)
 6. Psychologic or physiologic discomfort (e.g., anxiety, hunger, pain)

The Nurse-Client Relationship

A Phases in a therapeutic relationship

1. Preinteraction: begins before nurse's initial contact with client
 - a. Self-exploration involves acknowledging one's own feelings, fears, personal values, and attitudes, including identification of misconceptions and prejudices that are socially learned
 - b. Self-awareness is necessary before establishing a relationship with others
 - c. Tasks include gathering data about client and planning for first interaction with client
2. Orientation or introductory: the nurse, who initially is in the role of stranger, establishes a trusting relationship with the client by consistency in communication and actions; clients should never be pushed to discuss areas of concern that are upsetting to them
 - a. Introduction of nurse, explanation of nurse's role in multidisciplinary team, and purpose of interaction
 - b. Contract outlining mutually agreed upon goals is set
 - c. Confidentiality issues are discussed, and client rights are upheld
 - d. Termination begins during orientation phase by establishing time parameters
3. Working: nurse and client discuss areas of concern, and client is helped to plan, implement, and evaluate a course of action
 - a. Transference and countertransference may become an issue (see [Chapter 16](#), Therapeutic Nurse-Client Relationship, Overview)
 - b. Anxiety levels may increase; acting-out behaviors can and do occur; resistance to change need to be anticipated, identified, and addressed
 - c. Problems need to be discussed and resolved
 - d. New adaptive behaviors can be learned
4. Termination: end of therapeutic relationship between nurse and client; spacing meetings further apart near end facilitates termination
 - a. Goals and objectives achieved are summarized
 - b. Positive adaptive behaviors are reinforced
 - c. Feelings and experiences for both client and nurse are shared
 - d. Rejection, anger, regression, or other negative behaviors may be expressed as a means of coping with the impending termination of the relationship

B Considerations fundamental to a therapeutic relationship

1. Client is unique and worthy of respect
2. Client needs to feel accepted
 - a. Acceptance is an active process designed to convey respect for another through empathetic understanding
 - b. Acceptance of others implies and requires acceptance of self
 - c. Nurse's identification of own attitudes and feelings and their effect on perception is necessary before developing a nonjudgmental attitude
 - d. Acceptance requires that clients be permitted and even encouraged to express feelings and attitudes even though they may be divergent from a general viewpoint; setting limits might be required for inappropriate behavior in a manner that does not reject client
 - e. Acceptance requires a nonjudgmental environment
3. The high stress/anxiety of most health settings is created in part by the health problem itself; treatments and procedures; nontherapeutic behavior of personnel; strange environment; inability to

use usual coping skills (e.g., exercise, talking with friends); and change in lifestyle, body image, and/or self-concept

4. Previous patterns of behavior may become inadequate under stress: health problems may produce change in family or community
5. Health problems may produce change in self-perception and role identity
6. All behavior has meaning and usually results from an attempt to cope with stress or anxiety
7. Value systems influence behavior
8. Cultural differences exist among people; one's own culture is an integral part of an individual
9. Personal meaning of experiences to clients is important
10. Clients have potential for growth
 - a. Clients need to learn about their own behaviors
 - b. Exchanging experiences with others provides a new learning environment and reassurance that reactions are valid and feelings are shared
 - c. Participating in groups increases knowledge of interpersonal relationships and helps individuals to identify strengths and resources
 - d. Identifying client's strengths and resources emphasizes positive attributes which form a basis for future growth
11. Behavioral changes are possible only when client has other defenses to maintain equilibrium
12. Providing information may not alter client's behavior
13. Use of defense mechanisms needs to be identified
14. Maintaining confidentiality supports a trusting relationship
15. Use of therapeutic interviewing techniques communicates acceptance and supports expression of feelings
16. Nurses need to identify and cope with their own anxiety

C Support of therapeutic communication

1. Maintenance of a nonjudgmental environment
2. Implementation of actions that support dignity and worth
 - a. Maintaining eye contact when communicating
 - b. Using names rather than labels such as room numbers or diagnoses; approach client as a person with difficulties, not as a "difficult person"
 - c. Providing privacy
 - d. Maintaining confidentiality
 - e. Being courteous toward client, family, visitors, and members of the health team
 - f. Permitting personal possessions when practical
 - g. Providing explanations at client's level of understanding
3. Encouragement of participation in problem solving and decision making
4. Spending time with client
5. Fostering trust through honesty, consistency, reliability, and competence
6. Answering client call bell immediately

D Use of therapeutic techniques to facilitate communication

1. Reflection of feelings, attitudes, and words: helps client to identify feelings
2. Open-ended questions: permit client to focus on issues
3. Paraphrasing: rephrasing of feeling or thought in similar words to convey that message was understood or to provide an opportunity for clarification if necessary
4. Silence: provides nurse and client with necessary time for reflecting about what is being discussed

and allows time to formulate a response

5. Touch: conveys caring, but its effectiveness can vary among individuals and cultures

6. Clarification: helps to ensure that message is understood as intended

7. Direct questions: facilitate collection of objective data but may block expression of feelings

E Avoidance of nontherapeutic communication

1. Any overt/covert response conveys a judgmental (approval or disapproval) or superior attitude

2. Direct personal questions are probing or invasive

3. Ridicule conveys a hostile attitude

4. Talking about one's own problems and not listening convey a self-serving attitude and loss of interest in the client

5. Stereotyping devalues uniqueness of the client

6. Changing the subject conveys a lack of interest in the client's concerns

7. False reassurance eventually results in lack of trust

8. Minimizing concerns is demeaning

9. Asking for explanations using the word "why" may put client on the defensive

10. Using clichés minimizes concerns

11. Using terms of endearment such as "honey" is demeaning

12. Defensive responses shut off communication

13. Giving advice interferes with the client's ability to problem solve

14. Challenging client to defend a position/feeling may put client on the defensive

Teaching-Learning

A Learning: involves a change in or acquisition of new behavior and takes place within the individual

1. Cognitive: knowledge
2. Psychomotor: skill performance
3. Affective: attitudes, emotions

B Motivation: desire for change in response to identified need

1. Intrinsic motivation: comes from within the learner; preferred to extrinsic motivation
2. Extrinsic motivation: comes from outside the learner
3. Readiness to learn (physical, emotional, and cognitive)
 - a. Awareness of health problem and implications
 - b. Willingness to ask questions
 - c. Demonstration of indirect health-seeking behaviors
 - d. Absence of acute distress reactions (e.g., severe anxiety, pain) that inhibit learning

4. Culture (e.g., language, values, beliefs)
5. Physical abilities (e.g., vision, hearing)
6. Cognitive ability (e.g., intelligence, developmental level, education)
7. Support systems

C Teaching: activities that result in learning

1. Involving client and family to individualize teaching plan
2. Exhibiting nonjudgmental attitude
3. Building on client's prior knowledge
4. Incorporating a variety of strategies (e.g., discussion, demonstration, practice, role playing, discovery, audiovisual aids, computer-assisted instruction) that involve multiple senses (e.g., sight, hearing, touch)
5. Establishing short-term achievable learning objectives to maintain motivation
6. Using positive reinforcement; learning by success or positive rewards is preferable to learning by failure or negative consequences
7. Establishing an environment conducive to learning (e.g., safe, limited noise, reduced distractions)
8. Evaluating client learning: observation of behavior; written tests; self-reports

Leadership and Management

Principles of Leadership

A Leader: influences actions of individual or group toward specific goals; leadership style is affected by

1. Needs of group members
2. Characteristics of leader (e.g., personality, experiential background)
3. Cultural climate of organization

B Types of leadership

1. Authoritarian or autocratic leader: uses leadership role for power; little communicating and interrelating between leader and group; leader sets goals, plans, makes decisions, and evaluates actions taken
2. Democratic leader: uses leadership role to stimulate others to achieve collective goal; fair and logical; encourages interrelating among members; weaknesses as well as strengths are accepted; contributions of all members are fostered and used; responsibilities for action are shared between leader and group
3. Emotional leader: reflects feeling tones, norms, and values of group
4. Laissez-faire leader: passive and nondirective; assumes participant-observer role and exerts little control or guidance over group behavior; input and control are minimal
5. Bureaucratic leader: rigid; assumes a role that is determined by formal criteria or rules that are inherent in an organization; leader is not emotionally involved and avoids interrelating with group members
6. Charismatic leader: can assume any of above behaviors because group attributes supernatural power to this person or the office and frequently follows directions without question

C Effective leaders modify style to fit changing circumstances, problems, and people (e.g., autocratic style is appropriate in emergency situations; democratic style is appropriate when group acceptance and participation are essential; laissez-faire leadership is appropriate when group members are knowledgeable and capable of self-direction)

D Interpersonal influence depends on

1. Knowledge of human behavior
2. Sensitivity to others feelings, values, and problems
3. Ability to communicate (see [Communication Process](#))

E Leader's success is influenced by ability to respond to group needs and by members' perceptions of effectiveness

1. Role of leader is to serve individual's or group's needs; some roles are task-oriented and help group accomplish goals; other roles are more process-oriented and help group members to communicate effectively
2. Power is a leader's source of influence
 - a. Positional power: acquired through position of leader in hierarchy of organization
 - b. Professional power: acquired through knowledge or expertise displayed by leader and/or perceived by followers
3. Leadership moves from one person to another as changes in situation occur

F Leadership process requires critical thinking skills associated with problem solving

G Leader as change agent: movement from goal setting to goal achievement involves change

1. Need for change requires understanding by those effecting change, as well as by those affected by change
2. Process of change includes communication, planning, participation, and evaluation by individual or group affected
3. Change is more acceptable when it is consistent with beliefs; is planned; follows a number of successful rather than unsuccessful series of changes; is initiated after other changes are absorbed rather than during the confusion of a major change; does not threaten security; and when affected individuals or groups have participated in its creation
4. Resistance to change is normal; it should be expected and addressed in planning

Principles of Management

A Dynamic process that involves mobilization of team members and resources to achieve outcomes that are consistent with the goals of the organization and standards of regulatory agencies

1. Goal is to provide the highest quality of client care while controlling costs
2. Involves protection of clients and health care personnel
3. Desired outcomes are identified through clinical decision making based on assessment
4. Shared mental model by the team helps motivate its members to achieve the desired outcomes and seek continued quality improvement

B Manager is formal leader given authority and accountability by the organization

1. Authority: positional power or administrative authority that gives the manager the right to direct the action of others
2. Accountability: willingness to accept professional and legal responsibility for one's actions, outcomes, and consequences

C Skills of an effective manager

1. Communication: climate of mutual respect is essential for open, ongoing exchange of information required for continued improvement of health care delivery
2. Leadership: promotes and models teamwork; motivates accomplishment of outcomes and personal/professional development by team members; team members' acceptance of manager as leader is characteristic of high-performing team
3. Conflict resolution and negotiating: facilitate cooperation among team members, attainment of organizational support, and interdisciplinary collaboration
4. Organizational skills: needed for effective and efficient functioning; involve multitasking and ability to adjust plan based on changes in data
5. Time management: involves setting time frame for accomplishment of identified outcomes, controlling interruptions, avoiding duplication of effort, and evaluation to improve use of time
6. Priority setting: life-threatening, urgent, unstable, and complex problems with unpredictable outcomes receive higher priority and require higher-level skills to manage than stable problems with predictable outcomes
7. Resource utilization: human, material, and fiscal resources; involves delegation and budgeting

Delegation

A Definition: transfer of responsibility for a specific nursing activity in a specific situation to a member of the nursing team deemed competent to perform the activity; nurse who delegates retains

accountability for the performance of the activity and client outcome

B Steps of delegation process

1. Assessment and planning

- a. Degree of urgency, complexity, and stability of client problem
- b. Ability of team member to perform activity: Nurse Practice Act, organization's policies and procedures, individual's education and experience

(1) Registered Professional Nurses (RNs): provide comprehensive client care based on state Nurse Practice Act, including assessment, diagnosis, planning, teaching, delegating, administering medications via all routes of delivery

(2) Licensed Practical Nurses (LPNs) or Licensed Vocational Nurses (LVNs): provide nursing care to clients based on state Nurse Practice Act, including dressing changes, catheterization, tube feedings, medication administration (e.g., oral, topical, intramuscular, and subcutaneous)

(3) Unlicensed assistive personnel (UAP) who may be referred to by a variety of titles (e.g., certified nurse assistant, patient care assistant, nursing assistant, nurse aide, orderly): bathing, feeding, toileting, repositioning, transferring, obtaining measurements (e.g., vital signs, intake and output, height and weight)

- c. Five rights of delegation: right task, right situation, right person, right direction/communication, right supervision/evaluation

2. Delegation of nursing activity to team member

- a. Specific activity and guidelines for performance/reporting are communicated to team member
- b. Team member understands and accepts responsibility for delegated activity

3. Supervision: type and frequency determined by stability of client, complexity of activity, and ability of team member

4. Evaluation: continuous process to determine effectiveness of delegation in achievement of desired client outcomes and identification of opportunities for improvement

Nursing Practice and the Law

Torts and Crimes Important to Nurses

A Torts

1. Violations of civil law against a person or person's property
 - a. Commission: inappropriate action
 - b. Omission: lack of appropriate action
2. Unintentional torts
 - a. Negligence: measurement of negligence is "reasonableness"; involves exposure of person or property of another to unreasonable risk for injury by acts of commission or omission
 - b. Malpractice: negligence during professional practice; any unreasonable lack of skill in professional duties or illegal or immoral conduct that results in injury to or death of a client; involves violation of standards of nursing practice
 - c. Examples of malpractice/negligence: leaving surgical sponges inside a client; causing burns; medication errors; failure to prevent falls; incompetent assessment leading to subsequent inappropriate actions; improper identification of clients; carelessness in caring for a client's property
3. Tort is different from crime, but a serious tort can be tried as both a civil and criminal action
4. Reasonableness and prudence usually are determining factors in a judgment
5. Nurses are responsible for their own acts; also, employers may be held responsible under doctrine of *respondeat superior*; when responsibility is shared, nursing actions must lie within the scope of employment and legislation relating to nursing practice (e.g., Nurse Practice Acts)
6. Elements essential to prove negligence
 - a. Legally recognized duty of care to protect others against unreasonable risk
 - b. Failure to perform according to an established standard of conduct and care, which becomes breach of duty
 - c. Damage to client, which can be physical, emotional, and/or mental; physical harm is not necessary to establish liability for intentional torts
7. Good Samaritan laws protect health care professionals who administer first aid as volunteers in an emergency unless there is gross negligence or willful misconduct; it is presumed that nurses meet a level of care expected of a reasonably prudent professional with the same education
8. Intentional torts occur when a person does damage to another person in a willful way and without just cause and/or excuse
 - a. Assault: a mental or physical threat; knowingly threatening or attempting to do violence to another without touching the person; forcing a medication or treatment on a person who does not want it
 - b. Battery: touching or wounding a person in an offensive manner with or without intent to do harm
 - c. Fraud: purposeful false presentation of facts to create deception; includes presenting false credentials for licensure or employment
 - d. Invasion of privacy: involves privileged communication and unreasonable intrusion
 - (1) Encroachment or trespass on another's body includes any unwarranted operation, unauthorized touching, and unnecessary exposure or discussion of client's case unless authorized

- (2) False imprisonment, even without force or malicious intent, includes intentional confinement without authorization, as well as threat of force or confining structures and/or clothing; it is not false imprisonment when it is necessary to protect an emotionally disturbed person from harming self or others
- (3) Defamation involves communications, even if true, that cause a lowering of opinion of the person; includes slander (oral) and libel (written, pictured, telecast), both of which are dependent on communication to a third party

B Crimes

1. Crime: an intentional wrong that violates societal law punishable by the state; the state is the complainant
 - a. Felony: serious crime, such as murder, punishable by prison term
 - b. Misdemeanor: less serious crime that is punishable by a fine and/or short-term imprisonment
2. Commission of a crime requires committing a deed contrary to criminal law or failing to act when there is legal obligation to act
3. Criminal conspiracy occurs when two or more persons agree to commit a crime
4. Giving aid to another in the commission of a crime makes the person equally guilty if there is awareness that a crime is being committed
5. Ignorance of the law usually is not an adequate defense
6. Property cannot be searched without a search warrant
7. Administration of opioids by a nurse is legal only when prescribed by a licensed health care provider; possession or sale of controlled substances by a nurse is illegal
8. If a nurse knowingly administers a drug that causes major disability or death, a crime may be charged

Clients' Rights

A Clients have the right to choose their own health care provider, health care agency, or medical insurance based on availability and ability to meet costs free of discrimination; to be given treatment in an emergency; to receive an accepted standard of care; to execute informed consent; to decide whether to be involved with research or teaching; to be treated in confidentiality; to have their personal property protected; and to refuse treatment

B Statutory restrictions may be imposed on client's rights

C The United States government has set stringent rules about using human subjects in research

Informed Consent

A Consent is essential for any treatment, except in an emergency where failure to institute treatment may constitute negligence; routine procedures are covered by a consent signed on admission

B In an emergency situation, two health care providers may sign consent for a client when failure to intervene may cause death or when common law permits administration of health care to unconscious or mentally incompetent persons in emergency situations; if family members voice opposition, a court order may be required

C Informed consent must include an explanation of treatment to be done with presentation of advantages and disadvantages and description of possible alternatives; there must be time for decision making with an absence of undue pressure; the explanation and decision making must occur before sedation is given

D Legal consent requires that it be voluntary, authorizes the specific treatment or care and the person giving the treatment or care, and that it is given by a person with the legal and mental capacity to consent based on an informed decision; clients 18 years or older and emancipated minors are legally able to give consent; emancipated minors include individuals who are younger than 18 years of age and are either married, a parent, or legally emancipated by the courts

Death with Dignity: Legal, Ethical, and Emotional Issues

A Death with dignity includes two fundamental factors: individual has control over one's own life, and worth of individual as a unique being is demonstrated through respect even after death

B Laws empower clients to have as much control as possible over their care and activities, recognizing that pain, helplessness, and hopelessness lead to despair

C Public should be educated about advance directives through literature distribution and discussions; appropriateness of care for terminally ill clients derived from continuous quality management; and availability and accessibility of palliative care services

D Criteria of death: every state has increasingly been forced to define death (many using signs of brain death as the indicator) and to define when death occurs

E Do not resuscitate (DNR) status

1. All health care agencies are required to have DNR procedures to meet accreditation standards
2. DNR orders must be included in clients' clinical records and periodically updated
3. Most important factors considered are client's wishes, prognosis, ability to cope, and whether there is a reasonable possibility that an acceptable quality of life will be achieved through CPR
4. In many states, the right to request a DNR status is mandated within the Patient Care Partnership (Patient's Bill of Rights); health care agencies must provide education on the issue of DNR to clients and families
5. DNR orders require a team decision; client and family must be included in decision-making process

F Advance directives

1. Concepts
 - a. Living wills: allow clients to state their wish to die in certain situations and not have life prolonged by using medications, artificial means, or heroic measures; living wills set forth clients' wishes regarding health care decisions and include which medical procedures are authorized or declined
 - b. Health care proxy: designates an agent to make health care decisions according to client's plans or wishes; includes power to stop or withhold treatment necessary for life when client is unable to do so
2. Advantages of living wills and health care proxies: permit expression of a client's preferences; promote communication between client and caregivers; foster respect for a client as a person; and support belief that a client has rights to self-determination
3. Client's Self-Determination Act of 1991: mandates that health care agencies receiving Medicare and Medicaid reimbursement advise clients of their right to advance directives

The Nurse's Rights and Responsibilities

A Performs within standards of practice for the profession

B Licensure required to practice as a nurse; each state defines scope of professional practice

1. Independent interventions: nurse-initiated actions based on nursing's body of knowledge and scope of practice that do not require a health care provider's order (e.g., teaching, assessment, meeting hygienic needs)
2. Dependent interventions: health care provider-directed interventions or health care provider-established protocols that require specific nursing responsibilities and technical knowledge (e.g., administration of medications, tube feedings, and dressing changes)
3. Collaborative interventions: nursing actions that require cooperation and coordination with other health professionals (e.g., coordinating intervention from physical therapist and social workers to meet needs of a client before discharge)

C Intervenes to protect clients from incorrect, unethical, and/or illegal actions by any person delivering health care

D Participates in and promotes growth of the nursing profession and own competence

E Reports any suspected child abuse to appropriate authority; reporting is mandatory and does not incur legal liability

F Code of ethics (e.g., American Nurses Association [ANA] Code of Ethics for Nurses) guides professional practice and reflects moral values of group

1. Basic terms: beneficence (promotion of good); nonmaleficence (avoidance of harm); justice (fairness); autonomy (self-determination); fidelity (faithfulness); veracity (truthfulness); accountability (answerable for one's own actions); responsibility (dependable role performance); confidentiality (maintaining privacy)
2. Code of ethics is broader and more universal than laws but cannot override laws
3. Ethical issues become legal issues through court case decisions or by legislative enactment

G Obtains professional liability insurance

Medication Administration

Drug Effects

- A Desired effect (therapeutic effect): action for which drug is prescribed
- B Adverse effect: harmful unintended reaction
- C Toxic effect: serious adverse effect that occurs when plasma concentration of drug reaches dangerous, life-threatening level
- D Side effect: response that is unrelated to desired action of drug
- E Cumulative action: when repeated doses of the drug accumulate in body and exert greater biologic effect than the initial dose
- F Drug dependence: physical or psychologic reliance on chemical agent resulting from continued use, abuse, or addiction
- G Idiosyncratic response: individual's unique, unpredictable response
- H Paradoxical reaction: response that contrasts sharply with usual, expected response
- I Tolerance: ability to endure ordinarily injurious amounts of drug or decreasing effect obtained from established dose; requires increasing dose to possibly toxic level to maintain same effect
- J Hypersensitivity: excessive allergic reaction to exogenous agent (e.g., drug, food) (Figure 2-2: Type I hypersensitivity reactions)

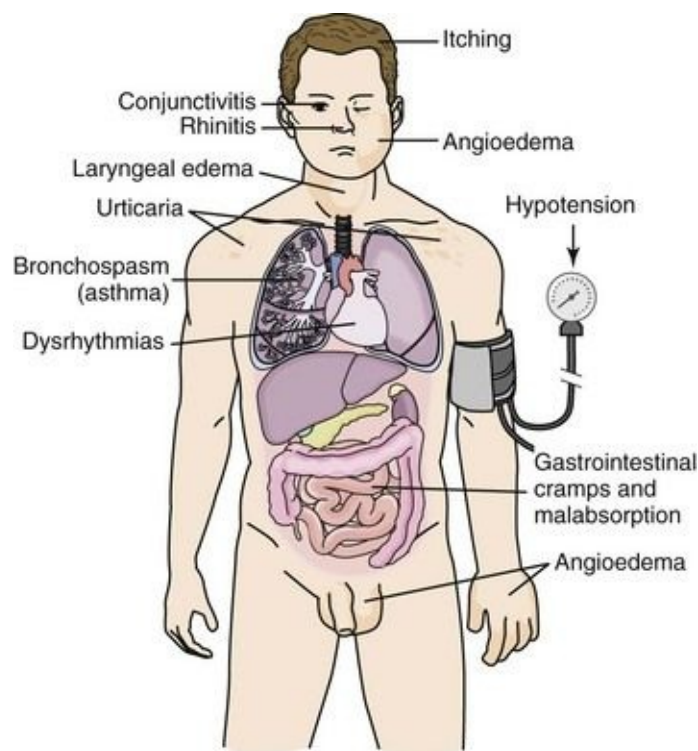


FIGURE 2-2 Type I hypersensitivity reactions. Manifestations of allergic reactions as a result of type I hypersensitivity include itching, angioedema (swelling caused by exudation), edema of the larynx, urticaria (hives), bronchospasm (constriction of airways in the lungs), hypotension (low blood pressure), and dysrhythmias (irregular heartbeat) because of anaphylactic shock, and gastrointestinal cramping caused by inflammation of the gastrointestinal mucosa. (From McCance KL, Huether SE: *Pathophysiology: the biological basis for disease in adults and children*, ed 6, St. Louis, 2010, Mosby.)

1. Anaphylaxis: life-threatening episode of bronchial constriction and edema that obstructs airway and causes generalized vasodilation, which depletes circulating blood volume; occurs when an allergen is administered to an individual who has antibodies produced by prior use of the drug

2. Urticaria: generalized pruritic skin eruptions or giant hives
3. Angioedema: fluid accumulation in periorbital, oral, and respiratory tissues
4. Delayed-reaction allergies: rash and fever occurring during drug therapy

K Drugs and food may interact and alter therapeutic effect adversely

1. Antagonistic/inhibiting effect: one drug diminishing the effect of another (e.g., pseudoephedrine [Sudafed] decreases effectiveness of antihypertensives)
2. Synergistic/potentiating effect: effect of two drugs is greater than either drug alone; often dose must be reduced

Factors Influencing Dosage and Response

A Therapeutic index (TI): ratio between lethal dose and therapeutic dose; used as guide to safe dosing; a high TI is preferable to a low TI, which provides a narrow margin of safety

B Serum concentration of some drugs needs to be monitored; used as guide to safe dosing

1. Peak level: highest concentration of drug; usually within 1 to 2 hours after oral, 1 hour after intramuscular (IM), and 30 minutes after IV administration
2. Trough (residual) level: lowest concentration of drug; preferably within 15 minutes of next scheduled dose

C Concentration and duration of drug action are affected by

1. Individual factors (e.g., age, weight, gender, height, physiologic status, and genetic and environmental factors)
2. Characteristics of drug (e.g., rate of absorption, distribution, biotransformation, and excretion)
3. Inability of body to metabolize or excrete drug effectively (e.g., drug affinity for particular tissues, ineffectiveness of enzymes required for metabolism of drug, depressed function of tissues naturally metabolizing (often liver) or excreting drug (often kidneys))

D Membrane barriers (e.g., placental, blood-brain) may block or selectively pass drug from circulating fluids to protected areas

Nursing Responsibilities Related to Medication Administration

A Consider that administration of medications is a dependent function requiring a legally written prescription that is not blindly followed

B Make appropriate assessments before administering medications

1. Identify client: ensure that client is wearing identification bracelet; scan bar codes or use two identifiers such as client's name, birth date, and/or hospital number (these have reduced incidence of medication errors)
2. Identify medications client was taking before admission, and compare list to medications prescribed after admission to health care agency (medication reconciliation)
3. Question client regarding history of allergies; ensure that client is wearing an allergy bracelet and allergy information is in all appropriate places in clinical record
4. Determine if client is taking any over-the-counter (OTC) medications, herbal products, or alcohol that may interact with prescribed medications
5. Ensure ability to obtain and afford prescribed medications
6. Establish whether drug is still appropriate based on client's status
 - a. Compatibility of medications with other medications or substances in diet

- b. Untoward or toxic manifestations to earlier doses
- c. Serum drug levels for attainment of therapeutic level, toxic level, and peak and trough levels
- d. Final desired result is attained

C Know common symbols, equivalents, abbreviations, and calculation of dosage; TJC recommends that the following should not be abbreviated: every day, every other day, right or left eye, both ears or eyes, units, cubic centimeters, morphine sulfate, and magnesium sulfate; subcutaneous can be indicated by the abbreviation Sub-Q or subQ; use a “0” before a decimal point for numbers less than 1; and no trailing “0” after a decimal

D Ensure traditional five rights of medication administration: right client, right medication, right dose, right route, right time

E Ensure additional five client rights related to medication administration: right client education, right documentation, right to refuse, right client assessment, right evaluation of client response

F Teach client about therapeutic effects, side/adverse effects, and any other pertinent information related to medication regimen

G Respect client’s right to refuse medication

H Know common routes

1. Oral

- a. Most common, convenient, and least expensive
- b. Absorption is slow; may be unpredictable; may cause GI irritation
- c. Preparations include tablets, capsules, pills, powders, and liquids
 - (1) Sustained-release or enteric-coated preparations should not be crushed or broken
 - (2) Suspensions should be shaken well before pouring

2. Sublingual: placed under tongue; absorbed rapidly and directly into bloodstream

3. Parenteral: requires sterile technique ([Figure 2-3, A & B](#): Sites recommended for subcutaneous and IM injections)

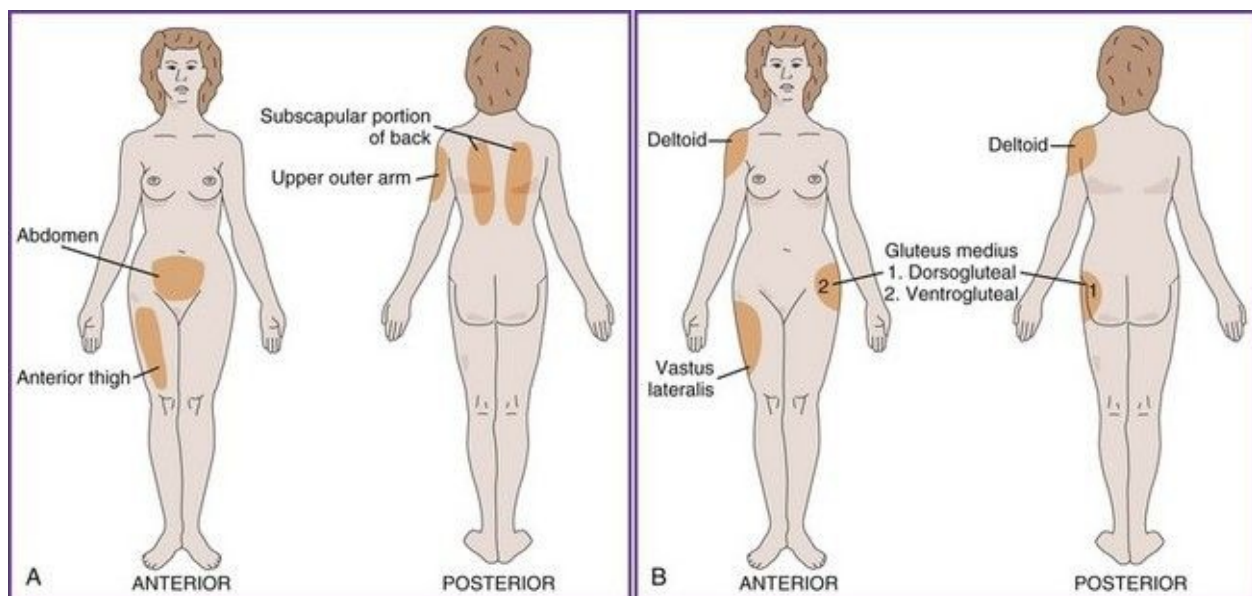


FIGURE 2-3 Sites recommended for subcutaneous (A) and intramuscular (B) injections. (From Young AP, Proctor DB: *Kinn's the medical assistant: an applied learning approach*, ed 11, St. Louis, 2011, Saunders.)

- a. Intradermal: small volume (usually 0.1 mL) under epidermis; most commonly used for allergy and tuberculin testing

- b. Subcutaneous: 0.5 to 2 mL into tissues just below skin
- c. Intramuscular: up to 3 mL into muscle depending on site; sites include ventrogluteal, dorsogluteal (not generally recommended because of proximity to large blood vessels and sciatic nerve), vastus lateralis, rectus femoris, and deltoid
- d. Intravenous: given directly into vein by continuous infusion, intermittent infusion (intravenous piggy back [IVPB]), intravenous push

4. Transdermal (through skin) preparations

5. Inhalation: metered-dose inhaler or nebulizer

6. Topical preparations: for localized effect on skin or in body cavities (e.g., bladder, eyes, ears, nose, vagina, oral cavity, and rectum); for systemic effect (e.g., rectal, nasal, sublingual)

I Calculate dosage of medications; use following formulas for ratio and proportion

1.

$$\frac{\text{Desired}}{\text{Have}} \times \frac{\text{Ordered dose}}{\text{Available dose}} = \frac{\text{Desired amount (e.g., tablets, mL)}}{\text{Available amount}}$$

2. Desired dose : Supplied dose :: Desired Amount : Available amount

J Evaluate client's response to medication

K Clearly and accurately record and report administration of medications and client's response; follow standard practice when counting, wasting, or documenting controlled substances



CHAPTER 3

Pain

Overview

A Definition: universally unpleasant emotional and sensory experience that occurs in response to actual or potential tissue trauma or inflammation

1. Referred to as fifth vital sign
2. Subjective; pain is whatever client says it is
3. Perception of client's pain is influenced by multiple factors (e.g., previous pain experience and emotional, physical, and psychological status)

B Types

1. Acute pain: mild to severe pain lasting less than 6 months; usually associated with specific injury; involves sympathetic nervous system response; leads to increased pulse rate and volume, rate, and depth of respirations, blood pressure (BP), and glucose level; urine production and peristalsis decrease
2. Chronic pain: mild to severe pain lasting longer than 6 months; associated with parasympathetic nervous system; client may not exhibit signs and symptoms associated with acute pain; may lead to depression and decreased functional status

C Terminology

1. Pain threshold: minimum amount of stimulus required to cause sensation of pain
2. Pain tolerance: maximum pain a client is willing or able to endure
3. Referred pain: pain experienced in an area different from site of tissue trauma (Figure 3-1: Common sites of referred pain)

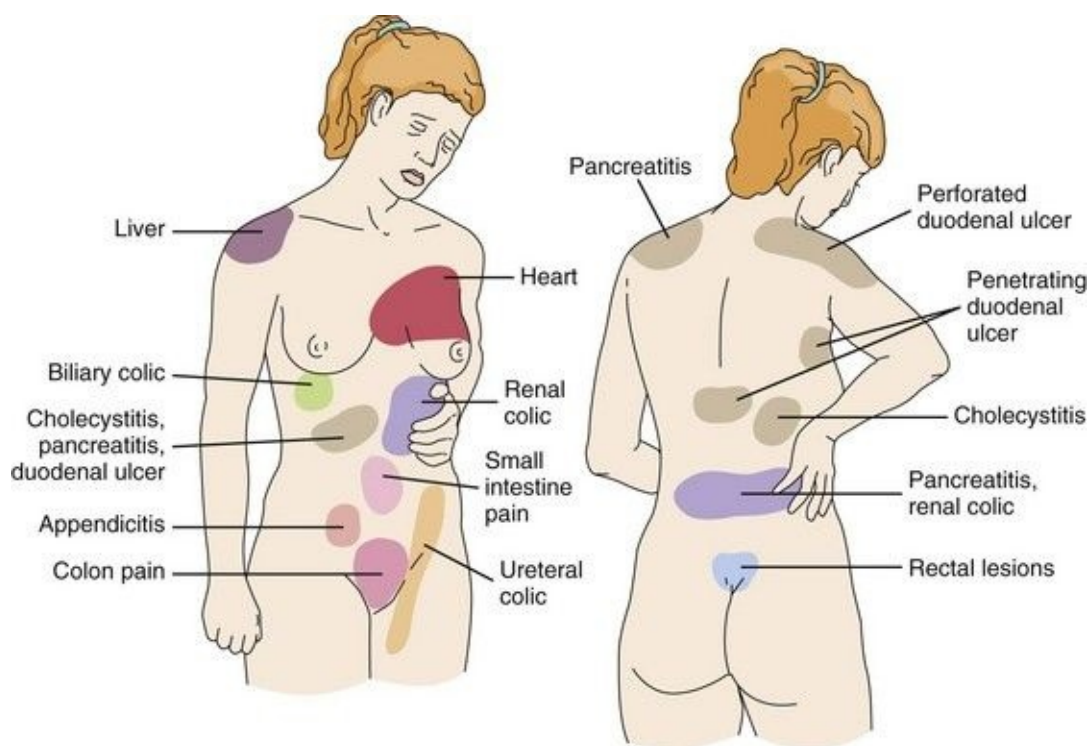


FIGURE 3-1 Common sites of referred pain. Note that the location of the pain may not be directly over or even near the site of the organ. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

4. Intractable pain: pain not relieved by conventional treatment

5. Neuropathic pain: pain caused by neurologic disturbance; may not be associated with tissue damage
6. Phantom pain: pain experienced in missing body part
7. Radiating pain: pain experienced at source and extending to other areas

Review of Physiology

A Sensory neurons, nociceptors in peripheral nervous system, are stimulated by biochemical mediators (e.g., bradykinin, serotonin, histamine, potassium, and substance P) when there is mechanical, thermal, or chemical damage to tissue; viscera do not have special neurons for pain transmission; receptors respond to stretching, ischemia, and inflammation

B Pain impulses are transmitted to spinal column

1. A delta fibers: myelinated, large-diameter neurons
2. C fibers: unmyelinated, narrow-diameter neurons

C Impulse enters at dorsal horn and ascends spinothalamic tract to thalamus

D Impulse travels to basal areas of brain and to somatic sensory cortex

E Endogenous opioids, such as endorphins, are released and bind to receptors to modify pain transmission

F Gate-control theory suggests that stimulation of large-diameter fibers can block transmission of painful impulses through dorsal horn

Nonpharmacologic Pain Management Strategies

A Acupuncture: insertion of disposable needles into meridians (energy pathways) to change energy flow; may use heat or electric stimulation

B Acupressure: finger pressure applied over meridians; less invasive but less effective than acupuncture

C Aroma therapy: plant oils applied topically or misted (e.g., ginger for arthritis or headaches, lavender to reduce anxiety associated with pain) have shown benefit

D Distraction: focuses client's attention away from pain

E Heat and cold: diminishes pain experience by stimulation of large sensory fibers (gate-control theory)

1. Cold promotes vasoconstriction, which helps reduce edema and promote local anesthesia
2. Heat promotes vasodilation, which enhances healing

F Imagery: calming, peaceful thoughts reduce pain perception

G Massage: stimulates large-diameter fibers, blocking pain transmission

H Reflexology: pressure applied to areas on feet, hands, or ears that correspond to specific body organ; may have calming effect through release of endorphins

I Sequential muscle relaxation: promotes relaxation and decreases anxiety, thereby reducing pain perception

J Transcutaneous or percutaneous electric stimulation: stimulation of peripheral sensory nerve fibers blocks transmission of pain impulse

K Therapeutic touch: use of hands near body to improve energy imbalances

L Hypnosis: altered state of consciousness in which concentration is focused; believed that pain stimuli in brain are prevented from penetrating the conscious mind; also, may cause release of natural morphine-like substances (e.g., endorphins and enkephalins)

Related Pharmacology

Opioid Analgesics

A Action

1. Bind to opiate receptors in central nervous system (CNS)
2. Result in diminished transmission and perception of pain impulse

B Examples: morphine (MS Contin), codeine, meperidine (Demerol), hydromorphone (Dilaudid), fentanyl (Duragesic, Sublimaze), tapentadol (Nucynta), hydrocodone (Hycodan); administered via oral, buccal, nasal spray, intramuscular (IM), subcutaneous, IV, transdermal, epidural, or rectal routes, depending on drug

C Major side effects

1. Respiratory depression
2. Lethargy
3. Mental cloudiness
4. Nausea and vomiting
5. Hypotension
6. Constipation
7. Urinary retention
8. Euphoria
9. Allergic reaction
10. Pruritus

D Nursing care

1. Monitor for side effects, especially for respiratory depression (e.g., decreased respiratory rate and depth, decreased oxygen saturation)
2. Institute measures to support respiratory function (e.g., encourage frequent turning, coughing, and deep breathing)
3. Ensure availability of opioid antagonist (e.g., naloxone, naltrexone [Vivitrol]) in case of overdose)
4. Ensure medications are renewed at required intervals
5. Keep accurate count of opioids
6. Use measures to promote elimination (e.g., provide fluids, roughage; encourage upright position)
7. Monitor and maintain therapeutic levels of medication; may take 24 hours to achieve when using transdermal route
8. Administer before pain becomes severe because analgesics are less effective when pain is severe
9. Teach how to use patient-controlled analgesia (PCA) pump for management of severe pain; program infusion pump for continuous basal dose, client-controlled bolus dose, and lockout time interval that allow client to control administration without overdose; may be IV, subcutaneous, or epidural
10. Maintain safety after administration of opioid analgesia
11. Instruct to keep medication in secure environment; dispose of excess doses by returning to pharmacy

Nonsteroidal Antiinflammatory Drugs (NSAIDs)

A Action

1. Act on peripheral nerve endings and decrease inflammatory mediators by inhibiting prostaglandin

synthesis

2. Have analgesic, antiinflammatory, and antipyretic effects

B Examples: aspirin (Ecotrin), ibuprofen (Motrin, Advil), naproxen (Naprosyn, Aleve) (see Related Pharmacology, NSAIDs in [Chapter 11](#))

C Major side effects

1. Gastrointestinal (GI) ulceration and bleeding are most common; tarry stools (melena)

2. Kidney and liver impairment

3. Nausea and vomiting

4. Constipation or diarrhea

5. Bone marrow depression and impaired coagulation

6. Visual disturbances, headache

7. Tinnitus (especially with aspirin)

8. Confusion

9. Seizures

10. Hypertension and fluid retention, especially with older adults

D Nursing care

1. Administer with food or milk

2. Instruct to drink 6 to 8 glasses of water

3. Monitor for side effects

4. Monitor Complete blood count (CBC)

5. Monitor liver and kidney function

6. Teach to avoid alcohol or aspirin when taking other NSAIDs

Other Nonopioid Analgesics

A Action

1. Analgesic effect may be caused by inhibition of CNS prostaglandin synthesis

2. No effect on peripheral prostaglandin synthesis; therefore no antiinflammatory action

B Example: acetaminophen (Tylenol)

C Major side effects are few if therapy is short term

1. Hemolytic anemia

2. Hepatotoxicity

3. Seizures

4. Coma and death

D Nursing care

1. Teach not to crush extended-relief products

2. Monitor CBC

3. Monitor liver function

4. Teach to avoid alcohol and other over-the-counter (OTC) products that contain acetaminophen (avoid exceeding maximum dose of 4 g daily)

5. Explain that acetaminophen can be taken concurrently with anticoagulants

6. Ensure availability of antidote for acetaminophen if there is a risk for toxicity (e.g., acetylcysteine [Acetadote])

General Nursing Care of Clients in Pain

Assessment/Analysis

1. Client's description of pain: location; intensity as measured by numeric rating scale of 0 to 10, Wong-Baker FACES Pain Rating Scale, FLACC Scale (Face, Legs, Activity, Cry, Consolability); character; onset; duration; and aggravating and alleviating factors
2. Associated signs and symptoms: increased vital signs (may be decreased with visceral pain), nausea, vomiting, diarrhea, diaphoresis
3. Nonverbal cues: distraught facial expression, rigid or self-splinting body posture
4. Contributing factors: age (older adults may expect pain or may fear addiction, so they may not complain), culture, past experience, anxiety, fear, uncertainty (lack of information), fatigue
5. Effect of pain on ability to perform activities of daily living (ADLs)

Planning/Implementation

1. Individualize pain management based on client's needs and not on own personal experiences, biases, or cultural beliefs regarding pain
2. Monitor and document client's pain, associated symptoms, and response to pain management interventions
3. Use nonpharmacologic techniques
4. Administer prescribed analgesics and local anesthetics (see Pain, Related Pharmacology and [Perioperative Care](#), [Related Pharmacology](#), Local Anesthetics)
5. Institute measures to counteract side effects of medications (e.g., increase fiber and fluids to prevent constipation associated with opioids)
6. Provide preoperative and postoperative care for clients requiring surgical intervention for pain management
 - a. Rhizotomy: posterior spinal nerve root is resected between ganglion and spinal cord, resulting in permanent loss of sensation; anterior root may be cut to alleviate pain usually associated with lung cancer
 - b. Cordotomy: alleviates intractable pain in trunk or lower extremities; transmission of pain and temperature sensation is interrupted by creation of lesion in ascending tract; performed percutaneously using an electrode or surgically via laminectomy
 - c. Sympathectomy: controls ischemic and phantom limb pain
 - d. Dorsal column stimulator and peripheral nerve implant: direct attachment of electrode to sensory nerve; electrode is attached to a transmitter that is carried by client so electric stimulation can be administered as needed

Evaluation/Outcomes

1. Reports a reduction in pain of equal to or less than 4 on numeric rating scale
2. Participates actively in ADLs

Infection

Review of Physiology (Immunity)

A Nonspecific immune response: directed against invading microbes

1. Body surface barriers: intact skin and mucosa, cilia, and mucus secretions
2. Antimicrobial secretions: oil of skin, tears, gastric juice, and vaginal secretions
3. Internal antimicrobial agents
 - a. Interferon: substance produced within cells in response to viral attack
 - b. Properdin (Factor P): protein agent in blood that destroys certain gram-negative bacteria and viruses
 - c. Lysozyme: destroys mainly gram-positive bacteria
4. Phagocytes (monocytes, macrophages): cells that ingest and destroy microbes; part of reticuloendothelial system
5. Inflammatory response
 - a. First stage: release of histamine and chemical mediators (e.g., prostaglandin, bradykinin) leads to vascular dilation and increased capillary permeability, resulting in signs of inflammation (e.g., pain, heat, redness, edema, and loss of function)
 - b. Second stage: exudate production
 - c. Third stage: reparative phase

B Specific immune response: directed against a specific pathogen (foreign protein) or its toxin; may be cell-mediated or humoral

1. Cell-mediated immunity
 - a. Occurs within cells of immune system
 - b. Involves T lymphocytes (e.g., T helper, T suppressor, T cytotoxic, lymphokines); each type plays a distinct role in immune response
 - c. Cluster designations: mature T cells carry markers on surface that permit them to be classified structurally (e.g., CD4 cells associated with acquired immunodeficiency syndrome [AIDS])
 - d. Functions of cell-mediated immunity
 - (1) Protect against most viral, fungal, protozoan, and slow-growing bacterial infections
 - (2) Reject histoincompatible grafts
 - (3) Cause skin hypersensitivity reactions (e.g., tuberculosis [TB] screening)
 - (4) Assists with diagnosis of malignancies
2. Humoral immunity: concerned with immune responses outside of cell; involves B lymphocytes that differentiate into plasma cells and secrete antibodies
 - a. Antigen: any substance, including allergen, that stimulates production of antibodies in body; typically, antigens are foreign proteins, most potent being microbial cells and their products
 - b. Antibody: immune substance produced by plasma cells; antibodies are gamma globulin molecules; commonly referred to as immunoglobulin (Ig)
 - c. Complement-fixation: group of blood serum proteins needed in certain antigen-antibody reactions; both complement and antibody must be present for reaction to occur
 - d. Types of immunoglobulins
 - (1) Immunoglobulin M (IgM) antibodies: first antibodies to be detected after exposure to antigen; protection from gram-negative bacteria
 - (2) Immunoglobulin G (IgG) antibodies: make up more than 75% of total

immunoglobulins; highest increase in response to subsequent exposure to antigen; only immunoglobulin that passes placental barrier

(3) Immunoglobulin A (IgA) antibodies: present in blood, mucus, and human milk secretions; play important role against viral and respiratory pathogens

(4) Immunoglobulin E (IgE) antibodies: responsible for hypersensitivity and allergic responses; cause mast cells to release histamine; protection from parasites

(5) Immunoglobulin D (IgD) antibodies: help differentiate B lymphocytes

C Types of immunity

1. Active immunity: antibodies formed in body

a. Natural active immunity: antibodies formed during course of disease; may provide lifelong immunity (e.g., measles, chickenpox, yellow fever, smallpox)

b. Artificial active immunity: vaccine or toxoid stimulate formation of homologous antibodies; revaccination (booster shot) often needed to sustain antibody titer (anamnestic effect) ([Figure 3-2: Recommended immunization schedules—United States 2011](#))

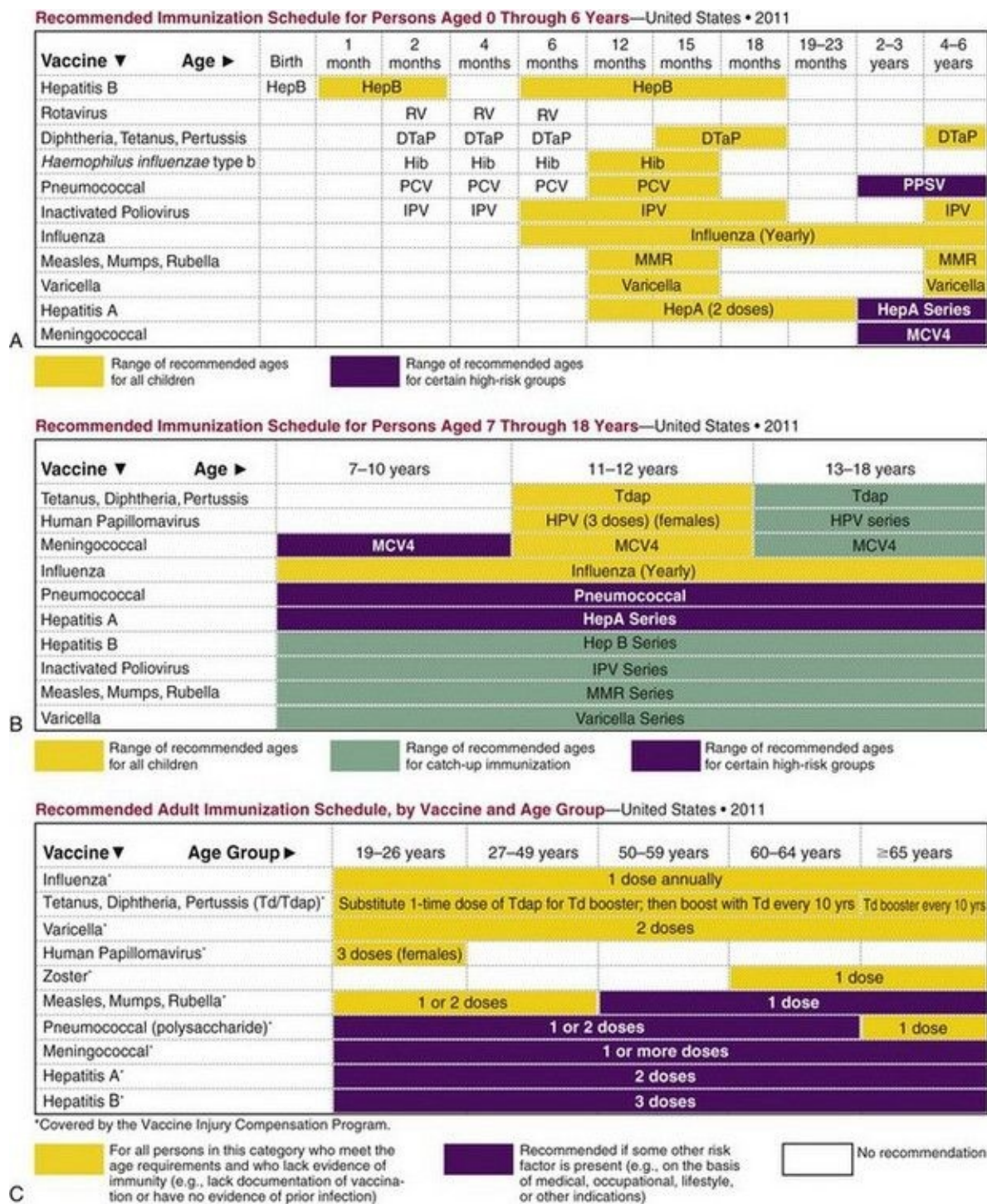


FIGURE 3-2 Recommended immunization schedules—United States 2011. **A**, Schedule for persons aged 0 through 6 years. **B**, Schedule for persons aged 7 through 18 years. **C**, Schedule for adults. (From Centers for Disease Control and Prevention: *Immunization Schedules—United States 2011*. Accessed online at <http://cdc.gov/vaccines/recs/schedules/>.)

- (1) Killed vaccines: antigenic preparations containing killed microbes (e.g., pertussis vaccine, typhoid vaccine)
- (2) Live vaccines: antigenic preparations containing weakened (attenuated) microbes; typically such vaccines are more antigenic than killed preparations (e.g., oral [Sabin] poliomyelitis vaccine, measles vaccine)
- (3) Toxoids: antigenic preparations composed of inactivated bacterial toxins (e.g., tetanus toxoids, diphtheria toxoids)

2. Passive immunity: antibodies acquired from outside source produce short-term immunity
 - a. Natural passive immunity: passage of preformed antibodies from mother through placenta to

fetus or through colostrum to neonate; during first few weeks of life newborn is immune to certain diseases to which mother has active immunity

- b. Artificial passive immunity: injection of antisera derived from immunized animals or humans; provide immediate protection and also are of value in treatment (e.g., diphtheria antitoxin, tetanus antitoxin)

Review of Microbiology

Pathology of Infection

A Infection: invasion of body by pathogenic microorganisms (pathogens) and reaction of tissues to their presence and to toxins generated by them

- 1. Pathogenicity: ability of a microbe to cause disease
- 2. Virulence: degree of pathogenicity

B Classifications

- 1. Extent of involvement
 - a. Local infection: limited to one locality (e.g., abscess), causing pain, swelling, and erythema; may have systemic repercussions such as fever, malaise, and lymphadenopathy
 - b. Systemic infection: infectious agent is spread throughout body (e.g., typhoid fever)
- 2. Length of infectious process
 - a. Acute infection: one that develops rapidly, usually resulting in high fever and severe sickness; resolves in a short time
 - b. Chronic infection: one that develops slowly, with mild but longer-lasting clinical manifestation; sometimes an acute infection can become chronic
- 3. Etiology of infectious process
 - a. Primary infection: develops after initial exposure to pathogen, unrelated to other health problems
 - b. Secondary infection: develops when pathogens take advantage of weakened defenses resulting from a primary infection (e.g., staphylococcal pneumonia as sequela of measles)
 - c. Opportunistic infection: develops when host defenses are diminished because of disease process or therapeutic modalities (e.g., vaginal yeast infection following antibiotic therapy)

C Chain of infection

- 1. Infectious agent
- 2. Reservoir: source of almost all pathogens is human or animal
 - a. Persons exhibiting manifestations of disease
 - b. Carriers: persons who harbor pathogens in absence of discernible clinical disease
 - (1) Healthy carriers: those who have never had the disease in question
 - (2) Incubatory carriers: those in incubation phase of disease
 - (3) Chronic carriers: those who have recovered from disease but continue to harbor pathogens
- 3. Portals of exit: route by which microorganisms leave body; blood and body fluids, skin, mucous membranes, and respiratory, genitourinary, and GI tracts
- 4. Mode of transmission
 - a. Contact transmission (e.g., *Staphylococcus aureus*)
 - (1) Direct: contact between body surfaces
 - (2) Indirect: contact between susceptible host and contaminated intermediate object (e.g.,

sink faucets)

- b. Droplet transmission: droplets from infected individual are propelled short distance by coughing, sneezing, talking, or suctioning respiratory secretions (e.g., common cold)
 - c. Airborne transmission: small droplet nuclei (5 μm or smaller) or dust particles that contain pathogen remain suspended in air for extended period (e.g., *Mycobacterium tuberculosis*)
 - d. Common vehicle transmission: microorganisms are transmitted by contaminated food, water, or equipment (e.g., typhoid fever)
 - e. Vector-borne transmission: microorganisms transmitted by vectors such as mosquitoes, flies, ticks, and rats (e.g., Rocky Mountain spotted fever, Lyme disease)
5. Portals of entry: same as portals of exit except skin; intact skin prevents infection
6. Susceptible host
- a. Developmental level: extremes of age
 - b. Inadequate nutritional status
 - c. Coexisting disease
 - d. Decreased immune responses
 - e. Surgical client; client in intensive care unit (ICU); presence of invasive lines

Types of Pathogens

A Bacteria

- 1. Unicellular microbes without chlorophyll
- 2. Capsule: material secreted by cell, protects it from phagocytosis and increases its virulence (e.g., *Diplococcus pneumoniae*)
- 3. Spores: inactive resistant structures into which bacterial protoplasm can transform under adverse conditions; under favorable conditions spore germinates into active cell (e.g., *Clostridium tetani*, *Clostridium difficile*)
- 4. Examples of disease-producing bacteria
 - a. Eubacteriales: divided into five families based on shape, gram stain, and endospore formation
 - (1) Gram-positive cocci
 - (a) Diplococci: occurring predominantly in pairs (e.g., *Diplococcus pneumoniae*)
 - (b) Streptococci: occurring predominantly in chains (e.g., *Streptococcus pyogenes*)
 - (c) Staphylococci: occurring predominantly in grapelike bunches (e.g., *S. aureus*)
 - (2) Gram-negative cocci include *Neisseria gonorrhoeae* and *Neisseria meningitidis*
 - (3) Gram-negative rods include enterobacteria such as *Escherichia*, *Salmonella*, and *Shigella* species
 - (4) Gram-positive rods that do not produce endospores include *Corynebacterium diphtheriae*
 - (5) Gram-positive rods that produce endospores include *Bacillus anthracis*, *Clostridium botulinum*, and *Clostridium tetani*
 - b. Actinomycetales (actinomycetes): moldlike microbes with elongated cells, frequently filamentous (e.g., *Mycobacterium tuberculosis*, *Mycobacterium leprae*)
 - c. Spirochaetales (spirochetes): flexuous, spiral organisms (e.g., *Treponema pallidum*)
 - d. Mycoplasmatales (mycoplasmas): delicate, nonmotile microbes displaying a variety of sizes

and shapes

B Viruses

1. Obligate intracellular parasite; replicates only within cell of another organism; composed of either ribonucleic acid (RNA) or deoxyribonucleic acid (DNA), not both
2. Examples of disease-producing viruses
 - a. Human immunodeficiency virus (HIV): AIDS
 - b. Hepatitis B virus (HBV): hepatitis type B
 - c. Haemophilus influenza virus: influenza
 - d. Varicella-zoster virus: chickenpox, herpes zoster, shingles

C Fungi

1. Saprophytic organisms that live on organic material
2. Molds: fuzzy growths of interlacing filaments called hyphae; reproduce by spores
3. Yeasts: organisms that usually are single-celled; usually reproduce by budding
4. Examples of disease-producing fungi
 - a. *Candida albicans*, a yeast: moniliasis (“thrush”)
 - b. *Histoplasmosis capsulatum*: histoplasmosis
 - c. *Trichophyton rubrum*: tinea pedis (“athlete’s foot”)

D Control of microorganisms

1. Medical asepsis ([Table 3-1: Precautions to Prevent the Spread of Microorganisms](#))

Table 3-1

Precautions to Prevent the Spread of Microorganisms

Category	Indications	Conditions	Room	Gown	Gloves	Mask and Eye	Handwashing	Precautions
STANDARD PRECAUTIONS	Used for all clients regardless of diagnosis when there is contact with: 1. Blood 2. Body fluids 3. Secretions 4. Excretions 5. Nonintact skin 6. Mucous membranes	Used for all clients, particularly those with acquired immunodeficiency syndrome (AIDS) and hepatitis type B infection	Private room indicated if personal hygiene is inadequate	Indicated if soiling with blood, body fluids, secretions, or excretions is likely (e.g., during client care activities that are associated with splashes of blood); should be impermeable to liquids	Required for touching blood, body fluids, secretions, excretions, contaminated items or surfaces, mucous membranes, and nonintact skin	Required if splashes of blood, body fluids, secretions, or excretions are likely	Required after touching blood, body fluids, secretions, excretions, or contaminated articles whether gloves were worn or not Hands must be washed when gloves are removed, before contact with another client, and before touching a noncontaminated item or surface	Discard items contaminated with blood, body fluids, secretions, or excretions in a biohazard receptacle or handle equipment and remove personal protective equipment in a manner that will prevent transfer of microorganisms. Disinfect and sterilize reusable items. Dispose of used needles and other sharp devices in properly labeled, puncture-resistant container. Never recap used needles. Use ventilation devices instead of mouth-to-mouth resuscitation.
Transmission-Based Precautions*								
AIRBORNE PRECAUTIONS	Prevents transmission of droplet nuclei $\leq 5 \mu\text{m}$ or dust particles that contain the pathogen; these nuclei and particles remain suspended in the air for an extended period	Tuberculosis, varicella, rubeola	Negative-pressure isolation room with at least six air exchanges per hour Door must be kept closed for negative pressure to be effective	See Standard Precautions	See Standard Precautions	See Standard Precautions Use particulate respirators such as HEPA mask (high-efficiency particulate air filter respirator) when client has a known or suspected diagnosis of tuberculosis People susceptible to varicella or rubeola should not enter the room	See Standard Precautions	See Standard Precautions. Confine client to room; transport only if absolutely essential; during transport have client wear a surgical mask to minimize droplet nuclei dispersal
DROPLET PRECAUTIONS	Prevents transmission of particle droplets $\geq 5 \mu\text{m}$ that are dispersed by coughing, sneezing, talking, or suctioning; these droplets travel up to 3 feet before settling on the floor or other surfaces	<i>Haemophilus influenzae</i> type b in children, meningococci meningitis, <i>Streptococcus pneumoniae</i> pneumonia, mycoplasmal pneumonia, streptococcal pharyngitis, scarlet fever, pertussis, rubella, mumps, diphtheria	Private room; clients infected with the same organism may share a room	Don gloves when entering room	Don gloves when entering room	Don mask and eye protection equipment when entering room	See Standard Precautions	See Standard Precautions. See Airborne Precautions
CONTACT PRECAUTIONS a. Direct b. Indirect	Prevents transmission of epidemiologically important microorganisms by direct contact with client's skin or indirect contact with contaminated items or surfaces	<i>Clostridium difficile</i> enteric infection, enterohemorrhagic <i>Escherichia coli</i> , <i>Shigella</i> , hepatitis type A, herpes simplex virus, cellulitis, scabies	Private room; clients infected with the same organism may share a room	Don gown when entering room	Don gloves when entering room; change gloves after contact with substances such as feces or wound drainage that have high concentrations of microorganisms	Don mask and eye protection equipment when entering room	See Standard Precautions	See Standard Precautions. Confine client to room. Transport only if absolutely essential; during transport maintain precautions to limit transmission of microorganisms. If possible, equipment such as a stethoscope or sphygmomanometer should be used only for the infected client

*Used in addition to standard precautions for clients with documented or suspected infection with highly transmissible or epidemiologically important pathogens.

a. Standard precautions (e.g., hand hygiene, personal protective equipment [PPE])

b. Transmission-based precautions (e.g., airborne, droplet, contact)

2. Surgical asepsis

3. Disinfection: removal or destruction of pathogens

4. Sterilization: removal or destruction of all microbes

5. Antiseptic: inhibits microbial growth

6. Heat sterilization

a. Moist heat

(1) Steam under pressure (autoclave)

(2) Boiling objects in water; some spores resist boiling

b. Dry heat

7. Radiation: all types of radiation injurious to microbes

a. Gamma rays: sterilize food and drugs

b. Ultraviolet light: inhibits microbial population of air in operating rooms, nurseries, and laboratories

Definition of Terms

A Bactericidal effect: destroys bacteria at low concentrations

B Bacteriostatic effect: slows reproduction of bacteria

C Superinfection (secondary infection): emergence of microorganism growth when natural protective flora are destroyed by an anti-infective drug

D Bacterial resistance: natural or acquired characteristic of an organism that prevents destruction by a drug to which it was previously susceptible

Antibiotics

A Description

1. Destroy bacteria or inhibit bacterial reproduction to control infection

2. Available in oral, parenteral, and topical forms, including ophthalmic and ear drop preparations

B Antibiotic sensitivity tests: identify antibiotics that are effective against a particular organism

C Mechanism of action: interfere with or inhibit cell-wall synthesis of RNA or DNA of pathogen

D Examples

1. Penicillins (broad spectrum): amoxicillin may be combined with a second drug to prevent bacterial resistance such as amoxicillin and clavulanate (Augmentin), ampicillin and sulbactam (Unasyn), piperacillin and tazobactam (Zosyn)

2. Cephalosporins (broad spectrum): cefazolin (Ancef), cephalexin (Keflex)

3. Erythromycins: clindamycin HCl (Cleocin HCl), azithromycin (Zithromax), erythromycin (Ery-Tab, Eryc)

4. Tetracyclines (broad spectrum): doxycycline (Vibramycin), tetracycline (Sumycin)

5. Aminoglycosides (broad spectrum): gentamicin, neomycin, streptomycin

6. Quinolones (broad spectrum): ciprofloxacin (Cipro) and levofloxacin (Levaquin)

7. Polymyxin group: polymyxin B

8. Glycopeptides: vancomycin (Vancocin)

E Major side effects

1. Depressed appetite (altered taste sensitivity)

2. Nausea, vomiting (normal flora imbalance)

3. Diarrhea (normal flora imbalance)

4. Suppressed absorption of variety of nutrients including fat; protein; lactose; vitamins A, D, K, and B₁₂; and the minerals calcium, iron, and potassium (normal flora imbalance)

5. Increased excretion of water-soluble vitamins and minerals (normal flora imbalance)

6. Superinfection (normal flora imbalance)

7. Allergic reactions, anaphylaxis (hypersensitivity)

8. Nephrotoxicity (direct kidney toxic effect)

9. Can render oral contraceptives ineffective

10. Tetracyclines

a. Hepatotoxicity (direct liver toxic effect)

b. Phototoxicity (degradation to toxic products by ultraviolet rays)

c. Hyperuricemia (impaired kidney function)

d. Enamel hypoplasia, dental caries, and bone defects in children younger than 8 years of age (drug binds to calcium in tissue)

11. Aminoglycosides

- a. Ototoxicity (direct toxic effect to auditory [eighth cranial] nerve)
- b. Leukopenia (decreased white blood cell [WBC] synthesis)
- c. Thrombocytopenia (decreased platelet synthesis)
- d. Headache, confusion (neurotoxicity)
- e. Peripheral neuropathy (neurotoxicity)
- f. Nephrotoxicity (direct kidney toxic effect)
- g. Respiratory paralysis (neuromuscular blockade)

12. Vancomycin

- a. Ototoxicity (hearing loss)
- b. Nephrotoxicity (kidney damage)

F Nursing care

1. Assess for history of drug allergy
2. Instruct client regarding
 - a. How to take drug (e.g., frequency, relation to meals)
 - b. Prevention of emergence of resistant strains of microorganisms (e.g., methicillin-resistant *Staphylococcus aureus* [MRSA]) by completing prescribed course of therapy
 - c. Symptoms of allergic response
 - d. Need to report side effects, including signs of superinfection (e.g., vaginal itching, diarrhea, change in cough or sputum, white plaques in mouth); suggest ingestion of yogurt or food supplements containing probiotics such as *Lactobacillus acidophilus* when dairy products cannot be tolerated; suggest nutritional consultation when drug therapy may have negative impact on client's nutritional status
 - e. Monitor for and promptly report pain, changes in urinary or hearing function
3. Shake liquid suspensions to mix thoroughly
4. Administer most preparations 1 hour before meals or 2 hours after meals for best absorption
5. Administer at equal intervals around the clock to maintain blood levels
6. Assess vital signs during course of therapy
7. Provide well-balanced diet and adequate fluids
8. Encourage use of alternate form of birth control (vs. birth control pills) during therapy
9. Tetracyclines
 - a. Explain why they are contraindicated during last half of pregnancy or by children younger than 8 years of age
 - b. Assess for potentiation if concurrently receiving oral anticoagulants
 - c. Teach to avoid direct sunlight
 - d. Advise to avoid dairy products, antacids, or iron preparations because they reduce effectiveness
10. Aminoglycosides: assess for potentiation if client is receiving neuromuscular blocking agents, general anesthetic, or parenteral magnesium; monitor renal and neurologic function
11. Vancomycin: assess peak and trough blood levels because these drugs have a narrow therapeutic range; incompatible with heparin

Antivirals

A Description

1. Prevent entrance of virus into host cells; provide prophylaxis after exposure to a person with a viral infection;

2. Available in oral, intravenous, and topical, including ophthalmic, preparations

B Examples: acyclovir (Zovirax), amantadine (Symmetrel), zanamivir (Relenza), oseltamivir (Tamiflu)

C Major side effects

1. CNS stimulation (direct CNS effect)
2. Orthostatic hypotension (depressed cardiovascular system)
3. Dizziness (hypotension)
4. Constipation (decreased peristalsis)
5. Nephrotoxicity (direct kidney toxic effect)
6. Local irritation (direct local tissue effect)

D Nursing care

1. Assess vital signs during course of therapy
2. Support natural defense mechanisms (e.g., encourage intake of foods rich in immune-stimulating nutrients, such as vitamins A, C, and E, and the minerals selenium and zinc)
3. Encourage intake of high-fiber foods to reduce potential for constipation
4. Monitor disease signs and symptoms and laboratory data
5. Evaluate response to medication

Sulfonamides

A Description

1. Substitute a false metabolite for para-aminobenzoic acid (PABA), required in bacterial synthesis of folic acid; treat urinary tract infections
2. Available in oral, parenteral (IM, IV), and topical, including ophthalmic, preparations

B Examples: sulfiSOXAZOLE and combination products such as sulfamethoxazole and trimethoprim (Bactrim, Septra)

1. Nausea, vomiting; decreased absorption of folacin (irritation of gastric mucosa)
2. Skin rash (hypersensitivity)
3. Malaise (decreased red blood cells [RBCs])
4. Blood dyscrasias (decreased RBCs, WBCs, platelet synthesis)
5. Crystalluria (drug precipitation in acidic urine)
6. Stomatitis (irritation of oral mucosa)
7. Headache (CNS effect)
8. Photosensitivity (hypersensitivity)
9. Allergic response, anaphylaxis (hypersensitivity)

C Nursing care

1. Assess for history of drug allergy
2. Promote increased fluid intake
3. Caution to avoid dehydration and direct exposure to sunlight
4. Assess vital signs during course of therapy
5. Maintain alkaline urine
6. Administer at routine intervals around clock to maintain blood levels; obtain blood specimens for peak and trough levels
7. Monitor blood work during therapy because of potential for megaloblastic anemia caused by folacin deficiency
8. Assess for potentiation of oral anticoagulant and oral hypoglycemic effects

9. Monitor for dysuria and urinary output
10. Evaluate response to medication

Antifungals

A Description

1. Destroy fungal cells (fungicidal) or inhibit reproduction of fungal cells (fungistatic); treat systemic and localized fungal infections
2. Available in oral, IV, topical, vaginal, and intrathecal preparations

B Examples

1. Amphotericin B (Fungizone), nystatin (Mycostatin, Nilstat): disrupts fungal cell membrane permeability
2. Fluconazole (Diflucan): disrupts fungal cell membrane function
3. Griseofulvin (Gris-PEG): disrupts fungal nucleic acid synthesis

C Major side effects

1. Nausea, vomiting (irritation to gastric mucosa)
2. Headache (neurotoxicity)
3. Blood dyscrasias (effect on bone marrow)
4. Paresthesia (neurotoxicity)

D Nursing care

1. Assess vital signs during course of therapy
2. Review proper method of application
3. Amphotericin B (Fungizone)
 - a. Use infusion control device for IV administration
 - b. Protect solution from light during IV infusion
 - c. Monitor blood work during therapy because of potential hypokalemia and increased urinary excretion of magnesium
 - d. Premedicate with antipyretics, corticosteroids, antihistamines, and antiemetics before IV administration
4. Griseofulvin (Gris-PEG)
 - a. Assess for antagonistic effect if concurrently taking oral anticoagulants
 - b. Instruct to avoid direct exposure to sunlight
5. Evaluate response to medication

Antiparasitics

A Description

1. Interfere with parasite metabolism and reproduction; treat parasitic diseases; helminthic (e.g., pinworm, tapeworm); protozoal (e.g., amebiasis, malaria)
2. Available in oral, parenteral (IM, subcutaneous [Sub-Q], IV), vaginal, and rectal preparations

B Examples

1. Anthelmintics: mebendazole
2. Amebicides: chloroquine phosphate (Aralen), metronidazole (Flagyl)
3. Antimalarials: chloroquine phosphate (Aralen), hydroxychloroquine (Plaquenil), quinine (Qualaquin)
4. Antiprotozoals: pentamidine (NebuPent, Pentam 300)

C Major side effects

1. Anthelmintics

- a. Nausea, vomiting, diarrhea (GI irritation)
- b. CNS disturbances (neurotoxicity)
- c. Skin rash (hypersensitivity)

2. Amebicides

- a. Nausea, vomiting, diarrhea (GI irritation)
- b. Blood dyscrasias (decreased RBCs, WBCs, platelet synthesis)
- c. Skin rash (hypersensitivity)
- d. Headache (neurotoxicity)
- e. Dizziness (CNS effect)

3. Antimalarials

- a. Nausea, vomiting (gastric irritation)
- b. Blood dyscrasias (decreased RBCs, WBCs)
- c. Visual disturbances (impaired accommodation; retinal and corneal changes)

D Nursing care

1. Administer with meals to decrease GI irritability
2. Assess vital signs during course of therapy
3. Monitor blood work during therapy
4. Instruct regarding hygiene practices to prevent spread of infestation
5. Ensure safety (e.g., supervise ambulation) if CNS effects are manifested
6. Antimalarials: encourage frequent visual examinations
7. Antiprotozoals: assess for bronchial constriction that may interfere with desired effect of aerosol pentamidine; assess for side effects of sudden severe hypotension
8. Instruct to report unusual bruising or bleeding
9. Evaluate response to medication

General Nursing Care of Clients at Risk for Infection

Assessment/Analysis

1. History to identify factors affecting chain of infection
2. Baseline vital signs
3. Baseline WBC
4. Culture and sensitivity test results
5. Medication profile and allergies

Planning/Implementation

The goal of all interventions is to prevent health care–associated infections (HAIs)

1. Decrease host susceptibility
 - a. Maintain skin and mucous membranes as first line of defense
 - b. Reinforce or maintain natural protective mechanisms (e.g., coughing, pH of secretions, resident flora)
 - c. Maintain nutrition/hydration and encourage rest and sleep to promote tissue repair and production of lymphocytes and antibodies

- d. Educate about immunizations
2. Employ principles of asepsis
 - a. Use medical asepsis (standard precautions and transmission-based precautions): limits growth and spread of microorganisms by confining them to a specific area
 - b. Use surgical asepsis: absence of all microorganisms and spores; prevents microorganisms from entering a specific area
 - (1) Prevent contact between sterile and nonsterile items
 - (2) Keep sterile objects within 1-inch border of sterile field
 - (3) Keep sterile items between waist and shoulder level
 - (4) Keep sterile field within field of vision
 - (5) Avoid contact between sterile items and wet, porous surface; permeable surface enables contamination by capillary action
 - (6) Prevent exposure of sterile items to airborne contaminants
 - (7) Avoid reaching across sterile field
3. Limit or eliminate the microbiologic agent
 - a. Use antiseptics, disinfectants, and sterilization
 - b. Administer prescribed antimicrobial agents
4. Prevent transmission
 - a. Hand hygiene
 - (1) Before client contact; after client contact; before and after donning gloves; after contact with blood, body fluids, secretions, excretions, mucous membranes, or nonintact skin
 - (2) Use friction, soap, and warm water for at least 20 seconds to loosen and flush microorganisms
 - (3) Use alcohol-based antiseptic hand rubs; apply a palmful of agent to cupped hands and rub all surfaces of the hands until product is dry
 - b. Use standard precautions (see [Table 3-1](#)); required for all clients regardless of diagnosis or presumed infectious status
 - c. Use transmission-based precautions (see [Table 3-1](#)); required in addition to standard precautions for clients documented or suspected to be infected with highly transmissible or epidemiologically important pathogens; precautions may be combined for diseases that have multiple routes of transmission
 - d. Use needleless systems whenever possible
 - e. Activate needle safety device if present
 - f. Dispose of contaminated material
 - (1) Use impervious bags
 - (2) Do not recap needles without safety devices; use rigid container for disposal of used syringes and needles
5. Monitor vital signs: pulse rate—recognize pyrexia increases workload of heart; temperature—ensure consistency of measurement (Celsius or Fahrenheit); conversion from one temperature scale to another is accomplished by using following formulas:

$$F = (9/5 \times C) + 32$$

$$C = (F - 32) \times 5/9$$

6. Employ measures to decrease body temperature as prescribed (tepid bath, antipyretics, hypothermia blanket); prevent shivering, which raises basal metabolic rate (BMR) and thus temperature, pulse rate, and respirations
7. Ensure adequate fluid intake
8. Teach to avoid transmission and autoinoculation, especially meticulous hand hygiene

Evaluation/Outcomes

1. Adheres to medical regimen
2. Establishes health practices that enhance immunity
3. Maintains body temperature within expected (normal) range
4. Maintains fluid balance
5. Becomes infection free
6. Remains free from infection

Fluid, Electrolyte, and Acid-Base Balance

Fluid and Electrolyte Balance

Fluids

A Average adult body consists of about 40 L of water, comprising 60% of weight; may be as high as 80% in infants and as low as 40% in older adults; volume of fluid in different compartments remains relatively constant

1. Intracellular fluid (ICF) compartment accounts for two thirds of fluid
2. Extracellular fluid (ECF) compartment accounts for one third of fluid
 - a. Interstitial compartment: 10 to 12 L
 - b. Intravascular compartment: 3 L (plasma)
 - c. Small fluid compartments: 1 L (e.g., aqueous humor; serous, cerebrospinal, pleural, and synovial fluid; lymphatic channels)

B Intake must approximately equal output

1. Water enters body through digestive tract by liquids (approximately 1500 mL) and food (approximately 1000 mL); also formed by metabolism of foods (approximately 200 mL)
2. Water leaves body via kidneys (approximately 1500 mL), intestines (approximately 200 mL), and insensible losses through lungs and skin (approximately 800 mL)

C Solutions

1. Substances that dissolve in other substances form solutions
 - a. Solute: dissolved substance
 - b. Solvent: substance in which solute is dissolved
2. Measures of concentration
 - a. Osmolality: concentration of solute per kilogram (kg) of water (milliosmoles per kg)
 - b. Osmolarity: concentration of solute per liter (milliosmoles per L)
3. Concentrations of solutions
 - a. Dilute (hypotonic): small amount of solute in a relatively large amount of solvent (e.g., 0.45% NaCl)
 - b. Concentrated (hypertonic): large amount of solute in a relatively small amount of solvent (e.g., 5% dextrose in normal saline)
 - c. Isotonic solution: when osmotic pressures of two liquids are equal, flow of solvent equalizes, and the two solutions are said to be isotonic to each other (e.g., 0.9% sodium chloride, which is normal saline)

Major Ions (Electrolytes)

A When an atom loses or gains an electron, it is no longer neutral but a charged particle called an ion

1. Conducts electric current when dissolved in water
2. Concentration of electrolytes in each fluid compartment remains relatively constant ([Table 3-2: Serum Levels of Major Electrolytes](#))

Table 3-2
Serum Levels of Major Electrolytes

Ion	Range of Expected Values
Calcium (Ca ²⁺)	4.5-5.5 mEq/L (ionized) 8.5-10.5 mEq/L (total)
Chloride (Cl ⁻)	97-107 mEq/L
Magnesium (Mg ²⁺)	1.5-2.5 mEq/L
Phosphorus (P ⁻)	1.8-4.6 mEq/L
Potassium (K ⁺)	3.5-5.0 mEq/L
Sodium (Na ⁺)	135-145 mEq/L

B Cations (positively charged ions)

1. Sodium (Na⁺)
 - a. Most abundant cation in extracellular fluid
 - b. Sodium pump in most body cells pumps sodium out of intracellular fluid
 - c. Action potential of nervous and muscle fibers requires sodium; sodium is basic to communication between nerves and muscles
 - d. Helps regulate acid-base balance by exchanging hydrogen ions for sodium ions in kidney tubules; excess hydrogen ions (acid) are excreted
 - e. Foods high in sodium include celery, processed foods, snack foods, condiments, smoked meats, and aged cheese
2. Potassium (K⁺)
 - a. Most abundant cation of intracellular fluid
 - b. Potassium pump transports potassium into cells
 - c. Resting polarization and repolarization of nerve and muscle fibers depend on potassium
 - (1) If potassium concentration of extracellular fluid increases (hyperkalemia), the force of cardiac contractions weakens; with extremely high concentrations the heart will not contract
 - (2) If potassium concentration of extracellular fluid decreases (hypokalemia), the resting polarization in nerve and muscle fibers increases, resulting in weakness, eventual paralysis, and a flattened T wave on electrocardiogram (ECG)
 - d. Foods high in potassium include bananas, avocados, oranges, dates, apricots, cantaloupe, potatoes, and raisins
3. Calcium (Ca²⁺)
 - a. Forms salts with phosphates, carbonate, and fluoride in bones and teeth to harden them
 - b. Required for functioning of nerves and muscles
 - (1) If calcium concentration increases (hypercalcemia), the nervous system becomes depressed and sluggish
 - (2) If calcium concentration decreases (hypocalcemia), the nervous system becomes extremely excitable, resulting in cramps and tetany
 - c. Required for blood clotting, acting as cofactor in formation of prothrombin activator and thrombin
 - d. Foods high in calcium include milk, dairy products, canned fish with bones, whole grains, legumes, and leafy green vegetables
4. Magnesium (Mg²⁺)
 - a. Cofactor for many enzymes involved in energy metabolism

b. Constituent of bone

c. Foods high in magnesium include nuts, soybeans, cocoa, seafood, whole grains, dried beans, and peas

C Anions (negatively charged ions)

1. Chloride (Cl^-)

a. Most abundant anion in extracellular fluid

b. Helps balance sodium

c. Major component of gastric secretions

d. Dietary source of chloride is salt

2. Bicarbonate (HCO_3^-)

a. Part of bicarbonate buffer system

b. Reacts with strong acid to form carbonic acid and basic salt; limits decrease in pH level (acidosis)

3. Phosphate (PO_4^{2-})

a. Part of phosphate buffer system

b. Functions in cellular energy metabolism: phosphate + ADP $\rightarrow$ ATP (energy currency of cell)

c. Combines with calcium ions in bone, providing hardness

d. Involved in structure of genetic material, DNA and RNA

Fluid and Electrolyte Movement

(Figure 3-3: Mechanisms of fluid and electrolyte movement)

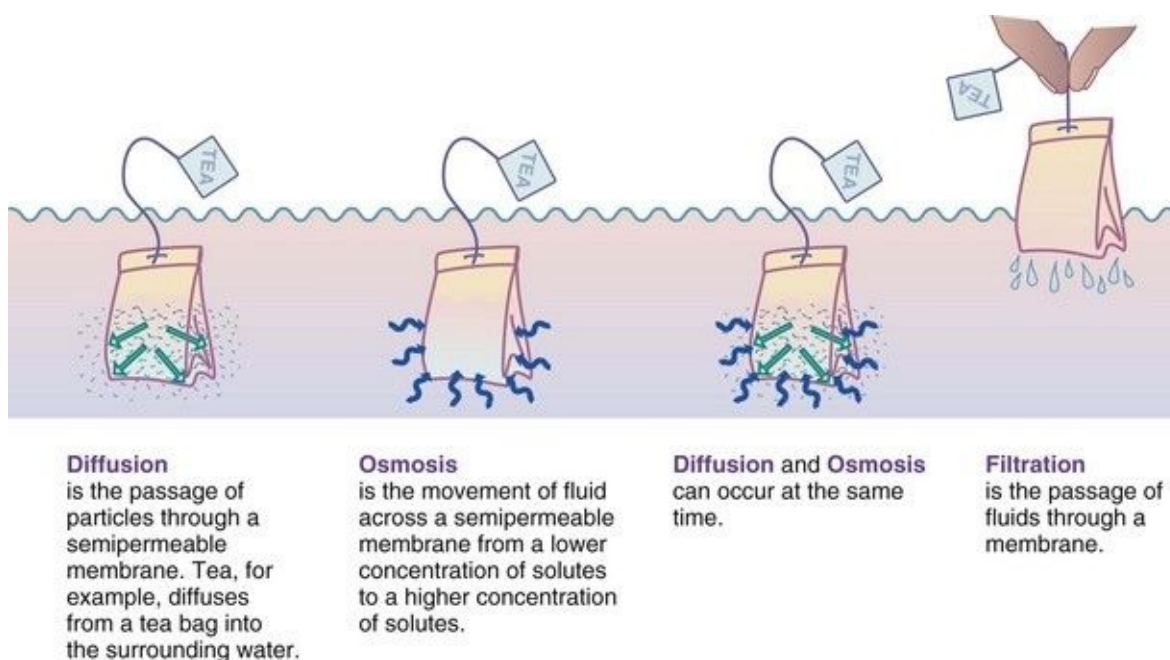


FIGURE 3-3 Mechanisms of fluid and electrolyte movement. (Modified from Mahan KL, Escott-Stump S: *Krause's food & nutrition therapy*, ed 12, St. Louis, 2008, Saunders.)

Osmosis: movement of fluid across semipermeable membrane from lesser concentration to greater concentration of solutes; movement of fluid across membrane continues until solution concentrations are equal

1. Osmotic pressure (oncotic pressure): forces fluid across cell membrane; exerted by large protein

molecules such as albumin

2. Hypertonic solutions: when one solution has more osmotic pressure (more concentrated) than another, it draws fluid from the other
3. Hypotonic solutions: when one solution has less osmotic pressure (more dilute) than another, it forces fluid into the other
4. Albumin: important in maintenance of plasma colloid osmotic (oncotic) pressure; helps control flow of water between plasma and interstitial fluid through osmosis; during conditions such as starvation, decreased serum albumin levels result in decreased plasma colloid osmotic pressure, causing edema because less fluid is being drawn by osmosis into capillaries from interstitial spaces

B Diffusion: movement of molecules from area of higher concentration to area of lesser concentration

C Filtration: movement of fluid and solutes from area of increased hydrostatic pressure to area with less pressure; higher pressure within arterial capillary intravascular compartment moves fluid from vessels to interstitial spaces

D Active transport: movement of molecules across cell membrane from area of lower concentration to area of greater concentration; requires energy to reverse natural process of diffusion (e.g., sodium-potassium pump on cell membrane maintains high levels of sodium in ECF and high levels of potassium in ICF)

Mechanisms That Regulate Fluid and Electrolyte Balance

A Thirst mechanism

1. Dryness of oral mucosa and dehydration of cells in thirst center of hypothalamus give rise to thirst sensation
2. Stretching of stomach by fluid and moistening of oral mucosa cancel thirst sensation before actual hydration of body fluids

B Osmoreceptor system

1. Cells in hypothalamus synthesize antidiuretic hormone (ADH), which is stored in posterior pituitary before release into circulation
2. Osmoreceptors respond to dehydration by increasing ADH release; this increases water reabsorption in kidney tubules and decreases urinary output; opposite occurs with overhydration

C Aldosterone feedback mechanism

1. Adrenal cortex secretes mineralocorticoid hormone aldosterone when extracellular fluid sodium concentrations decrease or potassium concentrations increase; produced in response to renin release by kidneys when renal perfusion is decreased
2. Aldosterone stimulates kidney tubules to reabsorb sodium; potassium reabsorption decreases as sodium reabsorption increases; occurs during stress, such as surgery
3. Mechanism helps preserve usual sodium and potassium levels in extracellular fluid
4. Secondary effects of aldosterone
 - a. Chloride conserved with sodium
 - b. Water conserved because it is reabsorbed by osmosis as tubules reabsorb sodium

D Parathyroid regulation of calcium

1. Parathyroid glands secrete parathormone when extracellular fluid calcium levels decrease
2. Parathormone stimulates release of calcium from bone, calcium reabsorption in small intestine (vitamin D required), and calcium reabsorption in kidney tubules
3. Increased extracellular fluid calcium levels result in decreased secretion of parathormone

E Atrial natriuretic peptide (ANP)

1. Released from atrial muscle cells in response to volume expansion and stretching of atrial wall
2. Promotes excretion of sodium and water by kidney; decreases thirst, resulting in decreased blood volume

Acid-Base Balance

Basic Concepts

A The pH denotes strength of hydrogen (ions) in solutions

1. Acid solutions have more hydrogen ions (H^+) than bicarbonate or hydroxyl ions (OH^-); low pH
2. Basic solutions have more bicarbonate or hydroxyl ions (OH^-) than hydrogen ions (H^+); high pH

B When body is in state of acid-base balance, it maintains stable hydrogen ion concentration in extracellular (intravascular and interstitial compartments) fluid within narrow range of 7.35 to 7.45 (slightly alkaline); pH of 7 or less or pH of 7.8 or greater can result in death

1. Uncompensated acidosis exists if blood pH decreases below 7.35
2. Uncompensated alkalosis exists if blood pH increases above 7.45

C Certain body fluids have a different pH: gastric juice has pH of 1 or 2 caused by hydrochloric acid; bile and pancreatic secretions are alkaline; urine may be acidic or alkaline

Acids

A Acid: compound that yields hydrogen ions when dissociated in solution

B Properties of acids

1. Act as electrolytes in water
2. React with bases to form water and a salt (neutralization)
3. In high concentration, destroy body tissues (corrosive)

C Common acids

1. Hydrochloric acid: secreted by parietal cells of stomach; transforms pepsinogen into pepsin, which is a protein-digesting enzyme of gastric juice
2. Carbonic acid
 - a. One form in which carbon dioxide (CO_2) is transported in blood
 - b. Part of bicarbonate buffer system, which is the most important buffer system regulating pH of body fluids
3. Acetic acid: vinegar
4. Lactic acid: builds up in muscle tissue during excessive exercise when there is insufficient oxygen for metabolism of carbohydrates to glucose and water

Bases

A Base: compound that combines with acid to form water and a salt (neutralization)

B Properties of bases: act as electrolyte in water; destroy body tissues (corrosive) in high concentrations

C Common bases

1. Magnesium hydroxide: water solution marketed under brand name Milk of Magnesia; antacid, mild laxative
2. Aluminum hydroxide: component of many antacids

3. Ammonium hydroxide: commonly used in household cleaners

Salts

A Salt: compound formed when acid is neutralized by a base

B Properties of salts: act as electrolytes in water; crystalline in nature; “salty” taste

C Common salts

1. Sodium chloride: salt of extracellular compartment
2. Potassium chloride: salt of intracellular spaces
3. Calcium phosphate: bone and tooth formation
4. Barium sulfate: when taken internally, outlines internal structures for x-ray studies
5. Silver nitrate: antiseptic
6. Ferrous sulfate: treatment of anemia

Mechanisms That Maintain Acid-Base Balance

A Buffer mechanism: rapid first line of defense (takes seconds)

1. Buffers combine with relatively strong acids or bases to convert them to weaker acids or bases to prevent marked changes in blood pH levels
2. Often referred to as buffer pair because it consists of a weak acid and its basic salt
3. Bicarbonate buffer system
 - a. Most important buffer in body fluids because its components, base bicarbonate (HCO_3^-) and carbonic acid (H_2CO_3), are actively and constantly regulated by action of respiratory and urinary systems
 - b. When body is in acid-base balance, blood contains 27 mEq base bicarbonate/L and 1.35 mEq carbonic acid/L; base bicarbonate/carbonic acid ratio is 20 : 1
4. Phosphate buffer system: important in intracellular fluids, where its concentration is considerably higher
5. Protein buffer system: hemoglobin, a protein buffer, promotes movement of chloride across RBC membrane in exchange for bicarbonate ions

B Respiratory mechanism: second line of defense (takes minutes)

1. CO_2 is carried in body in forms of carbonic acid and bicarbonate
2. Controls rate of carbon dioxide exhalation from lungs
 - a. When CO_2 in body increases, the medulla is stimulated to increase rate and depth of respirations
 - b. When CO_2 in body decreases, the rate and depth of respirations decrease
3. During body metabolism, CO_2 is produced, which reacts with water to form carbonic acid, resulting in a decrease in pH (as acidity increases, pH decreases)
4. Carbonic acid breaks down into CO_2 and H_2O in lungs; increased exhalation of CO_2 results in increased pH (as acidity decreases, pH increases)

C Renal mechanism: third line of defense (takes hours to days)

1. Kidneys function to increase blood's sodium bicarbonate content and decrease its carbonic acid content, thereby increasing base bicarbonate-to-carbonic acid ratio and blood pH
2. Kidneys' response to high levels of hydrogen ions in body
 - a. Secrete hydrogen ions and reabsorb sodium ions

- b. Form ammonia that combines with hydrogen ions to produce ammonium ions (NH_4^+); ammonium ions are excreted in urine in exchange for sodium ions, which are reabsorbed
- 3. When there are low levels of hydrogen ions in body, kidneys retain hydrogen ions to form bicarbonate

Acid-Base Imbalances

(Table 3-3: Primary and Compensatory Acid-Base Changes)

Table 3-3
Primary and Compensatory Acid-Base Changes

	Primary Disturbance			Compensations		
	pH	Pco ₂	HCO ₃ ⁻	pH	Pco ₂	HCO ₃ ⁻
Metabolic acidosis	↓	N	↓	↑-N	↓	↓
Metabolic alkalosis	↑	N	↑	↓-N	↑	↑
Respiratory acidosis	↓	↑	N	↑-N	↑	↑
Respiratory alkalosis	↑	↓	N	↓-N	↓	↓

HCO₃⁻, Bicarbonate, N, normal; ↑-N, increase toward normal; ↓-N, decrease toward normal; PCO₂, partial pressure of carbon dioxide; pH, measure of the acidity or alkalinity of a solution.

From McCance KL, Huether SE: *Pathophysiology: the biological basis for disease in adults and children*, ed 6, St. Louis, 2010, Mosby.

A Respiratory acidosis

1. Carbonic acid excess; increased retention of carbon dioxide; PCO₂ is greater than 45 mm Hg (hypercapnia)
2. pH is below 7.35
3. Common causes
 - a. Inadequate ventilation (e.g., dyspnea)
 - b. Respiratory obstruction: mechanical (e.g., tumors) or functional (e.g., asthma)
 - c. Impaired gas exchange in alveoli (e.g., emphysema)
 - d. Neuromuscular impairment (e.g., spinal cord injury)
4. Signs of respiratory acidosis: dyspnea, irritability, disorientation, tachycardia, cyanosis, and coma
5. Compensatory mechanisms
 - a. Urinary system excretes increased hydrogen ions to compensate for respiratory system’s

inability to blow off CO_2

- b. Urinary system retains sodium to facilitate body's attempt to increase sodium bicarbonate
- c. Rate and depth of respirations increase; inefficient because primary dysfunction involves respiratory system
- d. With chronic hypoxia, decreased oxygen levels may stimulate breathing (otherwise, increased carbon dioxide levels stimulate breathing)

B Metabolic acidosis

- 1. Base bicarbonate deficit: excess acid other than carbonic acid (respiratory acid) accumulates beyond body's ability to neutralize it; bicarbonate level is below 22 mEq/L
- 2. pH is below 7.35
- 3. Common causes
 - a. Cellular breakdown with increased ketones (e.g., starvation, terminal cancer, ketoacidosis, dieting)
 - b. Renal insufficiency (e.g., acute renal failure, chronic kidney disease)
 - c. Direct loss of bicarbonate (e.g., loss of intestinal and pancreatic secretions via diarrhea)
 - d. Lactic acid accumulation from anaerobic metabolism
- 4. Signs of metabolic acidosis: weakness, headache, disorientation, deep and rapid breathing (Kussmaul's respirations), fruity odor to the breath, nausea and vomiting, and coma
- 5. Compensatory mechanisms
 - a. Respiratory system compensates by hyperventilation in attempt to blow off CO_2 and raise pH
 - b. Urinary system excretes hydrogen ions and retains bicarbonate

C Respiratory alkalosis

- 1. Carbonic acid deficit: hyperventilation blows off excessive CO_2 ; PCO_2 is less than 35 mm Hg
- 2. pH is above 7.45
- 3. Common causes
 - a. Hyperventilation related to anxiety/panic
 - b. Excessive mechanical ventilation
- 4. Signs of respiratory alkalosis: rapid breathing, lightheadedness, tingling and numbness, tinnitus, loss of concentration, and unconsciousness
- 5. Compensatory mechanisms: urinary system retains hydrogen ions and excretes bicarbonate

D Metabolic alkalosis

- 1. Base bicarbonate excess; bicarbonate level is above 26 mEq/L
- 2. pH is above 7.45
- 3. Common causes
 - a. Loss of gastric juices (e.g., vomiting, nasogastric decompression, lavage)
 - b. Excessive ingestion of alkaline drugs (e.g., sodium bicarbonate [baking soda])
 - c. Potent diuretics may precipitate hypokalemia: with hypokalemia kidneys conserve potassium and excrete hydrogen, intracellular potassium moves into interstitial compartment, and hydrogen moves into cells; as a result of these processes, plasma hydrogen level is decreased and base bicarbonate level is increased
- 4. Signs of metabolic alkalosis: muscle hypertonicity (tetany), tingling, tremors, shallow and slow respirations, dizziness, confusion, and coma
- 5. Compensatory mechanisms
 - a. Respiratory system compensates by decreasing rate and depth of breathing to retain CO_2 ,

decreasing the pH

b. Urinary system excretes sodium bicarbonate

General Nursing Care of Clients with Fluid and Electrolyte Problems

Assessment/Analysis

1. History to identify etiology of fluid and electrolyte imbalances ([Table 3-4: Fluid/Electrolyte Imbalances: Etiology, Assessments, and Treatments](#))

Table 3-4

Fluid/Electrolyte Imbalances: Etiology, Assessments, and Treatments

Fluid/Electrolyte Imbalance	Etiology	Signs and Symptoms	Treatment
Extracellular fluid deficit	Decreased fluid intake	Increased thirst	Administration of hypotonic or isotonic fluids
	Prolonged fever	Dry skin and mucous membranes	Vasopressin injection
Extracellular fluid excess	Vomiting	Increased temperature	Transfusions if due to blood loss
	Excessive use of diuretics	Flushed skin	
Extracellular fluid excess	Diabetes insipidus	Rapid, thready pulse	
	Hemorrhage (acute)	Decreased BP	
Extracellular fluid excess		Increased Hct, Na ⁺ , BUN, and specific gravity	
	Heart failure	Weight gain	Administration of diuretics
Extracellular fluid excess	Liver disease	Crackles	Fluid restriction
	Malnutrition (decreased plasma protein)	Edema	Administration of colloids if kidney function normal
Extracellular fluid excess	Renal disease	Ascites	Dialysis if impaired kidney function
	Excessive parenteral fluids	Confusion	
Hypokalemia		Weakness	
		Increased BP	
Hypokalemia		Bounding pulse	
		Distended neck veins	
Hypokalemia		Decreased Hct	
		Loss of muscle tone	Parenteral/oral administration of potassium supplement
Hypokalemia		Cardiac dysrhythmias	Increased dietary intake of potassium
		Abdominal distention	
Hypokalemia		Vomiting	
		Decreased serum K ⁺	
Hyperkalemia			
		Cardiac irregularities	Administration of potassium-free fluids
Hyperkalemia		Weakness	Dialysis
		Diarrhea	Potassium-removing resin
Hyperkalemia		Nausea	Diuretics
		Irritability	Glucose and insulin
Hyperkalemia		Increased serum K ⁺	
Hyponatremia		Abdominal cramps	Administration of IV solutions containing NaCl
		Seizures	Administration of NaCl tablets
Hyponatremia		Oliguria	Fluid restriction
		Decreased serum Na ⁺ and specific gravity	
Hyponatremia			
Hypertremia		Dry, sticky mucous membranes	Low-Na ⁺ diet
		Oliguria	Increased Na ⁺ -free fluid intake
Hypertremia		Firm tissue turgor	
		Dry tongue	
Hypertremia		Increased serum Na ⁺ and specific gravity	
		Weakness	
Hypocalcemia		Tingling of extremities	Oral or parenteral calcium replacement
		Tetany	
Hypocalcemia		Cramps	
		Seizures	
Hypocalcemia		Hyperactive deep tendon reflexes	
		Positive Chvostek's and Trousseau's signs	
Hypercalcemia		Flank pain (renal calculi)	Correction of primary problem
		Deep bone pain	Increased fluid intake
Hypercalcemia		Relaxed muscles	Weight-bearing exercises
		Decreased deep tendon reflexes	
Hypercalcemia		Constipation	

BP, blood pressure; BUN, blood urea nitrogen; Hct, hematocrit.

- 2. Vital signs
- 3. Skin turgor, hydration, and temperature
- 4. Breath sounds
- 5. Daily weights

6. I&O
7. Abdominal girth measurements or extremity circumference as necessary
8. Changes in behavior, energy level, and level of consciousness
9. Laboratory tests (e.g., urine specific gravity; serum pH and arterial blood gases; serum electrolytes; hematocrit; blood urea nitrogen; creatinine clearance)

Planning/Implementation

1. Manage and monitor fluid and electrolyte balance
 - a. Fluids may be encouraged to correct deficit (usually 3000 mL/day); may be restricted to prevent excess
 - b. Nutritional intake can be increased or restricted to correct electrolyte disturbances (e.g., sodium, potassium, calcium)
 - c. Monitor intake and output (I&O); 30 mL = 1 ounce
 - d. Weigh daily; 1 L weighs 1 kg, or 2.2 lb
2. Administer intravenous therapy
 - a. Fluids
 - (1) Dextrose in water
 - (a) Provides fluid and limited calories (1 L of 5% dextrose = 170 calories); may result in negative nitrogen balance if client is not eating
 - (b) Corrects dehydration, ketosis, and hypernatremia
 - (2) Dextrose in sodium chloride (NaCl): corrects fluid loss from excessive perspiration or vomiting; prevents alkalosis
 - (3) NaCl: manages alkalosis, fluid loss, and adrenal cortical insufficiency
 - (4) Ringer's solution
 - (a) Contains sodium, chloride, potassium, and calcium
 - (b) Corrects dehydration from vomiting, diarrhea, or inadequate intake
 - (5) Lactated Ringer's solution
 - (a) Contains sodium, chloride, potassium, calcium, and lactate
 - (b) Lactate is metabolized by liver and forms bicarbonate
 - (c) Corrects extracellular fluid shifts and moderates metabolic acidosis
 - (6) Plasma expanders
 - (a) Increase blood volume in clients with burns or traumatic injuries
 - (b) Examples: albumin, plasma, plasma protein fraction (Plasmanate), dextran (Gentran 40), and hetastarch (Hespan)
 - (c) Should be administered slowly
 - b. Regulation of IV flow rates
 - (1) Manual regulation of gravity flow by drops with clamp; drops per mL (e.g., 10, 15, 60) depends on tubing selected (drop factor); potential energy of fluid in IV bag is converted to kinetic energy when it flows through tubing
 - (2) Calculate IV drop rate per minute using the formula:

$$\text{Drops per min} = \frac{\text{total mL to be infused} \times \text{drop factor}}{\text{total time in minutes (hours} \times 60 \text{ minutes)}}$$

- (3) Infusion pump or controller device (ICD): volume control usually is in milliliters per hour (follow manufacturer's instructions when setting desired rate of flow)

c. Monitor client for complications

(1) Infiltration

- (a) Catheter is displaced, allowing fluid to leak into tissues
- (b) Insertion site is pale, cool, and edematous; flow rate decreases
- (c) IV must be removed and restarted in new site

(2) Phlebitis

- (a) Vein is irritated by catheter or medications
- (b) Insertion site is red, painful, and warm; flow rate is decreased
- (c) IV must be removed and restarted in new site; warm compresses are ordered to be applied to inflammation

(3) Circulatory overload

- (a) Flow rate exceeds cardiovascular system's capability to adjust to increased fluid volume
- (b) Client exhibits dyspnea, crackles, distended neck veins, and increased BP
- (c) Rate is decreased to keep vein open; health care provider is notified and diuretics administered as prescribed

(4) Infection

- (a) Change solution bag every 24 hours because risk for contamination is increased after this time; frequency of tubing and site change is based on agency policy (usually every 3 days)
- (b) Client exhibits signs of inflammation at insertion site, lymphatic streaking, and -fever

3. Administer pharmacologic agents

- a. Diuretics (e.g., thiazide, potassium-sparing, loop, or osmotic diuretics) (see [Ch 6](#), Related Pharmacology, Diuretics)
 - b. Replace electrolytes (e.g., sodium chloride, potassium chloride, calcium gluconate)
 - c. Reduce serum potassium (K^+) level (e.g., sodium polystyrene sulfonate [Kayexalate]; insulin to carry K^+ into cells)
4. Provide care (e.g., skin care, safe environment) based on specific clinical findings

Evaluation/Outcomes

- 1. Maintains fluid balance
- 2. Maintains serum electrolyte levels within expected range
- 3. Maintains vital signs within expected range

Perioperative Care

Classification of Surgery

A Classified as elective, diagnostic, urgent (emergency), ablative, palliative, or curative

B Surgical approaches have advanced to minimize tissue trauma, duration of anesthesia, and postoperative recovery time, and to improve client outcomes

1. Laparoscopic surgery: uses small incisions and fiberoptic instruments that formerly required larger surgical incisions; depending on site, may require insufflation of cavity with carbon dioxide to enhance visualization of structures, particularly for abdominal surgery; after abdominal insufflation with carbon dioxide, client may experience right shoulder or scapular pain postoperatively because of migration of the carbon dioxide
2. Robotic surgery: uses laparoscopic cameras that provide three-dimensional view and robotic equipment that is manipulated by health care provider at a surgical console; robotics improves precision and control

C Ambulatory surgery

1. Performed in hospital or private surgical facility
2. Diagnostic workup is performed by hospital, health care provider, or clinic before day of surgery
3. Discharged same day as surgery; if complications occur, client is admitted to hospital

Related Pharmacology

General Anesthetics

A Description

1. Used in combination to produce varying levels of loss of consciousness, amnesia, anesthesia, analgesia, and/or skeletal muscle relaxation
2. Depress CNS through progressive sequence (four stages)
3. Neuromuscular blocking agents (depolarizing and nondepolarizing muscle relaxants): inhibit transmission of nerve impulses by binding with cholinergic receptor sites, antagonizing action of acetylcholine
4. Available in parenteral (IM, IV) and inhalation preparations
 - a. Ultra-short-acting IV barbiturates are used in induction of anesthesia because they quickly penetrate blood-brain barrier
 - b. IV and IM nonbarbiturates produce special type of anesthesia in which client appears to be awake but dissociated from environment, resulting in amnesia for surgical experience

B Examples

1. Inhalation anesthetics: halothane (Fluothane); nitrous oxide
2. IV barbiturates: high lipid affinity promptly affects cerebral tissue
 - a. Methohexital (Brevital)
 - b. Thiopental (Pentothal)
3. IV and IM nonbarbiturates: induce cataleptic state and produce amnesia for procedure
 - a. Midazolam (Versed)
 - b. Combination product: fentanyl (Sublimaze) and droperidol (Innovar)
4. Conscious sedation: IV or nasal routes of sedation to depress consciousness but maintains airway and ventilations (e.g., midazolam [Versed], ketamine [Ketalar], and fentanyl [Sublimaze])

5. Neuromuscular blocking agents (depolarizing and nondepolarizing muscle relaxants)

- a. Pancuronium (Pavulon)
- b. Succinylcholine (Anectine)

C Major side effects

1. Inhalation anesthetics

- a. Excitement and restlessness during induction (initial CNS stimulation)
- b. Nausea and vomiting (stimulation of chemoreceptor trigger zone in medullary vomiting center)
- c. Respiratory distress (depression of medullary respiratory center)
- d. Affinity for adipose tissue, resulting in prolonged effects
- e. Malignant hyperthermia, rare life-threatening condition, associated with muscle rigidity, pyrexia, and tachycardia; susceptibility linked to autosomal dominant disorder)

2. IV barbiturates

- a. Respiratory depression (depression of medullary respiratory center)
- b. Hypotension and tachycardia (depression of cardiovascular system)
- c. Laryngospasm (depression of laryngeal reflex)

3. IV and IM nonbarbiturates

- a. Respiratory failure (depression of medullary respiratory center)
- b. Changes in BP: hypertension; hypotension (alterations in cardiovascular system)
- c. Rigidity (increased muscle tone)
- d. Psychic disturbances (emergence reaction in recovery period)

4. Depolarizing muscle relaxants

- a. Hypotension (increased vagal stimulation; increased release of histamine; ganglionic blockade)
- b. Respiratory depression (neuromuscular blockade)
- c. Dysrhythmias (increased vagal stimulation)

D Nursing care

1. Assess for allergies and medical problems that could alter a response to anesthetic agents
2. Have oxygen and emergency resuscitative equipment available
3. Assess vital signs before, during, and after anesthetic administration
4. Maintain calm environment during induction of anesthesia
5. Use safety precautions with flammable agents
6. Provide for safety because of decreased sensory awareness and reflexes
7. Administer opioids judiciously in initial postanesthetic period because of potential interaction with anesthetic agent
8. Provide care for client receiving depolarizing muscle relaxant
 - a. Administer sedation; have emergency resuscitative equipment available
 - b. Assess vital signs before, during, and after administration
 - c. Administer under direct medical supervision
 - d. Maintain airway and oxygenation
9. Maintain side-lying position to prevent aspiration after general anesthesia
10. Restrict oral intake after general anesthesia until ability to swallow has returned

Local Anesthetics

A Description

1. Block nerve impulse conduction in sensory, motor, and autonomic nerve cells by decreasing nerve membrane permeability to sodium ion influx; used for pain control without loss of consciousness
2. Used for obstetric, dental, and minor surgical procedures; used for postoperative pain control when administered subcutaneously on a continuous basis (e.g., on Q Pain Buster pump)
3. Available in topical, spinal, regional, and nerve block preparations; epinephrine may be added to enhance duration of local anesthetic effect and to decrease regional bleeding

B Examples

1. Topical: local infiltration of tissue (e.g., benzocaine [Solarcaine], lidocaine [Xylocaine]); nerve block (e.g., tetracaine [Pontocaine], also used for spinal anesthesia)
2. Spinal: injected into subarachnoid space (e.g., lidocaine [Xylocaine], procaine [Novocain]); also used for nerve block
3. Epidural: injected into epidural space of spinal column (e.g., bupivacaine [Marcaine], lidocaine [Xylocaine])
4. Nerve block: injected at perineural site distant from desired anesthesia site (e.g., bupivacaine [Marcaine], chloroprocaine [Nesacaine], mepivacaine [Carbocaine], ropivacaine [Naropin])

C Major side effects

1. Allergic reactions; anaphylaxis (hypersensitivity)
2. Respiratory arrest (depression of medullary respiratory center)
3. Dysrhythmias, cardiac arrest (depression of cardiovascular system)
4. Seizures (depression of CNS)
5. Hypotension (depression of cardiovascular system)

D Nursing care

1. Assess for allergies and medical problems that could alter response to anesthetic agent
2. Have oxygen and emergency resuscitative equipment available
3. Assess vital signs before, during, and after anesthetic administration
4. Protect anesthetized body parts from mechanical and/or thermal injury
5. If spinal anesthetic is administered, keep flat for specified period of time (usually 6 to 12 hours) to prevent severe headache; avoid pillows; monitor for hypotension; monitor return of motor and sensory function to lower extremities
6. If local anesthetic is administered along a nerve via a pump for pain control, teach how to use pump; monitor for local anesthetic toxicity

Sedatives/Hypnotics

A Description

1. Used for short-term treatment of clients with situational anxiety and insomnia
2. Depress CNS; produce sedation in small dosages and sleep in larger dosages
3. Available in oral, parenteral (IV, IM), and rectal preparations

B Examples

1. Benzodiazepines: act on many levels of CNS to produce short-term sedation, anxiolysis, and amnesia; used for conscious sedation during diagnostic procedures (e.g., midazolam [Versed], diazepam [Valium], temazepam [Restoril])
2. Barbiturates: depress CNS starting with diencephalon (e.g., thiopental [Pentothal])
3. Nonbarbiturates: depress CNS and relax skeletal muscles (e.g., chloral hydrate [Noctec], hydrOXYzine [Vistaril], propofol [Diprivan])

C Major side effects

1. Drowsiness (depression of CNS)
2. Hypotension (depression of cardiovascular system)
3. Dizziness (hypotension)
4. Gastrointestinal irritation (local effect)
5. Skin rash (hypersensitivity)
6. Blood disorders (hematologic alterations)
7. Drug dependence
8. Barbiturates
 - a. “Hangover” (persistence of low barbiturate concentration in body caused by decreased metabolism)
 - b. Photosensitivity (hypersensitivity)
 - c. Excitement in children and older adults (paradoxical reaction)

D Nursing care

1. Avoid administration with other CNS depressants
2. Use safety precautions
3. Administer controlled substances according to policy
4. Caution to avoid engaging in hazardous activity; avoid concurrent ingestion of alcohol

General Nursing Care of Clients during the Preoperative and Intraoperative Periods

Assessment/Analysis

1. History of current health problems and factors that may influence surgery, anesthesia, or recovery
2. Physical assessment to identify potential health problems
3. Understanding of disease and treatment plan
4. Emotional state and coping skills
5. Comprehensive list of medications, including herbal and vitamin supplements and over-the-counter (OTC) agents for medication reconciliation

Planning/Implementation

1. Witness signing of consent form by client; review information included in health care provider’s explanation of the surgery; inform health care provider if client appears not to understand
2. Ensure identification band is in place and accurate; ensure client verification at each step of preoperative, intraoperative, and postoperative phases of surgery
3. Follow agency policy to ensure that operative site is identified and marked; explain that client will be asked to verify self, procedure, and site numerous times as a precaution
4. Explain all procedures and give reasons for them
5. Explain what to expect in operating room, postanesthesia and/or ICUs, including anticipated equipment such as PCA pump
6. Allow client and family time to ask questions about procedures and surgery
7. Allow and encourage ventilation of feelings about diagnosis and surgery
8. Provide spiritual counselor if desired
9. Provide perioperative teaching about promoting respirations postoperatively (e.g., diaphragmatic breathing, coughing, incentive spirometry, splinting, and turning)

10. Teach exercises that promote circulation after surgery, such as leg exercises (e.g., dorsiflexion, plantar flexion, eversion, inversion), ambulation routines, isometric exercises
11. Advise to expect some discomfort after surgery, and teach importance of requesting medication for pain or using patient-controlled analgesia (PCA) before pain becomes severe
12. Verify that history, physical examination results, recent laboratory tests, and chest x-ray report are entered on client's record
13. Inform all members of health team of client's allergies and other health problems, and prominently mark clinical record
14. Implement preoperative preparation orders (e.g., enemas, douches, intestinal antibiotics for bowel surgery, antibiotics)
15. Explain that dietary restrictions are implemented to prevent aspiration when receiving general anesthesia (e.g., refraining from eating a heavy meal 8 hours before surgery, a light breakfast up to 6 hours before surgery, and clear liquids 2 to 3 hours before surgery); check with anesthesiologist for specific instructions because some health care providers may require NPO after midnight
16. Provide care on day of surgery
 - a. Assess vital signs and general physical status; record and report any deviations to health care provider
 - b. Assess emotional status; notify health care provider if client expresses sense of doom
 - c. Complete preoperative checklist (e.g., consent form, preoperative tests, and identification and allergy bands)
 - d. Provide hygiene and have client void
 - e. Remove any prosthetics such as dentures, contact lenses, and wigs
 - f. Apply sequential compression devices as ordered
 - g. Arrange for insertion of any tubes as ordered (e.g., nasogastric tube, indwelling urinary catheter, intravenous line)
 - h. Administer prescribed preoperative medications (e.g., prophylactic antibiotic within 1 hour before surgery, anti-anxiety agents, sedatives, opioid analgesics, anticholinergics)
 - i. Ensure safety after administering medications
17. Provide care in operative suite
 - a. Assume role of client advocate during intraoperative phase; identify client and operative site with members of operative team
 - b. Complete preoperative checklist
 - c. Perform skin preparation as ordered (e.g., shaving, scrubs used for orthopedic surgery)
 - d. Apply monitoring devices as needed
 - e. Insert urinary retention catheter if ordered
 - f. Allay anxiety (ambulatory surgical clients remain aware during most of stay in operating room because local anesthetics frequently are used)
 - g. Position and drape for surgery
 - h. Support during anesthesia introduction
 - (1) Stage 1: becomes drowsy and loses consciousness
 - (2) Stage 2 (stage of excitement): muscles become tense, breathing may be irregular
 - (3) Stage 3: vital signs and reflexes are depressed; operation begins
 - (4) Stage 4: respiratory depression is complete

Evaluation/Outcomes

1. Verbalizes fears concerning operative process
2. Demonstrates understanding of preoperative teaching
3. Verbalizes understanding of postoperative interventions
4. Remains free from injury

General Nursing Care of Clients during the Postoperative Period

Assessment/Analysis

1. Patency of airway and oxygenation status
2. Baseline vital signs, breath sounds
3. Level of consciousness
4. Tubes for patency and placement, and drainage for characteristics
5. Extent of urinary output
6. Clinical manifestations of hemorrhage
7. Extent of wound healing after initial postoperative period
8. Presence of complications (Figure 3-4: Potential problems in the postoperative period)

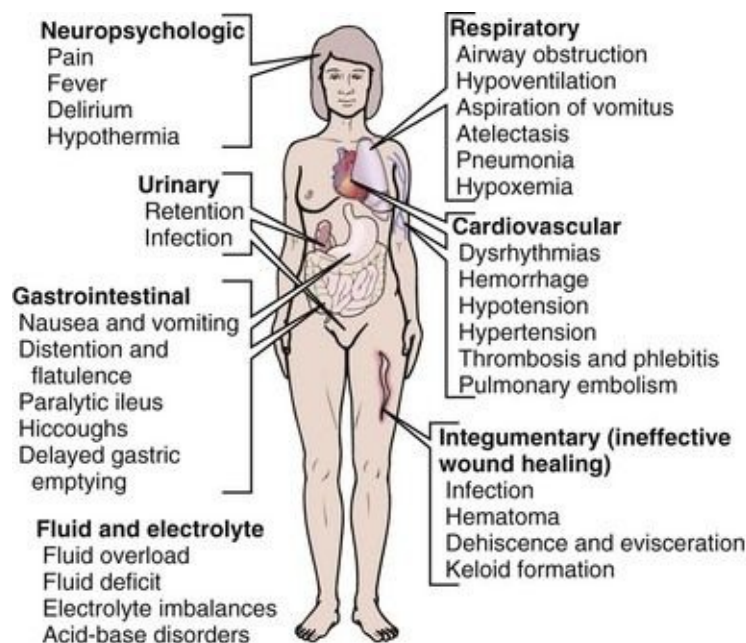


FIGURE 3-4 Potential problems in the postoperative period. (From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011, Mosby.)

Planning/Implementation

1. Provide immediate care in postanesthesia care unit (PACU)
 - a. Maintain airway and respirations (anesthesia depresses respiratory function)
 - (1) Position on side with neck slightly extended to prevent aspiration and accumulation of mucous secretions
 - (2) Suction artificial airway and oral cavity as needed to remove secretions
 - (3) Administer oxygen as ordered or needed; monitor oxygen saturation
 - (4) Keep artificial airway in place until gag reflex returns; suction airway before extubation to

clear secretions as needed; assess for respiratory distress after extubation (e.g., restlessness, confusion, dyspnea, stridor, decreased oxygen saturation, inability to expectorate)

(5) Monitor rate, rhythm, symmetry of chest movement, breath sounds, pulse oximeter, behavior, and color of mucous membranes

(6) Encourage coughing and deep breathing as soon as able to participate

b. Promote circulation (anesthesia and immobilization during surgery may result in circulatory compromise)

(1) Monitor heart rate and rhythm, and blood pressure at regular intervals (e.g., approximately every 5 minutes initially and then every 15 minutes)

(2) Monitor peripheral circulation by identifying color, temperature, presence of pulses, motor and sensory function, and capillary refill (may not be helpful if client has chronically poor circulation)

(3) Monitor for signs and symptoms of hemorrhage by assessing blood pressure for hypotension, checking pulse rate for tachycardia, and observing and measuring wound drainage; frequent swallowing or expectoration of blood with surgery of respiratory tract; report signs of hemorrhage immediately

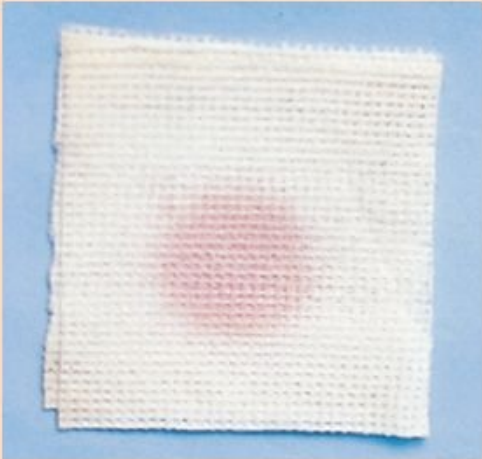
(4) Institute venous thromboembolism prophylaxis (e.g., prescribed anticoagulants, sequential compression devices, ankle pumping exercises, and early ambulation if permitted)

c. Monitor neurologic status by identifying level of consciousness, pupillary blink and gag reflexes, motor and sensory status of extremities; provide for related needs (medications and anesthetic agents depress CNS)

d. Wound care

(1) Identify location and size of wound and color, odor, amount, and consistency of drainage; check dependent areas because drainage flows by gravity ([Table 3-5: Types of Wound Drainage](#))

Table 3-5**Types of Wound Drainage**

Type	Appearance	Type	Appearance
Serous	Clear, watery plasma	Serosanguineous	Pale, red, watery: mixture of clear and red fluid
			
Purulent	Thick, yellow, green, tan, or brown	Sanguineous	Bright red: indicates active bleeding
			

From Potter PA, Perry AG: *Fundamentals of nursing*, ed 7, St. Louis, 2009, Mosby.

- (2) Circle drainage on dressing and mark time and date to allow for objective assessment
- (3) Reinforce postoperative dressings because health care providers generally perform first dressing change
- (4) Protect integrity of surgical incision (e.g., instruct how to sit up in bed, how to splint incision, and how to maintain a clean, dry dressing)
- (5) Protect client if wound edges separate (dehiscence) or abdominal organs extrude through incision (evisceration); place in supine position, cover site with sterile towel moistened with normal saline, notify health care provider

e. Care for drains and tubes

- (1) Maintain patency of tubing (e.g., gravity, negative pressure, instillation or irrigation as indicated)
- (2) Attach tubing to appropriate collection containers; maintain negative pressure in portable wound drainage systems (e.g., empty when half full and compress before closing port; maintain surgical asepsis)
- (3) Monitor drainage for amount and color

f. Meet fluid and electrolyte needs

- (1) Maintain IV therapy as ordered
- (2) Record I&O

(3) Monitor for electrolyte imbalances

g. Meet comfort and emotional needs

(1) Assess presence and characteristics of pain (e.g., location, intensity, duration, precipitating factors, and effectiveness of pain management)

(2) Medicate as prescribed to reduce pain and increase postoperative activities such as deep breathing, coughing, and mobility

(3) Call by name; reorient to time, place, and situation

(4) Reinforce teaching about how to use PCA pump

(5) Answer questions as honestly and simply as possible; repeat as needed

2. Provide ongoing postoperative care

a. Protect from injury

b. Use pharmacologic and nonpharmacologic measures to manage pain

c. Turn frequently; encourage deep breathing and coughing and use of incentive spirometer to prevent development of atelectasis or hypostatic pneumonia; auscultate for diminished breath sounds in lower lobes, which may indicate atelectasis

d. Perform or encourage range of motion and isometric exercises and early ambulation to prevent phlebitis, paralytic ileus, and venous stasis; notify health care provider of complications

e. Maintain patency of tubing (e.g., urinary catheter, gastric tube, T-tube, chest tubes, incisional drains) to promote drainage, maintain decompression, and reduce pressure on suture line

f. Use surgical aseptic technique when changing dressings, or as necessary when irrigating tubing or emptying portable wound drainage systems, to prevent infection

g. Monitor I&O for signs of dehydration and electrolyte imbalance

h. Encourage to void; provide privacy; assess for urinary retention (client must void 8 to 12 hours after surgery or a catheter may be inserted)

i. Prevent constipation by encouraging fluid, fiber, and exercise; observe for abdominal distention; rectal tube (usually for 30 minutes) or Harris flush may be ordered to relieve flatus

j. Regulate IV therapy to prevent overload or circulatory collapse; maintain hydration

k. Encourage to support and splint incisional site when coughing, moving, or turning, to prevent tension on suture line

l. Position as required by type of surgery to maintain alignment and prevent accumulation of fluid or blockage of drainage tubes

m. Support emotionally; assist to cope with changes in body image

n. Provide for nutritional needs

(1) Maintain IV therapy to ensure adequate water and electrolytes

(2) Monitor parenteral nutrition (total parenteral nutrition [TPN] and peripheral parenteral nutrition [PPN]) (see [Ch 8](#), Related Procedures, Parenteral Replacement Therapy)

(3) Gradually increase oral intake as permitted (see [Ch 8](#), Overview, Review of Diets)

(4) Provide for special nutritional needs

(a) Protein: increased need caused by protein losses and anabolism of recovery and tissue healing; approximate requirement for adult is 1.2 to 2 g/kg/day

(b) Calories: adequate amount to supply energy and spare protein for tissue building

(c) Vitamins and minerals: need will increase after surgery; zinc increases strength of healing wound (4 to 6 mg/day recommended); vitamin C required for collagen formation (500 to 1000 mg/day recommended)

o. Ambulatory surgical client: when stable, has retained foods, and has voided, reinforce

postoperative teaching and discharge planning with client and family; evaluate understanding of teaching

- p. Provide discharge instructions and document; include wound care, hydration, nutrition, prevention/management of constipation, exercise, pain management, coughing and deep breathing, need for follow-up care

Evaluation/Outcomes

1. Avoids respiratory complications
2. Remains free of clinical indicators of infection
3. Reports relief of pain
4. Maintains integrity of surgical incision
5. Maintains fluid balance
6. Returns to expected volume of urinary output
7. Returns to expected pattern of bowel function
8. Demonstrates ability to care for self
9. Copes with changes resulting from surgery

Neoplastic Disorders

Classification of Neoplasms

A Benign neoplasia

1. Cells adhere to one another, and growth remains circumscribed
2. Generally not life-threatening unless they occur in restricted area (e.g., skull)
3. Classified according to tissue involved (e.g., glandular tissue [adenoma], bone [osteoma], nerve cells [neuroma], fibrous tissue [fibroma])

B Malignant neoplasia

1. Cells are undifferentiated (anaplasia) and rapidly dividing
2. Cells infiltrate surrounding tissue
3. May spread (metastasize) by direct extension, lymphatic permeation and embolization; diffusion of cancer cells can occur by mechanical means and produce secondary lesions
4. Membranes of malignant cells contain specific proteins (tumor-specific antigens)
5. Tumors are classified according to tissue involved (e.g., glandular epithelial tissue [adenocarcinoma], epithelial surface tissue [carcinoma], connective tissue [sarcoma], melanocytes [melanoma])
6. Tumors are often classified by universal system of staging classification, TNM system
 - a. T designates primary tumor
 - b. N designates lymph node involvement
 - c. M designates metastasis
 - d. A number (0 to 4) after any of above letters designates degree of involvement
 - e. TIS designates carcinoma in situ or one that has not infiltrated

Related Pharmacology

Basic Concepts

A Destroy malignant cells by interfering with reproduction of cancer cell

B Act at specific points in cycle of cell division (cell-cycle specific) or at any phase in cycle of cell division (cell-cycle nonspecific)

C Affect any rapidly dividing cell within body, thus having potential for toxicity development in healthy, functional tissue (e.g., bone marrow, hair follicles, GI mucosa); combination therapy often is used to reduce possibility of toxicity and maximize therapeutic effect (e.g., CHOP: cyclophosphamide (Cytosan), DOXOrubicin, vinCRISTine, prednisone)

D Available in oral, parenteral (IM, Sub-Q, IV), intra-arterial, intrathecal, and topical preparations

Alkylating Agents

A Cell-cycle nonspecific; attack DNA of rapidly dividing cells

B Examples

1. Nitrosourea: carmustine (BiCNU)
2. Nitrogen mustard: chlorambucil (Leukeran), cyclophosphamide (Cytosan)
3. Inorganic heavy metal: cisplatin (Platinol-AQ), carboplatin (Paraplatin)

Vinca Alkaloids

A Cell-cycle specific; work during “M” phase; interfere with mitosis

B Example: vincristine

Antibiotics

A Cell-cycle nonspecific; inhibit DNA and RNA synthesis of rapidly dividing tissue

B Examples: mitomycin (Mutamycin), DOXOrubicin

Antimetabolites

A Cell-cycle specific; inhibit protein synthesis in rapidly dividing cells during “S” phase

B Examples: fluorouracil or 5-FU (Carac, Efudex, Fluoroplex), hydroxyurea (Hydrea), methotrexate (Trexall)

Hormones

A Tissue-specific; inhibit RNA and protein synthesis in tissues that are dependent on opposite (sex) hormone for development

B Examples: androgens, estrogens (estramustine [Emcyt]), progestins, steroids (prednisone), hormone antagonists (mitotane [Lysodren]), cortisol antagonist, estrogen antagonist (anastrozole [Arimidex], tamoxifen citrate), and luteinizing hormone–releasing hormone agonist (leuprolide [Lupron])

Monoclonal Antibodies

A Exogenous antibodies produced in laboratory by combining specific cancer cells with antibody-producing B cells; derived from different sources: mouse (murine), combination of mouse and human sources (chimeric), or humanized

B Examples: rituximab (Rituxan), for non-Hodgkin’s lymphoma; trastuzumab (Herceptin) for certain types of breast cancer; gemtuzumab ozogamicin (Mylotarg) for leukemia; alemtuzumab (Campath) for B-cell chronic lymphocytic leukemia; ibritumomab tiuxetan (Zevalin) for B-cell non-Hodgkin’s lymphoma; cetuximab (Erbix) for advanced colorectal cancer

Other Immune Agents

A Introduction of noncancerous antigens or other agents into body to stimulate production of lymphocytes and antibodies

B Examples

1. Bacille Calmette-Guérin (BCG) vaccine (TICE BCG): provides active immunity
2. Interferon alfa-2a (Roferon-A), interferon alfa-2b (Intron A): suppresses cell proliferation
3. Filgrastim (Neupogen): granulocyte colony–stimulating factor

Miscellaneous Agents

A Leucovorin calcium: reduced form of folic acid; acts as antidote to folic acid antagonists

B Paclitaxel (Taxol): inhibits reorganization of microtubule network that is needed for interphase and mitotic cellular functions; causes abnormal bundles of microtubules during cell cycle and multiple esters of microtubules during mitosis

Major Side Effects

- A Anorexia, nausea, vomiting, stomatitis (irritation of GI tract; quick uptake by rapidly dividing alimentary tract tissue)
- B Diarrhea (irritation of GI tract; quick uptake by rapidly dividing alimentary tract tissue)
- C Bone marrow depression (quick uptake by rapidly dividing myeloid tissue)
- D Blood dyscrasias (neutropenia, anemia, and thrombocytopenia) resulting from bone marrow depression
- E Alopecia (rapid uptake by rapidly dividing hair follicle cells)
- F CNS disturbances (neurotoxicity)
- G Hepatic disturbances (hepatotoxicity)
- H Tumor lysis syndrome: release of large quantities of breakdown products, causing hyperkalemia, hyperuricemia, hyperphosphatemia, and acute renal failure
- I Acute renal failure (direct kidney toxic effect)
- J Cardiomyopathy (irreversible myocardial toxicity, congestive heart failure [CHF], ventricular dysrhythmias)
- K Metabolic abnormalities (hypercalcemia, hyperuricemia)
- L Allergic reactions, anaphylaxis with BCG vaccine

Radiation

Purpose

- A Diagnosis
- B Treatment: curative, palliative, adjuvant; used in conjunction with chemotherapy or surgery

Action

- A Disrupts tissue by altering function during DNA synthesis
- B Rapidly reproducing malignant cells are most sensitive to radiation

Examples

- A Alpha particle: fast-moving helium nucleus; slight penetration
- B Beta particle: fast-moving electron; moderate penetration
- C Gamma ray: similar to light ray; high penetration
- D Gold (^{198}Au): effective for complications of ascites and pleural effusion
- E Sodium iodide (^{131}I): effective for thyroid gland
- F Sodium phosphate (^{32}P): effective for erythrocytes
- G Proton therapy: accurately targets tumor, thereby minimizing collateral tissue damage

Methods of Delivery

- A External beam radiotherapy or teletherapy delivers radiation to a tumor by an external machine (cobalt or linear accelerator) at a predetermined distance
- B Internal radiation therapy or brachytherapy delivers radiation by systemic, interstitial, or intracavity means
 - 1. Systemic (metabolized): administration by intravenous or oral routes

2. Interstitial: implantation of needles, wires, or seeds into tissue
3. Intracavity radiation: placement of an implant into a body cavity; may require a surgical procedure

Major Side Effects

A Localized skin irritation; erythema to moist desquamation

B Vary based on site and size of treatment field

1. GI tract: nausea, vomiting, diarrhea, xerostomia, mucositis, dysphagia

2. Gonads: temporary or permanent sterility

3. Bone marrow: leukopenia, thrombocytopenia, anemia

4. Respiratory tract: pneumonitis, cough, dyspnea

5. Genitourinary tract: cystitis, urethritis

6. Heart: fibrosis

7. Internal radiotherapy: excessive tissue sloughing can cause hemorrhage, pain, and/or infection

Bone Marrow Transplantation

Purpose

A Treatment of hematologic cancer

B Treatment of certain solid tumor recurrences that require ablative chemotherapy, which destroys bone marrow

Types

A Autologous: bone marrow is removed from client and reinfused after high-dose chemotherapy

B Allogeneic: bone marrow from donor with compatible human leukocyte antigen (HLA); infused after client's own bone marrow is destroyed by chemotherapy or radiation

C Syngeneic: bone marrow is obtained from identical twin

D Peripheral stem cell transplantation: after stem cell production is stimulated by administration of growth factor, cells are collected by apheresis and reinfused after high-dose chemotherapy

Major Side Effects

A Infection, fever, chills

B Venous occlusive disease: vascular injury to liver as result of high-dose chemotherapy during first 30 days after transplant

C Graft-versus-host disease: transplanted bone marrow activates immune response against recipient's tissue

D Bone marrow: failure to respond and proliferate limits blood-making capacity, leading to hemorrhage and infection

E GI: stomatitis, nausea, vomiting, diarrhea

F Cardiovascular: hypotension, hypertension, tachycardia, chest pain

G Respiratory: shortness of breath, pneumonia

General Nursing Care of Clients with Neoplastic Disorders

Assessment/Analysis

- 1. Onset and progression of clinical indicators
- 2. General health and nutritional status
- 3. Understanding of disease and treatment plan
- 4. Laboratory results (e.g., CBC, electrolytes, levels of tumor-specific antigens)

Planning/Implementation

- 1. Instruct regarding measures to limit infection (e.g., avoiding crowds; hand washing; remaining in home [safer than hospital environment because hospitals harbor pathogens to which client is not usually exposed]); instruct to report body temperature higher than 100° F (37.7° C)
- 2. Use special measures to limit injury (e.g., gentle oral hygiene, nonalcohol-based mouthwash; move slowly and support joints to prevent pathologic fractures)
- 3. Explain side effects that influence appearance and encourage positive coping strategies (e.g., purchase of wigs, scarves, hats)
- 4. Administer prescribed medications to reduce or eliminate nausea (e.g., antiemetics)
- 5. Monitor blood values during therapy
 - a. WBCs, RBCs, platelets
 - b. Tumor markers: alpha fetoprotein—liver, testes; CA-125—GI, ovaries; carcinoembryonic antigen (CEA)—breast, colon, lung; prostate specific antigen (PSA)—prostate
- 6. Administer prescribed colony-stimulating factors to increase production of WBCs and RBCs; epoetin alfa (Epogen) and filgrastim (Neupogen); administer prescribed platelet transfusions
- 7. Offer emotional support to client and family; answer questions and encourage verbalization of fears
- 8. Encourage delegation and organization of activity to conserve decreasing energy
- 9. Encourage to enroll in American Cancer Society’s “Look Good, Feel Better” program
- 10. Support natural defense mechanisms (e.g., encourage intake of foods rich in immune-stimulating nutrients, especially vitamins A, C, and E, and mineral selenium)
- 11. Implement measures to support nutritional intake (Table 3-6: Nursing Care to Promote Nutritional Intake)

Table 3-6

Nursing Care to Promote Nutritional Intake

Symptom/ Problem	Nurse Should Encourage Client to
Nausea	Eat small, frequent meals Avoid high-fat, greasy foods Eat cool or room-temperature foods Avoid lying flat after eating Take medications after meal
Sore mouth or throat	Eat soft, moist foods Avoid spicy or acidic foods Experiment with temperature of foods (avoid very hot or very cold foods; cool or room-temperature foods are best) Use nutrient- and energy-dense foods to maximize oral intake
Xerostomia (dry mouth)	Select foods that are moist or served with a sauce or gravy Consume liquids at mealtimes and extra fluids between meals Practice effective oral hygiene: flossing, brushing, and rinsing; seek regular dental care Use fluoride gels or mouthwashes Consider prophylactic antifungal therapy Chew sugarless gum or suck mints
Difficulty with breathing	Use easy-to-eat foods Use nutrient- and energy-dense foods
Diarrhea	Replace fluid and electrolyte losses Eat low-insoluble and high-soluble fiber foods Consider possible benefits from low-lactose diet Consume low-fat diet if indicated Avoid gas-causing foods and beverages Avoid caffeine Take medications after meal

Constipation	Increase fluid intake Increase dietary fiber intake
Inadequate oral intake	Consume nutrient- and energy-dense foods, including nutritional supplements Eat small, frequent meals and snacks Consider alternative nutrition support or appetite stimulant such as Megace or Marinol
Fatigue	Obtain adequate sleep, relaxation, exercise Consume adequate diet, especially foods rich in vitamins B ₁₂ , A, C, folate, and carotene or zinc; inadequate amounts may cause fatigue Avoid caffeine, alcohol, cigarette smoking, and recreational drug use Avoid stress and seek treatment of anxiety or depression Identify and manage possible causes for anemia; take prescribed medications—AZT, Bactrim, dapsone, ganciclovir, interferon, pyrimethamine; other causes of anemia—alcohol abuse, bleeding, <i>Mycobacterium avium</i> complex, tuberculosis, fungal infections, cytomegalovirus
Body cell mass loss	Consume adequate diet Perform resistance exercises Seek diagnostic testing for testosterone deficiency; take anabolic agents if prescribed

Modified from Mahan LK, Escott-Stump S: *Krause's food, nutrition, & diet therapy*, ed 12, St. Louis, 2008, Saunders.

12. Encourage women of childbearing age to use birth control measures while receiving therapy because of mutagenic/teratogenic effects; avoid use of birth control pill
13. Counsel regarding use of sperm or ova harvesting if permanent infertility may result
14. Encourage fluid intake (3000 mL/24 hr); monitor I&O
15. Assess for presence of pain; administer analgesics or antidepressant to control pain; provide nonpharmacologic comfort measures
16. Encourage to become involved in decision making; support decisions whenever possible
17. Help to discriminate between scientifically based therapy versus fraudulent therapy
18. Provide specific care for clients receiving chemotherapy
 - a. Monitor IV infusion site for infiltration of chemotherapeutic agent capable of causing tissue necrosis (vesicant)
 - b. Follow established protocols for handling chemotherapeutic agents and equipment to minimize nurses' exposure
 - c. Institute protective isolation if WBC count decreases below 1000/mm³

- d. Observe for signs of bleeding; avoid anticoagulants because of decreased platelets
 - e. Prevent bleeding (e.g., avoid use of rectal thermometers, enemas, IM injections, and razor blades)
 - f. Monitor renal function for nephrotoxicity
 - g. Monitor vital signs; monitor for cardiac toxicity
 - h. Encourage checking with health care provider before consuming OTC drugs, such as aspirin; avoid alcoholic beverages
 - i. Follow sterile protocol when accessing implantable port; use noncoring needle (Huber) to access port; when not in use, heparin or saline flushes are used to maintain port patency depending on manufacturer's directions
19. Provide specific care for clients receiving external radiation
- a. Assess skin for erythema or moist desquamation; avoid creams, soaps, powders, cosmetics, perfumes, and deodorants in area during treatment periods
 - b. Instruct to wear loose-fitting cotton clothing; protect skin from sunlight
 - c. Promote use of gentle detergents (e.g., Dreft or Ivory Snow) to wash clothing
 - d. Teach to avoid sources of heat or cold (e.g., heating pads, sunlamps, ice bags, cold weather), salt water, chlorinated pools; do not shave hair within treatment field during therapy
 - e. Apply nonadherent dressing to areas of skin breakdown
 - f. Reassure others that client is not a source of radiation
20. Provide specific care for clients receiving internal radiation
- a. Explain procedures involved and side effects that may occur
 - b. Explain need for isolation; explain to client and visitors amount of time visitors can spend in room and that proximity to client will be limited to avoid overexposure to radiation; restrict children and pregnant women from visiting; health team members must use dosimeter badge to monitor exposure
 - c. Inspect implant for proper positioning and prevent dislodgement of intercavity radiation implants to avoid irradiation of adjacent healthy tissue (e.g., bed rest, urinary retention catheter, low-residue diet, antidiarrheal agents)
 - d. Use principles of time, distance, and shielding to minimize staff exposure
 - e. Provide only necessary hygiene while implant is in place
 - f. Ascertain if body excreta has to be placed in lead containers for disposal when systemic metabolized radiation is used
 - g. If radiation source becomes dislodged use long-handled forceps to place in lead container to prevent contamination of environment; immediately inform radiation therapist and radiation safety officer
 - h. Radiation for prostate cancer: assess for signs of bladder irritability such as nocturia, urgency, dysuria
 - i. Radiation for cervical cancer: keep supine with head of bed flat or only slightly elevated, maintain patency of urinary catheter, provide low-residue diet
21. Provide specific care for clients receiving radiation via an unsealed source (IV, oral, or direct instillation into body cavity)
- a. Isotope may be excreted in body waste; instruct to flush toilet several times after each use for several days; additional precautions may be necessary depending on radioisotope used
 - b. Provide paper plates and disposable utensils
22. Begin palliative care early in cancer treatment
23. Inform about and support choice of hospice care when curative options are exhausted;

recommend multidisciplinary services to support quality rather than quantity of remaining life (e.g., pain management, spiritual support)

Evaluation/Outcomes

1. Remains free from infection
2. Verbalizes feelings about disease and treatment
3. Maintains skin and mucous membrane integrity
4. Maintains body weight within expected range
5. Verbalizes details concerning self-care related to treatment regimen

Emergency Situations

Concepts Related to First Aid

A Maintain or establish the ABCs: **A**irway, **B**reathing, **C**irculation

B Provide physical safety

1. Remove from immediate danger
2. Control bleeding
3. Avoid unnecessary movement of spinal column or extremities; use neck brace and back board; consider all clients experiencing trauma to have an unstable spine until ruled out with radiograph
4. Monitor level of consciousness

C Establish priorities

1. Triage: system of client evaluation to establish priorities and assign appropriate treatment or personnel
2. Determination of priority
 - a. Emergency situations: greatest risk receives care first
 - b. Major disasters: classification based on principles to benefit largest number; those requiring minimal care to save their lives or to be available to help others are treated first; those requiring highly specialized care may be given minimal or no care; **Simple Triage And Rapid Transport (START)** system can be used to categorize individuals
 - (1) Red: critically ill individuals who need immediate care
 - (2) Yellow: injured individuals whose medical care needs can be delayed
 - (3) Green: individuals who can ambulate and care for their own injuries
 - (4) Black: individuals with catastrophic injuries and who are expected to die

D Offer psychologic support

1. Reduce panic to prevent its spread
2. Establish and maintain open communication with health care providers and affected individuals
3. Arrange for contact between affected individuals and their families as soon as feasible

Specific Emergencies

A Near-drowning

1. Assessment
 - a. Airway for signs of possible airway obstruction from bronchospasm
 - b. Adventitious or absent breath sounds
 - c. Hypoxia, hypercarbia, and acidosis
 - d. Possible pulmonary edema
 - (1) Salt water: high osmotic pressure of aspirated water draws additional fluid into alveolar spaces from vascular bed
 - (2) Freshwater: removes surfactant, leading to alveolar collapse
2. Treatment and nursing care
 - a. Establish airway and ventilate with 100% oxygen and positive pressure
 - b. Implement prescribed interventions to correct acidosis
 - c. Insert nasogastric tube and decompress stomach to prevent aspiration of gastric contents
 - d. Treat pulmonary edema and hypothermia if present

B Heatstroke

1. Assessment

- a. Risk factors: advanced age, strenuous exercise in heat, medications that interfere with perspiring (e.g., antipsychotics and anticholinergics)
- b. Hot, dry, flushed skin progressing to pallor in late circulatory collapse
- c. Elevation of body temperature greater than 105° F (40.5° C)
- d. Reports of dizziness, nausea, and headaches
- e. Seizures
- f. Altered level of consciousness

2. Treatment and nursing care

- a. Rapidly reduce temperature (e.g., hypothermia blanket or mattress, cool-water baths, cool enemas)
- b. Administer oxygen to meet increased metabolic demands
- c. Institute seizure precautions

C Hypothermia

1. Assessment

- a. Risk factors: exposure to cold; submersion in cold water; age (e.g., older adults, very young children)
- b. Local (frostbite): pallor, paresthesia, pain to absence of sensation of involved body part
- c. Systemic: core temperature less than 94° F (34.4° C); decreased level of consciousness; weak, irregular pulse

2. Treatment and nursing care

- a. Monitor core temperature
- b. Monitor cardiac status and levels of arterial blood gases, electrolytes, glucose, and blood urea nitrogen (BUN)
- c. Rewarm
 - (1) Systemic: institute core rewarming with heated oxygen and/or irrigations before surface rewarming to prevent cardiovascular collapse; warm IV fluids according to agency policy
 - (2) Local: institute controlled rewarming at temperatures of 98.6° to 104° F; avoid massage to prevent further injury
- d. Correct fluid and electrolyte imbalances

D Terrorism

1. Threat or intentional use of violence to intimidate society to achieve religious or politically motivated goals
2. Types: conventional weapons (bombs, guns); nonconventional weapons (biologic, chemical, radiation)
3. Disaster planning: mitigation (minimizing harmful effects of disaster); preparedness (having disaster plan in place); response (providing assistance to meet needs as result of situation); and recovery (reconstructing)
4. Nursing responsibilities for nonconventional terrorist acts (follow agency policy associated with exposure to specific agent)
 - a. Surveillance: detection and reporting of unusual pattern of clinical indicators (vesicular lesions, vomiting, diarrhea, fever, erythema)
 - b. Immunizations: nurses should be immunized first and then administer immunizations to

noninfected individuals as available

- c. Isolation: use standard and transmission-based precautions in response to bioterrorism event; use of personal protective equipment may be expanded to include gas mask if contaminants are aerosolized
- d. Decontamination: remove clothing and jewelry and thoroughly shower individual with soap and water (or bleach solution and rinse after 15 minutes) to remove residual chemical, biologic, or radiation contaminants; contain clothing in plastic bags
- e. Treatment to counteract agent: anthrax (ciprofloxacin [Cipro]); nerve agents (atropine); internal radiation from drinking radiation-contaminated water (chelating agents)



CHAPTER 4

Foundations of Nursing Practice

Review Questions with Answers and Rationales

Questions

Note: Thousands of additional practice questions are available on the enclosed companion CD.

► Denotes alternate format question.

1. A nurse is caring for a client who has paraplegia as a result of a spinal cord injury. Which rehabilitation plan will be **most** effective for this client?
 1. Arrangements will be made by the client and the client's family.
 2. The plan is formulated and implemented early in the client's care.
 3. The rehabilitation is minimal and short term because the client will return to former activities.
 4. Arrangements will be made for long-term care because the client is no longer capable of self-care.
2. What is a basic concept associated with rehabilitation that the nurse should consider when formulating discharge plans for clients?
 1. Rehabilitation needs are best met by the client's family and community resources.
 2. Rehabilitation is a specialty area with unique methods for meeting clients' needs.
 3. Immediate or potential rehabilitation needs are exhibited by clients with health problems.
 4. Clients who are returning to their usual activities following hospitalization do not require rehabilitation.
3. A nurse is teaching a client how to use the call bell system. Which level of Maslow's Hierarchy of Needs does this nursing action address?
 1. Safety
 2. Self-esteem
 3. Physiologic
 4. Interpersonal
4. A nurse is supportive of a child receiving long-term rehabilitation in the home rather than in a health care facility. Why is living with the family so important to a child's emotional development?
 1. It provides rewards and punishment.
 2. The child's development is supported.
 3. It reflects the mores of a larger society.
 4. The child's identity and roles are learned.
5. A nurse is discussing Alcoholics Anonymous (AA) with a client. What behavior expected of members of AA should the nurse include in the discussion?
 1. Speaking aloud at weekly meetings
 2. Promising to attend at least 12 meetings yearly
 3. Maintaining controlled drinking after 6 months
 4. Acknowledging an inability to control the problem
6. A nurse discusses the philosophy of Alcoholics Anonymous (AA) with the client who has a history of alcoholism. What need must self-help groups such as AA meet to be successful?

1. Trust
 2. Growth
 3. Belonging
 4. Independence
7. A daughter of a Chinese-speaking client approaches a nurse and asks multiple questions while maintaining direct eye contact. What culturally related concept does the daughter's behavior reflect?
1. Prejudice
 2. Stereotyping
 3. Assimilation
 4. Ethnocentrism
8. A nurse manager works on a unit where the nursing staff members are uncomfortable taking care of clients from cultures that are different from their own. How should the nurse manager address this situation?
1. Assign articles about various cultures so that they can become more knowledgeable.
 2. Relocate the nurses to units where they will not have to care for clients from a variety of cultures.
 3. Rotate the nurses' assignments so they have an equal opportunity to care for clients from other cultures.
 4. Plan a workshop that offers opportunities to learn about the cultures they might encounter while at work.
9. A nurse is teaching a parenting class. What should the nurse suggest about managing the behavior of a young school-age child?
1. Avoid answering questions.
 2. Give the child a list of expectations.
 3. Be consistent about established rules.
 4. Allow the child to plan the day's activities.
10. A nurse in the health clinic is counseling a college student who was recently diagnosed with asthma. On what aspect of care should the nurse focus?
1. Teaching how to make a room allergy-free
 2. Referring to a support group for individuals with asthma
 3. Arranging with the college to ensure a speedy return to classes
 4. Evaluating whether the necessary lifestyle changes are understood
11. Nurses are held responsible for the commission of a tort. The nurse understands that a tort is:
1. the application of force to the body of another by a reasonable individual.
 2. an illegality committed by one person against the property or person of another.
 3. doing something that a reasonable person under ordinary circumstances would not do.
 4. an illegality committed against the public and punishable by the law through the courts.
12. A client is placed on a stretcher and restrained with straps while being transported to the x-ray department. A strap breaks, and the client falls to the floor, sustaining a fractured arm. Later the client shows the strap to the nurse manager, stating, "See, the strap is worn just at the spot where it snapped." What is the nurse's accountability regarding this incident?
1. Exempt from any lawsuit because of the doctrine of *respondeat superior*
 2. Totally responsible for the obvious negligence because of failure to report defective equipment
 3. Liable, along with the employer, for misapplication of equipment or use of defective equipment that harms the client
 4. Exonerated, because only the hospital, as principal employer, is responsible for the quality and

maintenance of equipment

13. A 2-year-old child admitted with a diagnosis of pneumonia was administered antibiotics, fluids, and oxygen. The child's temperature increased until it reached 103° F. When notified, the health care provider determined that there was no need to change treatment, even though the child had a history of febrile seizures. Although concerned, the nurse took no further action. Later, the child had a seizure that resulted in neurologic impairment. Legally, who is responsible for the child's injury?

1. Health care provider, because this decision took precedence over the nurse's concern
2. Health care provider, because of total responsibility for the child's health and treatment regimen
3. Nurse, because failure to further question the health care provider about the child's status placed the child at risk
4. Neither, because high fevers are common in children and the health care provider had little cause for concern

14. A graduate nurse is preparing to apply to the State Board of Nursing for licensure to practice as a registered professional nurse. What group primarily is protected under the regulations of the practice of nursing?

1. The public
2. Practicing nurses
3. The employing agency
4. People with health problems

15. A client with coronary artery disease has a sudden episode of cyanosis and a change in respirations. The nurse starts oxygen administration immediately. Legally, should the nurse have administered the oxygen?

1. The oxygen had not been ordered and therefore should not have been administered.
2. The symptoms were too vague for the nurse to determine a need for administering oxygen.
3. The nurse's observations were sufficient, and therefore oxygen should have been administered.
4. The health care provider should have been called for an order before the nurse administered the oxygen.

16. An adolescent is taken to the emergency department of the local hospital after stepping on a nail. The puncture wound is cleansed and a sterile dressing applied. The nurse asks about having had a tetanus immunization. The adolescent responds that all immunizations are up to date. Penicillin is administered, and the client is sent home with instructions to return if there is any change in the wound area. A few days later, the client is admitted to the hospital with a diagnosis of tetanus. Legally, what is the nurse's responsibility in this situation?

1. The nurse's judgment was adequate, and the client was treated accordingly.
2. The possibility of tetanus was not foreseen because the client was immunized.
3. Nurses should routinely administer immunization against tetanus after such an injury.
4. Assessment by the nurse was incomplete, and as a result the treatment was insufficient.

17. When being interviewed for a position as a registered professional nurse, the applicant is asked to identify an example of an intentional tort. What is the appropriate response?

1. Negligence
2. Malpractice
3. Breach of duty
4. False imprisonment

18. Several recently licensed registered nurses are discussing whether they should purchase personal professional liability insurance. Which statement indicates the **most** accurate information about

professional liability insurance?

1. "If you have liability insurance, you are more likely to be sued."
2. "Your employer provides you with the liability insurance you will need."
3. "Liability insurance is not available for nursing professionals working in a hospital."
4. "Personal liability insurance offers representation if the State Board of Nursing files charges against you."

19. A 3-year-old child with eczema of the face and arms has disregarded the nurse's warnings to "stop scratching, or else!" The nurse finds the toddler scratching so intensely that the arms are bleeding. The nurse then ties the toddler's arms to the crib sides, saying, "I'm going to teach you one way or another." How should the nurse's behavior be interpreted?

1. These actions can be construed as assault and battery.
2. The problem was resolved with forethought and accountability.
3. Skin must be protected, and the actions taken were by a reasonably prudent nurse.
4. The nurse had tried to reason with the toddler and expected understanding and cooperation.

20. A nurse is teaching a group of parents about child abuse. What definition of assault should the nurse include in the teaching plan?

1. Assault is a threat to do bodily harm to another person.
2. It is a legal wrong committed by one person against the property of another.
3. It is a legal wrong committed against the public that is punishable by state law.
4. Assault is the application of force to another person without lawful justification.

21. A nurse is teaching staff members about the legal terminology used in child abuse. What definition of battery should the nurse include in the teaching?

1. Maligning a person's character while threatening to do bodily harm
2. A legal wrong committed by one person against property of another
3. The application of force to another person without lawful justification
4. Behaving in a way that a reasonable person with the same education would not

22. A toddler screams and cries noisily after parental visits, disturbing all the other children. When the crying is particularly loud and prolonged, the nurse puts the crib in a separate room and closes the door. The toddler is left there until the crying ceases, a matter of 30 or 45 minutes. Legally, how should this behavior be interpreted?

1. Limits had to be set to control the child's crying.
2. The child had a right to remain in the room with the other children.
3. The child had to be removed because the other children needed to be considered.
4. Segregation of the child for more than half an hour was too long a period of time.

23. A pregnant woman is admitted with a tentative diagnosis of placenta previa. The nurse implements orders to start an IV infusion, administer oxygen, and draw blood for laboratory tests. The client's apprehension is increasing, and she asks the nurse what is happening. The nurse tells her not to worry, that she is going to be all right, and that everything is under control. What is the **best** interpretation of the nurse's statement?

1. Adequate, because the preparations are routine and need no explanation
2. Effective, because the client's anxieties would increase if she knew the danger involved
3. Questionable, because the client has the right to know what treatment is being given and why
4. Incorrect, because only the health care provider should offer assurances about management of care

24. What should the nurse do **initially** when obtaining consent for surgery?

1. Describe the risks involved in the surgery.

2. Explain that obtaining the signature is routine for any surgery.
 3. Witness the client's signature, which the nurse's signature will document.
 4. Determine whether the client's knowledge level is sufficient to give consent.
25. A client who has been told she needs a hysterectomy for cervical cancer is upset about being unable to have a third child. What is the **next** nursing action?
1. Evaluate her willingness to pursue adoption.
 2. Encourage her to focus on her own recovery.
 3. Emphasize that she does have two children already.
 4. Ensure that other treatment options for her will be explored.
26. The family of an older adult who is aphasic reports to the nurse manager that the primary nurse failed to obtain a signed consent before inserting an indwelling catheter to measure hourly output. What should the nurse manager consider before responding?
1. Procedures for a client's benefit do not require a signed consent.
 2. Clients who are aphasic are incapable of signing an informed consent.
 3. A separate signed informed consent for routine treatments is unnecessary.
 4. A specific intervention without a client's signed consent is an invasion of rights.
27. The spouse of a comatose client who has severe internal bleeding refuses to allow transfusions of whole blood because they are Jehovah's Witnesses. What action should the nurse take?
1. Institute the ordered blood transfusion because the client's survival depends on volume replacement.
 2. Clarify the reason why the transfusion is necessary and explain the implications if there is no transfusion.
 3. Phone the health care provider for an administrative order to give the transfusion under these circumstances.
 4. Give the spouse a treatment refusal form to sign and notify the health care provider that a court order can now be sought.
28. A client is voluntarily admitted to a psychiatric unit. Later, the client develops severe pain in the right lower quadrant and is diagnosed as having acute appendicitis. How should the nurse prepare the client for the appendectomy?
1. Have two nurses witness the client signing the operative consent form.
 2. Ensure that the surgeon and the psychiatrist sign for the surgery because it is an emergency procedure.
 3. Ask the client to sign the operative consent form after the client has been informed of the procedure and required care.
 4. Inform the client's next of kin that it will be necessary for one of them to sign the consent form because the client is on a psychiatric unit.
29. What should the nurse consider when obtaining an informed consent from a 17-year-old adolescent?
1. If the client is allowed to give consent
 2. The client cannot make informed decisions about health care.
 3. If the client is permitted to give voluntary consent when parents are not available
 4. The client probably will be unable to choose between alternatives when asked to consent.
- ▶30. A client with rheumatoid arthritis does not want the prescribed cortisone and informs the nurse. Later, the nurse attempts to administer cortisone. When the client asks what the medication is, the nurse gives an evasive answer. The client takes the medication and later discovers that it was

cortisone. The client states an intent to sue. What factors in this situation must be considered in a legal action? **Select all that apply.**

1. Clients have a right to refuse treatment.
 2. Nurses are required to answer clients truthfully.
 3. The health care provider should have been notified.
 4. The client had insufficient knowledge to make such a decision.
 5. Legally prescribed medications are administered despite a client's objections.
31. A client using fentanyl (Duragesic) transdermal patches for pain management in late-stage cancer dies. What should the hospice nurse who is caring for this client do about the patch?

1. Tell the family to remove and dispose of the patch.
 2. Leave the patch in place for the mortician to remove.
 3. Have the family return the patch to the pharmacy for disposal.
 4. Remove and dispose of the patch in an appropriate receptacle.
32. What is a nurse's responsibility when administering prescribed opioid analgesics? **Select all that apply.**

1. Count the client's respirations.
2. Document the intensity of the client's pain.
3. Withhold the medication if the client reports pruritus.
4. Verify the number of doses in the locked cabinet before administering the prescribed dose.
5. Discard the medication in the client's toilet before leaving the room if the medication is refused.

33. Which nursing behavior is an intentional tort?

1. Miscounting gauze pads during a client's surgery
2. Causing a burn when applying a wet dressing to a client's extremity
3. Divulging private information about a client's health status to the media
4. Failing to monitor a client's blood pressure before administering an antihypertensive

34. Twenty-four hours after a cesarean birth, a client elects to sign herself and her baby out of the hospital. Staff members are unable to contact her health care provider. The client arrives at the nursery and asks that her infant be given to her to take home. What is the **most** appropriate nursing action?

1. Give the infant to the client and instruct her regarding the infant's care.
2. Explain to the client that she can leave, but her infant must remain in the hospital.
3. Emphasize to the client that the infant is a minor and legally must remain until orders are received.
4. Tell the client that hospital policy prevents the staff from releasing the infant until ready for discharge.

35. A client is hospitalized because of severe depression. The client refuses to eat, stays in bed most of the time, does not talk with family members, and will not leave the room. The nurse attempts to initiate a conversation by asking questions but receives no answers. Finally the nurse tells the client that if there is no response, the nurse will leave and the client will remain alone. How should the nurse's behavior be interpreted?

1. A system of rewards and punishment is being used to motivate the client.
2. Leaving the client alone allows time for the nurse to think of other strategies.
3. This behavior indicates the client's desire for solitude that the nurse is respecting.
4. This threat is considered assault, and the nurse should not have reacted in this manner.

36. During a newborn assessment the nurse identifies that the temperature, pulse, respirations, and other physical characteristics are within the expected range. The nurse records these findings on the

clinical record. Legally, how should the nurse’s action be interpreted?

- 1. The nurse met the requirements set forth in the Nurse Practice Act.
 - 2. This is a medical diagnosis and the nurse overstepped the legal boundary.
 - 3. Nursing assessments are not equivalent to a health care provider’s assessments.
 - 4. The initial assessment of the infant’s physical status is the responsibility of the client’s health care provider.
37. Which nursing action is protected from legal action?
- 1. Providing health teaching regarding family planning
 - 2. Offering first aid at the scene of an automobile collision
 - 3. Reporting incidents of suspected child abuse to the appropriate authorities
 - 4. Administering resuscitative measures to an unconscious child pulled from a swimming pool
- 38. A nurse is assigned to care for a newly admitted client. The nurse performs a physical assessment and reviews the admission form and the health care provider’s orders. What should the nurse identify as the priorities in this client’s plan of care?

Client Chart
Admission Form
56 year old man Married Catholic History of emphysema Terminally ill with cancer of the esophagus
Nursing Physical Assessment
Weak Anorexic Dyspneic Emaciated Apathetic
Health Care Provider’s Orders
Soft diet Oxygen at 2 liters via nasal cannula Postural drainage bid Fluticasone 250 mcg/salmeterol 50 mcg (Advair Diskus 250) 2 breaths bid

- 1. Intake and output
- 2. Diet and nutrition

3. Hygiene and comfort
4. Body mechanics and posture
39. A weak, dyspneic, terminally ill client is visited frequently by the spouse and teenage children. What should the client's plan of care include?
 1. Foster self-activity whenever possible.
 2. Plan care to be completed at one time followed by a long rest.
 3. Teach family members how to assist with the client's basic care.
 4. Limit visiting to evening hours before the client goes to sleep.
40. A nurse is evaluating a client's knowledge of ambulating with crutches. The nurse identifies the need for further teaching when the client states, "I must practice:
 1. sitting down and standing up."
 2. ambulating several hours a day."
 3. standing and maintaining balance."
 4. doing active exercises on a regular schedule."
41. A nurse educator is presenting information about the nursing process to a class of nursing students. What definition of the nursing process should be included in the presentation?
 1. Procedures used to implement client care
 2. Sequence of steps used to meet the client's needs
 3. Activities employed to identify a client's problem
 4. Mechanisms applied to determine nursing goals for the client
42. Place each step of the nursing process in the order that they should be used.
 1. _____ Identify goals for care.
 2. _____ Develop a plan of care.
 3. _____ State client's nursing needs.
 4. _____ Obtain client's nursing history.
 5. _____ Implement nursing interventions.
43. A nurse is explaining the nursing process to a nursing assistant. Which step of the nursing process should include interpretation of data collected about the client?
 1. Analysis
 2. Assessment
 3. Nursing interventions
 4. Proposed nursing care
44. Which nurse collaborates directly with the client to establish and implement a basic plan of care after admission?
 1. Primary nurse
 2. Nurse clinician
 3. Nurse coordinator
 4. Clinical nurse specialist
45. A newly oriented home health nurse on a first visit checks the client's vital signs and obtains a blood sample for an international normalization ratio (INR). After completion of these tasks, the client asks the nurse to straighten the blankets on the bed. What is the nurse's **most** appropriate response?
 1. "I would, but my back hurts today."
 2. "OK. It will be my good deed for the day."
 3. "Of course. I want to do whatever I can for you."

4. "I would like to, but it is not in my job description."
46. A nurse is reviewing a client's plan of care. What is the determining factor in the revision of the plan?
1. Time available for care
 2. Validity of the problem
 3. Method for providing care
 4. Effectiveness of the interventions
- ▶47. A nurse is teaching an adolescent about type 1 diabetes and self-care. Which client questions indicate a need for additional teaching in the cognitive domain? **Select all that apply.**
1. "What is diabetes?"
 2. "What will my friends think?"
 3. "How do I give myself an injection?"
 4. "Can you tell me how the glucose monitor works?"
 5. "How do I get the insulin from the vial into the syringe?"
48. A nurse is caring for a client with hemiplegia who is frustrated. How can the nurse motivate the client toward independence?
1. Establish long-range goals for the client.
 2. Identify errors that the client can correct.
 3. Reinforce success in tasks accomplished.
 4. Demonstrate ways to promote self-reliance.
49. A client is receiving an antihypertensive drug intravenously for control of severe hypertension. The client's blood pressure is unstable and is 160/94 mm Hg before the infusion. Fifteen minutes after the infusion is started, the blood pressure increases to 180/100 mm Hg. Which type of response is the client demonstrating?
1. Allergic
 2. Synergistic
 3. Paradoxical
 4. Hypersusceptibility
50. A client has an anaphylactic reaction after receiving intravenous penicillin. What does the nurse conclude is the cause of this reaction?
1. An acquired atopic sensitization occurred.
 2. There was passive immunity to the penicillin allergen.
 3. Antibodies to penicillin developed after a previous exposure.
 4. Potent antibodies were produced when the infusion was instituted.
51. At the conclusion of visiting hours, the parent of a 14-year-old adolescent scheduled for orthopedic surgery the next day hands the nurse a bottle of capsules and says, "These are for my child's allergy. Will you be sure my child takes one about 9 tonight?" What is the nurse's **best** response?
1. "I will give one capsule tonight before bedtime."
 2. "I will get a prescription so that the medicine can be taken."
 3. "Does your health care provider know about your child's allergy?"
 4. "Did you ask your health care provider if your child should have this tonight?"
- ▶52. Filgrastim (Neupogen) 5 mcg/kg/day by injection is prescribed for a client who weighs 132 lb. The vial label reads filgrastim 300 mcg/mL. How many milliliters should the nurse administer?
- Record your answer using a whole number.**

Answer: _____ mL

►53. A child is to receive 60 mg of phenytoin (Dilantin). The medication is available as an oral suspension that contains 125 mg/5 mL. How many milliliters should the nurse administer? **Record your answer using one decimal place.**

Answer: _____ mL

►54. A health care provider prescribes an IV infusion ampicillin 375 mg every 6 hours. The drug is supplied as 500 mg of powder in a vial. The directions are to mix the powder with 1.8 mL of diluent, which yields 250 mg/mL. How much prepared solution should the nurse administer? **Record your answer using one decimal place.**

Answer: _____ mL

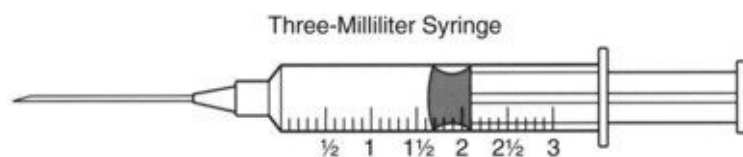
55. Based on the client's reported pain level, the nurse administers 8 mg of the prescribed morphine. The medication is available in a 10 mg syringe. Wasting of the remaining 2 mg of morphine should be done by the nurse and a witness. Who should be the witness?

1. Nursing supervisor
2. Licensed practical nurse
3. Client's health care provider
4. Designated nursing assistant

56. A nurse is instructing a group of volunteer nurses on the technique of administering the smallpox vaccine. What injection method should the nurse teach?

1. Z-track
2. Intravenous
3. Subcutaneous
4. Intradermal scratch

►57. A primary care provider prescribes cefazolin (Kefzol) 125 mg IM for a client. The vial contains 0.5 gm of Kefzol in powdered form. The instructions indicate to add 2 mL of sterile water to provide a solution that contains 225 mg per mL. Draw a line on the syringe to indicate the volume of medication to the nearest tenth the nurse should administer.



58. A client is scheduled to receive phenytoin (Dilantin) 100 mg orally at 6 PM but is having difficulty swallowing capsules. What method should the nurse use to help the client take the medication?

1. Sprinkle the powder from the capsule into a cup of water.
2. Insert a rectal suppository containing 100 mg of phenytoin.
3. Administer 4 mL of phenytoin suspension containing 125 mg/5 mL.
4. Obtain a change in the administration route to allow an IM injection.

►59. What are the desired outcomes that the nurse expects when administering a nonsteroidal antiinflammatory drug (NSAID)? **Select all that apply.**

1. Diuresis
2. Pain relief
3. Antipyresis

4. Bronchodilation
 5. Anticoagulation
 6. Reduced inflammation
60. A pregnant client is now in the third trimester. The client tells the nurse, "I want to be knocked out for the birth." How should the nurse respond?
1. "You are worried about too much pain."
 2. "You don't want to be awake during the birth."
 3. "I can understand that because labor is uncomfortable."
 4. "I will tell your health care provider about this request."
61. What should a nurse consider when trying to promote affective learning in a client with a newly diagnosed disease?
1. Client's past experiences
 2. Client's personal resources
 3. Stress of the total situation
 4. Type of onset of the disease
62. A nurse is evaluating the appropriateness of a family member's initial response to grief. What is the **most** important factor for the nurse to consider?
1. Personality traits
 2. Educational level
 3. Cultural background
 4. Past experiences with death
63. A nurse considers that communication links people with their surroundings. What should the nurse identify as the **most** important communication link?
1. Social
 2. Physical
 3. Materialistic
 4. Environmental
64. How can a nurse **best** evaluate the effectiveness of communication with a client?
1. Client feedback
 2. Medical assessments
 3. Health care team conferences
 4. Client's physiologic responses
65. A nurse on the medical-surgical unit tells other staff members, "That client can just wait for the lorazepam (Ativan); I get so annoyed when people drink too much." What does this nurse's comment reflect?
1. Demonstration of a personal bias
 2. Problem solving based on assessment
 3. Development of client acuity to set priorities
 4. Consideration of the complexity of client care
66. A client becomes hostile when learning that amputation of a gangrenous toe is being considered. After the client's outburst, what is the **best** indication that the nurse-client interaction has been therapeutic?
1. Increased physical activity
 2. Absence of further outbursts
 3. Relaxation of tensed muscles

4. Denial of the need for further discussion

▶67. A nursing supervisor sends a recently oriented nursing assistant to help relieve the burden of care on a short-staffed medical-surgical unit. Which tasks can be delegated to the nursing assistant? **Select all that apply.**

1. Taking routine vital signs
2. Applying a sterile dressing
3. Answering clients' call lights
4. Administering saline infusions
5. Changing linens on an occupied bed
6. Documenting client responses to ambulation

68. A teenager begins to cry while talking with the nurse about the problem of not being able to make friends. What is the **most** therapeutic nursing intervention?

1. Sitting quietly with the client
2. Telling the client that crying is not helpful
3. Suggesting that the client play a board game
4. Recommending how the client can change this situation

69. A client has been told to stop smoking by the health care provider. The nurse discovers a pack of cigarettes in the client's bathrobe. What is the nurse's **initial** action?

1. Notify the health care provider.
2. Report this to the nurse manager.
3. Tell the client that the cigarettes were found.
4. Discard the cigarettes without commenting to the client.

70. A client with internal bleeding is in the intensive care unit (ICU) for observation. At the change of shift an alarm sounds, indicating a decrease in blood pressure. What is the **initial** nursing action?

1. Perform an assessment of the client before resuming the change-of-shift report.
2. Continue the change-of-shift report and include the decrease in blood pressure.
3. Lower the diastolic pressure limits on the monitor during the change-of-shift report.
4. Turn off the alarm temporarily and alert the oncoming nurse to the decrease in blood pressure.

71. While awaiting the biopsy report before removal of a tumor, the client reports being afraid of a diagnosis of cancer. How should the nurse respond?

1. "Worrying is not going to help the situation."
2. "Let's wait until we hear what the biopsy report says."
3. "It is very upsetting to have to wait for a biopsy report."
4. "Operations are not performed unless there are no other options."

72. A client is admitted for surgery. Although not physically distressed, the client appears apprehensive and withdrawn. What is the nurse's **best** action?

1. Orient the client to the unit environment.
2. Have a copy of hospital regulations available.
3. Explain that there is no reason to be concerned.
4. Reassure the client that the staff is available to answer questions.

73. In today's health care delivery system, a nurse as a teacher is confronted with multiple stressors. What is the **major** stressor that detracts from the effectiveness of the teaching effort?

1. Extent of informed consumerism
2. Limited time to engage in teaching
3. Variety of cultural beliefs that exist

4. Deficient motivation of adult learners

74. A nurse in a long-term health care setting is assigned to introduce a client who has a Ph.D. to the other clients. The client tells the nurse, "I wish to be called Doctor." How should the nurse respond?

1. "Your wish will be respected."
2. "Why do you want to be called Doctor?"
3. "Residents here call one another by their first names."
4. "Wouldn't it be better if the others do not know you are a doctor?"

75. "But you don't understand" is a common statement associated with adolescents. What is the nurse's **best** response when hearing this?

1. "I don't understand what you mean."
2. "I do understand; I was a teenager once too."
3. "It would be helpful to understand; let's talk."
4. "It's you who should try to understand others."

76. The nurse manager is planning to assign a nursing assistant (NA) to care for clients. What care can be delegated on a medical-surgical unit to an NA? **Select all that apply.**

1. Performing a bed bath for a client on bed rest
2. Evaluating the effectiveness of acetaminophen and codeine (Tylenol #3)
3. Obtaining an apical pulse rate before oral digoxin (Lanoxin) is administered
4. Assisting a client who has patient-controlled analgesia (PCA) to the bathroom
5. Assessing the wound integrity of a client recovering from an abdominal laparotomy

77. A client is hospitalized with a tentative diagnosis of pancreatic cancer. On admission the client asks the nurse, "Do you think I have anything serious, like cancer?" What is the nurse's **best** reply?

1. "What makes you think you have cancer?"
2. "I don't know if you do; let's talk about it."
3. "Why don't you discuss this with your health care provider?"
4. "You needn't worry now; we won't know the answer for a few days."

78. What type of interview is **most** appropriate when a nurse admits a client to a clinic?

1. Directive
2. Exploratory
3. Problem solving
4. Information giving

79. A pediatric nurse receives a subpoena in a court case involving a child. Before appearing in court, what should the nurse review in addition to the State Nurse Practice Act and the ANA Code for Nurses?

1. Nursing's Social Policy Statement
2. State law regarding protection of minors
3. ANA Standards of Clinical Nursing Practice
4. References regarding a child's right to consent

80. An older adult is treated in the emergency department for soft-tissue injuries that the medical team suspects might be caused by physical abuse. An adult child states that the parent is forgetful and confused and falls all the time. A mini-mental examination indicates that the client is oriented to person, place, and time, and the client does not comment when asked directly how the bruises and abrasions occurred. What is the **next** nursing action?

1. Interview the client without the presence of family members.
2. Report the abuse to the appropriate state agency for investigation.

3. Accept the adult child's explanation until more data can be collected.
4. Refer the client's clinical record to the hospital ethics committee for review.

►81. What nursing actions **best** promote communication when obtaining a nursing history? **Select all that apply.**

1. Establishing eye contact
2. Paraphrasing the client's message
3. Asking "why" and "how" questions
4. Using broad, open-ended statements
5. Reassuring the client that there is no cause for alarm
6. Asking questions that can be answered with a "yes" or "no"

82. A client is admitted to the hospital for an elective surgical procedure. The client tells a nurse about the emotional stress of recently disclosing being a homosexual to family and friends. What is the nurse's **first** consideration when planning care?

1. Exploring the client's emotional conflict
2. Identifying personal feelings toward this client
3. Planning to discuss this with the client's family
4. Developing a rapport with the client's health care provider

83. A client is brought to the emergency department after a bee sting. The client has a history of allergies to bees and is having difficulty breathing. What client reaction should cause a nurse the **most** concern?

1. Ischemia
2. Asphyxia
3. Lactic acidosis
4. Increased blood pressure

►84. Which nursing interventions require a nurse to use standard precautions? **Select all that apply.**

1. Giving a back rub
2. Administering the first bath to a newborn
3. Emptying a portable wound drainage system
4. Interviewing a client in the emergency department
5. Obtaining the blood pressure of a client who is HIV positive

85. A nurse is assigned to change a central line dressing. The agency policy is to clean the site with Betadine and then cleanse with alcohol. The nurse recently attended a conference that presented information that alcohol should precede Betadine in a dressing change. In addition, an article in a nursing journal stated that a new product was a more effective antibacterial than alcohol and Betadine. The nurse has a sample of the new product. How should the nurse proceed?

1. Use the new product sample when changing the dressing.
2. Cleanse the site with alcohol first and then with Betadine.
3. Cleanse the site with the new product first and then follow the agency's protocol.
4. Follow the agency's policy unless it is contradicted by a health care provider's order.

►86. After a storm the rescue team is searching for injured people. A nurse on the team discovers a victim lying next to a broken natural gas line. The victim is not breathing and is bleeding heavily from a leg wound. How should the nurse proceed? Place care in order of their priority.

1. _____ Take the victim's vital signs.
2. _____ Start rescue breathing immediately.
3. _____ Apply surface pressure to the foot wound.

4. _____ Remove the victim from the immediate vicinity.

5. _____ Transport the victim to the hospital immediately.

87. A nurse is responding to the needs of victims at a collapsed building. What principle guides the nurse's priorities during this disaster?

1. Hemorrhage necessitates immediate care to save the most lives.

2. Those requiring minimal care are treated first so they can help others.

3. Victims with head injuries are treated first because the care is most complex.

4. Children receive the highest priority because they have the greatest life expectancy.

88. A recent immigrant from mainland China is critically ill and dying. What question should the nurse ask when collecting information to meet the emotional needs of this client?

1. "Do you like living in this country?"

2. "When did you come to this country?"

3. "Is there a family member who can translate for you?"

4. "Which family member do you prefer to receive information?"

89. A client with a terminal illness reaches the stage of acceptance. How can the nurse **best** help the client during this stage?

1. Accept the client's crying.

2. Encourage unrestricted family visits.

3. Explain details of the care being given.

4. Stay nearby without initiating conversation.

90. A nurse is assessing the needs of a client who just learned that a tumor is malignant, has metastasized to several organs, and that the illness is terminal. What behavior does the nurse expect the client to exhibit during the initial stage of grieving?

1. Crying uncontrollably

2. Criticizing medical care

3. Refusing to receive visitors

4. Asking for a second opinion

91. A client with cancer of the lung says to the nurse, "If I could just be free of pain for a few days, I might be able to eat more and regain strength." Which stage of grieving does the nurse conclude the client is in?

1. Bargaining

2. Frustration

3. Depression

4. Rationalization

92. A client who has reached the stage of acceptance in the grieving process appears peaceful, but demonstrates a lack of involvement with the environment. How should the nurse address this behavior?

1. Ignore the client's behavior when possible.

2. Accept the behavior the client is exhibiting.

3. Explore the reality of the situation with the client.

4. Encourage participation within the client's environment.

93. A client has a right above-the-knee amputation after trauma sustained in a work-related accident. Upon awakening from surgery, the client states, "What happened to me? I don't remember a thing." What is the nurse's **initial** response?

1. "Tell me what you think happened."

2. "You will remember more as you get better."
 3. "You were in a work-related accident this morning."
 4. "It was necessary to amputate your leg after the accident."
94. After being medicated for anxiety, a client says to a nurse, "I guess you are too busy to stay with me." How should the nurse respond?
1. "I'm so sorry, but I have to see other clients."
 2. "I have to go now, but I will come back in ten minutes."
 3. "You'll be able to rest after the medicine starts working."
 4. "You'll feel better after I've made you more comfortable."
95. A physically ill client is being verbally aggressive to the nursing staff. What is the **most** appropriate initial nursing response?
1. Accept the client's behavior.
 2. Explore the situation with the client.
 3. Withdraw from contact with the client.
 4. Tell the client the reason for the staff's actions.
96. A client asks the nurse, "Should I tell my partner that I just found out I'm HIV positive?" What is the nurse's **most** appropriate response?
1. "This is a decision you alone can make."
 2. "Do not tell your partner unless asked."
 3. "You are having difficulty deciding what to say."
 4. "Tell your partner that you don't know how you became sick."
97. A client becomes anxious after being scheduled for a colostomy. What is the **most** effective way for the nurse to help the client?
1. Administer the prescribed prn sedative.
 2. Encourage the client to express feelings.
 3. Explain the postprocedure course of treatment.
 4. Reassure the client that there are others with this problem.
98. A client with hemiplegia is staring blankly at the wall and reports feeling like half a person. What is the **initial** nursing action?
1. Use techniques to distract the client.
 2. Include the client in decision making.
 3. Offer to spend more time with the client.
 4. Help the client to problem-solve personal issues.
99. While receiving a preoperative enema, a client starts to cry and says, "I'm sorry you have to do this messy thing for me." What is the nurse's **best** response?
1. "I don't mind it."
 2. "You seem upset."
 3. "This is part of my job."
 4. "Nurses get used to this."
100. A nurse is teaching a client about a restricted diet. What is the nurse's **best** initial comment?
1. "What type of foods do you usually eat?"
 2. "You should follow this diet exactly as written."
 3. "You must limit the intake of foods on this special list."
 4. "What do you know about this diet that was ordered for you?"
101. A nurse in the ambulatory preoperative unit identifies that a client is more anxious than most

clients. What is the nurse's **best** intervention?

1. Attempt to identify the client's concerns.
2. Reassure the client that the surgery is routine.
3. Report the client's anxiety to the health care provider.
4. Provide privacy by pulling the curtain around the client.

102. A client who was admitted to the hospital with metastatic cancer has a temperature of 100.4° F, a distended abdomen, and abdominal pain. The client asks the nurse, "Do you think that I'm going to have surgery?" How should the nurse respond?

1. "You seem concerned about having surgery."
2. "Some people with your problem do have surgery."
3. "I'll find out for you. Your record will show if surgery is scheduled."
4. "I don't know about any surgery. You'll have to ask your health care provider."

103. What principle must a nurse consider when caring for a client with a closed wound drainage system?

1. Gravity causes fluids to flow down a pressure gradient.
2. Fluid flow rate is determined by the diameter of the lumen.
3. Siphoning causes fluids to flow from one level to a lower level.
4. Fluids flow from an area of higher pressure to one of lower pressure.

104. A client had extensive, prolonged surgery. Which electrolyte level should the nurse monitor **most** closely?

1. Sodium
2. Calcium
3. Chloride
4. Potassium

►105. How should a nurse prepare an IV piggyback (IVPB) medication for administration to a client receiving an IV infusion? **Select all that apply.**

1. Wear clean gloves to check the IV site.
2. Rotate the bag after adding the medication.
3. Use 100 mL of fluid to mix the medication.
4. Change the needle before adding the medication.
5. Place the IVPB at a lower level than the existing IV.
6. Use a sterile technique when preparing the medication.

106. A nurse administers an intravenous solution of 0.45% sodium chloride. In what category of fluids does this solution belong?

1. Isotonic
2. Isomeric
3. Hypotonic
4. Hypertonic

107. What clinical finding does a nurse anticipate when admitting a client with an extracellular fluid volume excess?

1. Rapid, thready pulse
2. Distended jugular veins
3. Elevated hematocrit level
4. Increased serum sodium level

108. A nurse is caring for a client with diarrhea. In which clinical indicator does the nurse anticipate a

decrease?

1. Pulse rate
2. Tissue turgor
3. Specific gravity
4. Body temperature

109. A client reports vomiting and diarrhea for 3 days. What clinical finding will **most** accurately indicate that the client has a fluid deficit?

1. Presence of dry skin
2. Loss of body weight
3. Decrease in blood pressure
4. Altered general appearance

110. A client is admitted with metabolic acidosis. The nurse considers that two body systems interact with the bicarbonate buffer system to preserve healthy body fluid pH. What two body systems should the nurse assess for compensatory changes?

1. Skeletal and nervous
2. Circulatory and urinary
3. Respiratory and urinary
4. Muscular and endocrine

111. A nurse is reviewing a client's serum electrolyte laboratory report. What is a comparison between blood plasma and interstitial fluid?

1. They both contain the same kinds of ions.
2. Plasma exerts lower osmotic pressure than does interstitial fluid.
3. Plasma contains more of each kind of ion than does interstitial fluid.
4. Sodium is higher in plasma, whereas potassium is higher in interstitial fluid.

112. A nurse explains to an obese client that the rapid weight loss during the first week after initiating a diet is because of fluid loss. The weight of extracellular body fluid is approximately 20% of the total body weight of an average individual. Which component of the extracellular fluid contributes the **greatest** proportion to this amount?

1. Plasma
2. Interstitial
3. Dense tissue
4. Body secretions

113. A nurse assesses a client's serum electrolyte levels in the laboratory report. What electrolyte in intracellular fluid should the nurse consider **most** important?

1. Sodium
2. Calcium
3. Chloride
4. Potassium

114. A nurse is reviewing the laboratory report of a client with a tentative diagnosis of kidney failure. What mechanism does the nurse expect to be maintained when ammonia is excreted by healthy kidneys?

1. Osmotic pressure of the blood
2. Acid-base balance of the body
3. Low bacterial levels in the urine
4. Normal red blood cell production

115. A nurse is evaluating the effectiveness of treatment for a client with excessive fluid volume. What clinical finding indicates that treatment has been successful?

1. Clear breath sounds
2. Positive pedal pulses
3. Normal potassium level
4. Increased urine specific gravity

116. A nurse is caring for a client with albuminuria resulting in edema. What pressure change does the nurse determine as the cause of the edema?

1. Decrease in tissue hydrostatic pressure
2. Increase in plasma hydrostatic pressure
3. Increase in tissue colloid osmotic pressure
4. Decrease in plasma colloid oncotic pressure

117. A nurse is reviewing the health care provider's orders for a client who was admitted with dehydration as a result of prolonged watery diarrhea. Which order should the nurse question?

1. Oral psyllium (Metamucil)
2. Oral potassium supplement
3. Parenteral half normal saline
4. Parenteral albumin (Albuminar)

118. A nurse is analyzing how a hyperglycemic client's blood glucose can be lowered. The nurse considers that the chemical that buffers the client's excessive acetoacetic acid is:

1. potassium.
2. bicarbonate.
3. carbon dioxide.
4. sodium chloride.

119. For what clinical indicator should a nurse assess a client who is having a gastric lavage?

1. Decreased serum pH
2. Increased serum oxygen level
3. Increased serum bicarbonate level
4. Decreased serum osmotic pressure

120. A client is in a state of uncompensated acidosis. What approximate arterial blood pH does the nurse expect the client to have?

1. 7.20
2. 7.35
3. 7.45
4. 7.48

121. A nurse is concerned that a client is at risk for developing hyperkalemia. Which disease does the client have that has caused this concern?

1. Crohn
2. Cushing
3. End-stage renal
4. Gastroesophageal reflux

122. A client's serum potassium level has increased to 5.8 mEq/L. What action should the nurse implement **first**?

1. Call the laboratory to repeat the test.
2. Take vital signs and notify the health care provider.

3. Inform the cardiac arrest team to place them on alert.

4. Take an electrocardiogram and have lidocaine available.

►123. What clinical indicators should the nurse expect a client with hyperkalemia to exhibit? **Select all that apply.**

1. Tetany

2. Seizures

3. Diarrhea

4. Weakness

5. Dysrhythmias

124. A nurse adds 20 mEq of potassium chloride to the IV solution of a client with diabetic ketoacidosis. What is the **primary** purpose for administering this drug?

1. Treat hyperpnea

2. Prevent flaccid paralysis

3. Replace excessive losses

4. Treat cardiac dysrhythmias

►125. The intake and output of a client over an 8-hour period (8 AM to 4 PM) is:

8 AM: IV with D₅W infusing and 900 mL left in bag

8:30 AM: 150 mL urine voided

9 AM to 3 PM: 200 mL gastric tube formula and 50 mL water at q3h intervals

1 PM: 220 mL voided

3:15 PM: 235 mL voided

4 PM: IV with 550 mL left in bag

What is the difference between the client's intake and output? **Record your answer using a whole number.**

Answer: _____ m/L

126. A nurse is caring for a client with ascites. What does the nurse consider to be the cause of the ascites?

1. Portal hypotension

2. Kidney malfunction

3. Diminished plasma protein level

4. Decreased production of potassium

127. A client is receiving an IV infusion of 5% dextrose in water. The client loses weight and develops a negative nitrogen balance. What nutritional problem prompts the nurse to notify the health care provider?

1. Excessive carbohydrate intake

2. Lack of protein supplementation

3. Insufficient intake of water-soluble vitamins

4. Increased concentration of electrolytes in cells

►128. An IV solution of 1000 mL 5% dextrose in water is to be infused at 125 mL/hr to correct a client's fluid imbalance. The infusion set delivers 15 drops/mL. To ensure that the solution will infuse over an 8-hour period, at how many drops per minute should the nurse set the rate of flow? **Record your answer using a whole number.**

Answer: _____ gtt/min

129. What complication is prevented when a nurse addresses the needs of a client who is

hyperventilating?

1. Cardiac arrest
2. Carbonic acid deficit
3. Reduction in serum pH
4. Excess oxygen saturation

►130. There was 200 mL left in a client's IV bag when a nurse started the shift. When there was 50 mL left in this bag, the nurse hung a new IV bag containing 1000 mL and discarded the 50 mL from the previous bag. The client received two IVPBs during the shift; each contained 100 mL. At the end of the shift the nurse looks at the IV to document the client's IV fluid intake for the shift. How many mLs of IV fluid did the client receive during the shift? Refer to the illustration below. **Record your answer as a whole number.**



Answer: _____ mL

131. An arterial blood gas report indicates the client's pH is 7.25, PCO_2 is 35 mm Hg, and HCO_3 is 20 mEq/L. Which disturbance should the nurse identify based on these results?

1. Metabolic acidosis
2. Metabolic alkalosis
3. Respiratory acidosis
4. Respiratory alkalosis

132. A client's arterial blood gas report indicates the pH is 7.52, PCO_2 is 32 mm Hg, and HCO_3 is 24 mEq/L. What does the nurse identify as a possible cause of these results?

1. Airway obstruction
2. Inadequate nutrition
3. Prolonged gastric suction
4. Excessive mechanical ventilation

133. A nurse is caring for a client with ascites who is receiving albumin. What infusion rate and oral fluid intake should the nurse expect to have the **greatest** therapeutic effect?

1. Slow IV rate and liberal fluid intake

2. Slow IV rate and restricted fluid intake

3. Rapid IV rate and withheld fluid intake

4. Rapid IV rate and moderate fluid intake

134. A nurse is caring for a client who is receiving serum albumin. What therapeutic effect does the nurse anticipate?

1. Improved clotting of blood

2. Formation of red blood cells

3. Activation of white blood cells

4. Maintenance of oncotic pressure

135. What is the maximum length of time a nurse should allow an IV bag of solution to infuse?

1. 6 hours

2. 12 hours

3. 18 hours

4. 24 hours

136. A client's IV infusion infiltrates. What does the nurse identify as the **most** likely cause of the infiltration?

1. Excessive height of the IV bag

2. Failure to secure the catheter adequately

3. Contamination during the catheter insertion

4. Infusion of a chemically irritating medication

►137. What are the clinical indicators that a nurse should identify when an IV has infiltrated? **Select all that apply.**

1. Heat

2. Pallor

3. Edema

4. Decreased flow rate

5. Increased blood pressure

138. A nurse is caring for a client who is receiving an IV infusion. What should the nurse do **first** if the IV infusion infiltrates?

1. Elevate the IV site.

2. Discontinue the infusion.

3. Attempt to flush the tubing.

4. Apply a warm, moist compress.

►139. A client is to receive 2000 mL of IV fluid in 12 hours. At what rate should the nurse set the electronic infusion control device? **Record your answer using a whole number.**

Answer: _____ mL/hr

140. A client with hypokalemia is placed on a cardiac monitor to evaluate cardiac activity during IV potassium replacement. Before starting the potassium infusion, what cardiac change is the nurse **most** likely to identify when observing the monitor?

1. Lowering of the T wave

2. Elevation of the ST segment

3. Shortening of the QRS complex

4. Increased deflection of the Q wave

141. A nurse inadvertently allows an IV solution containing potassium to infuse too rapidly. The health care provider prescribes insulin added to a 10% dextrose in water solution. What is the

rationale for the order?

1. Potassium moves into body cells with glucose and insulin.
2. Increased insulin accelerates excretion of glucose and potassium.
3. Glucose with insulin increases metabolism, which accelerates potassium excretion.
4. Increased potassium causes a temporary slowing of pancreatic production of insulin.

142. What clinical finding indicates to a nurse that a client may have hypokalemia?

1. Edema
2. Muscle spasms
3. Kussmaul breathing
4. Abdominal distention

▶143. An intravenous piggyback (IVPB) of cefazolin (Kefzol) 500 mg in 50 mL of 5% dextrose in water is to be administered over a 20-minute period. The tubing has a drop factor of 15 drops/mL. At what rate per minute should the nurse regulate the infusion to run? **Record your answer using a whole number.**

Answer: _____ gtt/min

144. A spouse spends most of the day with a client who is receiving chemotherapy for inoperable cancer. The spouse asks the nurse, "What can I do to help?" How can the nurse support the client's spouse?

1. Assist the couple to maintain open communication.
2. Offer the couple a description of the disease process.
3. Instruct the spouse about the action of the medications.
4. Meet privately with the spouse to explore personal feelings.

145. During admission a client appears anxious and says to the nurse, "The doctor told me I have lung cancer. My father died from cancer. I wish I had never smoked." What is the nurse's **best** response?

1. "You are concerned about your diagnosis."
2. "You are feeling guilty about your smoking."
3. "There have been advances in lung cancer therapy."
4. "Trust your doctor, who is very competent in treating cancer."

146. When a disaster occurs, the nurse may have to treat mass hysteria first. Which response indicates that an individual should be cared for **first**?

1. Panic
2. Coma
3. Euphoria
4. Depression

147. A client with hypothermia is brought to the emergency department. What treatment does the nurse anticipate?

1. Core rewarming with warm fluids
2. Ambulation to increase metabolism
3. Frequent oral temperature assessments
4. Gastric tube feedings to increase fluid volume

148. An unresponsive older adult is admitted to the emergency department on a hot, humid day. The initial nursing assessment reveals hot, dry skin; a respiratory rate of 36 breaths/min; and a heart rate of 128 beats/min. What is the **initial** nursing action?

1. Offer cool fluids.
2. Suction the airway.

3. Remove the clothing.
4. Prepare for intubation.

149. A nurse is working in a busy emergency department on a hot summer day when four near-drowning victims are admitted. Which near-drowning victim should the nurse assess for signs of hypovolemia?

1. 72-year-old rescued from a lake
2. 2-year-old rescued from a bathtub
3. 50-year-old rescued from the ocean
4. 17-year-old rescued from a backyard pool

▶150. What clinical indicators should a nurse identify when assessing a client with pyrexia (fever)?

Select all that apply.

1. Dyspnea
2. Flushed face
3. Precordial pain
4. Increased pulse rate
5. Increased blood pressure

151. A nurse is caring for a client on bed rest. How can the nurse help prevent a pulmonary embolus?

1. Limit the client's fluid intake.
2. Teach the client how to exercise the legs.
3. Encourage use of the incentive spirometer.
4. Maintain the knee gatch position at an angle.

152. Immediately after receiving spinal anesthesia a client develops hypotension. To what physiologic change does the nurse attribute the decreased blood pressure?

1. Dilation of blood vessels
2. Decreased response of chemoreceptors
3. Decreased strength of cardiac contractions
4. Disruption of cardiac accelerator pathways

153. A client is hospitalized for treatment of severe hypertension. Captopril (Capoten) and alprazolam (Xanax) are prescribed. The client quickly finds fault with the therapeutic regimen and nursing care. What does the nurse determine as the probable cause of this behavior?

1. Denial of illness
2. Fear of the health problem
3. Response to cerebral anoxia
4. Reaction to the antihypertensive drug

154. A 2 g sodium diet is prescribed for a client with stage 2 hypertension, and the nurse teaches the client the rationale for this diet. The client reports distaste for the food. The primary nurse hears the client request that the family "bring in a ham and cheese sandwich and fries." What is the **most** effective nursing intervention?

1. Discuss the diet with the client and family.
2. Tell the client why salty foods should not be eaten.
3. Explain the dietary restriction to the client's visitors.
4. Ask the dietitian to teach the client and family about sodium restrictions.

155. A senior high school student, whose immunization status is current, asks the school nurse which immunizations will be included in the precollege physical. Which vaccine should the nurse tell the student to expect to receive?

1. Hepatitis C (HepC)
2. Influenza type B (HIB)
3. Measles, mumps, rubella (MMR)
4. Diphtheria, tetanus, pertussis (TDaP)

156. A 70-year-old client with the diagnosis of heart failure and chronic obstructive pulmonary disease (COPD) is admitted to a unit in a long-term care facility for a cardiopulmonary rehabilitation program. Pneumococcal and flu vaccines are administered. The client asks the nurse if the pneumococcal vaccine has to be taken every year like the flu vaccine. How should the nurse respond?

1. "You need to receive the pneumococcal vaccine every other year."
2. "The pneumococcal vaccine should be received in early autumn every year."
3. "You should get the flu and pneumococcal vaccines at your annual physical examination."
4. "It is unnecessary to have any follow-up injections of the pneumococcal vaccine after this dose."

157. A nurse is caring for a client with an impaired immune system. Which blood protein associated with the immune system is important for the nurse to consider?

1. Albumin
2. Globulin
3. Thrombin
4. Hemoglobin

158. A client who was exposed to hepatitis A asks why an injection of gamma globulin is needed. Before responding, what should the nurse consider about how it provides passive immunity?

1. It increases production of short-lived antibodies.
2. It accelerates antigen-antibody union at the hepatic sites.
3. The lymphatic system is stimulated to produce anti-bodies.
4. The antigen is neutralized by the antibodies that it supplies.

159. A client is admitted to the emergency department with a contaminated wound. The client is a poor historian, and the nurse realizes that it is impossible to determine whether the client is immunized against tetanus. Which medication does the nurse expect the health care provider to prescribe because it will produce passive immunity for several weeks with minimal danger of an allergic reaction?

1. Tetanus toxoid
2. Equine tetanus antitoxin
3. Human tetanus antitoxin
4. Diphtheria, tetanus, pertussis vaccine

160. A client who is suspected of having tetanus asks a nurse about immunizations against tetanus. Before responding, what should the nurse consider about the benefits of tetanus antitoxin?

1. It stimulates plasma cells directly.
2. A high titer of antibodies is generated.
3. It provides immediate active immunity.
4. A long-lasting passive immunity is produced.

161. What clinical indicator is important for the nurse to assess after a client undergoes a submucosal resection (SMR) for a deviated septum?

1. Occipital headache
2. Periorbital crepitus
3. Expectoration of blood
4. Changes in vocalization

162. A nurse must establish and maintain an airway in a client who has experienced a near-drowning

in the ocean. For which potential danger should the nurse assess the client?

1. Alkalosis
2. Renal failure
3. Hypervolemia
4. Pulmonary edema

163. A nurse is caring for a postoperative client who had general anesthesia during surgery. What independent nursing intervention may prevent an accumulation of secretions?

1. Postural drainage
2. Cupping the chest
3. Nasotracheal suctioning
4. Frequent changes of position

164. In what position should the nurse place a client recovering from general anesthesia?

1. Supine
2. Side-lying
3. High-Fowler
4. Trendelenburg

165. What is the **priority** nursing intervention for a client during the immediate postoperative period?

1. Monitoring vital signs
2. Observing for hemorrhage
3. Maintaining a patent airway
4. Recording the intake and output

166. A client has seeds containing radium implanted in the pharyngeal area. What should the nurse include in the client's plan of care?

1. Have the client void every 2 hours.
2. Maintain the client in an isolation room.
3. Allow time for the client to verbalize feelings.
4. Wear 2 pairs of gloves when touching the client during care.

167. A nurse in the postanesthesia care unit (PACU) observes that after an abdominal cholecystectomy a client has serosanguineous drainage on the abdominal dressing. What is the **next** nursing action?

1. Change the dressing.
2. Reinforce the dressing.
3. Replace the tape with Montgomery ties.
4. Support the incision with an abdominal binder.

168. Four days after abdominal surgery a client has not passed flatus and there are no bowel sounds. Paralytic ileus is suspected. What does the nurse conclude is the **most** likely cause of the ileus?

1. Decreased blood supply
2. Impaired neural functioning
3. Perforation of the bowel wall
4. Obstruction of the bowel lumen

▶169. A client experiences abdominal distention following surgery. Which nursing actions are appropriate? **Select all that apply.**

1. Encouraging ambulation
2. Giving sips of ginger ale
3. Auscultating bowel sounds
4. Providing a straw for drinking

5. Offering the prescribed opioid analgesic

►170. A client is admitted with diarrhea, anorexia, weight loss, and abdominal cramps. What clinical manifestations of an electrolyte deficit should the nurse report immediately? **Select all that apply.**

1. Diplopia
2. Skin rash
3. Leg cramps
4. Tachycardia
5. Muscle weakness

►171. A client is being admitted for a total hip replacement. When is it necessary for the nurse to ensure that a medication reconciliation is completed? **Select all that apply.**

1. After reporting severe pain
2. On admission to the hospital
3. Upon entering the operating room
4. Before transfer to a rehabilitation facility
5. At time of scheduling for the surgical procedure

►172. A client with arthritis increases the dose of ibuprofen (Motrin, Advil) to abate joint discomfort. After several weeks the client becomes increasingly weak. The health care provider determines that the client is severely anemic and admits the client to the hospital. What clinical indicators does the nurse expect to identify when performing an admission assessment? **Select all that apply.**

1. Melena
2. Tachycardia
3. Constipation
4. Clay-colored stools
5. Painful bowel movements

173. A plan of care for a client with type 1 diabetes includes teaching how to self-administer insulin, adjust insulin dosage, select appropriate food on the ordered diet, and test the serum for glucose. The client demonstrates achievement of these skills and is discharged 5 days following admission. What is the legal implication in this situation?

1. The nurse was functioning as a health teacher.
2. A home health care nurse should have done the health teaching in the client's home.
3. Family members also should have been taught how to administer insulin and perform other aspects of care.
4. Health care providers are responsible for this care, and the nurse should have cleared the teaching plan before its implementation.

174. Why are sink faucets in a client's room considered contaminated?

1. They are not in sterile areas.
2. They are opened with dirty hands.
3. Large numbers of people use them.
4. Water encourages bacterial growth.

175. The nurse is teaching a client about adequate hand hygiene. What component of hand washing should the nurse include that is **most** important for removing microorganisms?

1. Soap
2. Time
3. Water
4. Friction

176. A nurse is applying a dressing to a client's surgical wound using sterile technique. While engaging in this activity, the nurse accidentally places a moist sterile gauze pad on the cloth sterile field. What physical principle is applicable for causing the sterile field to become contaminated?

1. Dialysis
2. Osmosis
3. Diffusion
4. Capillarity

177. A nurse is preparing to change a client's dressing. What is the reason for using surgical asepsis during this procedure?

1. Keeps the area free of microorganisms
2. Confines microorganisms to the surgical site
3. Protects self from microorganisms in the wound
4. Reduces the risk for growing opportunistic microorganisms

178. When assessing an obese client, a nurse observes dehiscence of the abdominal surgical wound with evisceration. The nurse places the client in the low-Fowler position with the knees slightly bent and encourages the client to lie still. What is the **next** nursing action?

1. Obtain the vital signs.
2. Notify the health care provider.
3. Reinsert the protruding organs using aseptic technique.
4. Cover the wound with a sterile towel moistened with normal saline.

179. While caring for a client with a portable wound drainage system, a nurse observes that the collection container is half full and empties it. What is the **next** nursing intervention?

1. Encircle the drainage on the dressing.
2. Irrigate the suction tube with sterile saline.
3. Clean the drainage port with an alcohol wipe.
4. Compress the container before closing the port.

180. A nurse in the surgical intensive care unit is caring for a client with a large surgical incision. What medication does the nurse anticipate will be prescribed for this client?

1. Vitamin A (Aquasol A)
2. Cyanocobalamin (Cobex)
3. Phytonadione (Mephyton)
4. Ascorbic acid (Ascorbicap)

181. During the initial physical assessment of a newly admitted client with a pressure ulcer, a nurse observes that the client's skin is dry and scaly. The nurse applies emollients and reinforces the dressing on the pressure ulcer. Legally, were the nurse's actions adequate?

1. The nurse should have instituted a plan to increase activity.
2. The nurse provided supportive nursing care for the well-being of the client.
3. Debridement of the pressure ulcer should have been done before the dressing was applied.
4. Treatment should not have been instituted until the health care provider's orders were received.

182. An emaciated older adult with dementia develops a large pressure ulcer after refusing to change position for extended periods of time. The family blames the nurses and threatens to sue. What should be considered when deciding who is to blame?

1. The client should have been turned regularly.
2. Older clients frequently develop pressure ulcers.
3. The nurse is not responsible to the client's family.

4. Nurses should respect a client's right not to be moved.

183. After recovery from a modified neck dissection for oropharyngeal cancer, the client receives external radiation to the operative site. For which **most** critical reaction to the radiation should the nurse assess the client?

1. Dry mouth
2. Skin reactions
3. Mucosal edema
4. Bone marrow suppression

184. A client expresses concern about being exposed to radiation therapy because it can cause cancer. What should the nurse emphasize when informing the client about exposure to radiation?

1. The dosage is kept at a minimum.
2. Only a small part of the body is irradiated.
3. The client's physical condition is not a risk factor.
4. Nutritional environment of the affected cells is a risk factor.

185. A client who is to receive radiation therapy for cancer says to the nurse, "My family said I will get a radiation burn." What is the nurse's **best** response?

1. "Your skin will look like a sunburn."
2. "A localized skin reaction usually occurs."
3. "A daily application of an emollient will prevent a burn."
4. "Your family must have had experience with radiation therapy."

186. A nurse applies an ice pack to a client's leg for 20 minutes. What clinical indicator helps the nurse determine the effectiveness of the treatment?

1. Local anesthesia
2. Peripheral vasodilation
3. Depression of vital signs
4. Decreased viscosity of blood

▶187. A homeless person is brought to the emergency department after prolonged exposure to cold weather. What clinical manifestations of hypothermia does the nurse anticipate? **Select all that apply.**

1. Stupor
2. Erythema
3. Increased anxiety
4. Rapid respirations
5. Paresthesia in affected body parts

▶188. An older adult is brought to the emergency department after being found in the street without a coat during a snowstorm. What actions should the nurse implement? **Select all that apply.**

1. Massage extremities.
2. Obtain a rectal temperature.
3. Assess the fingers for areas of frostbite.
4. Determine client's level of consciousness.
5. Ask for identification so that the family can be notified.

189. A client reports severe pain 2 days after surgery. Which **initial** action should the nurse take after assessing the character of the pain?

1. Encourage rest.
2. Obtain the vital signs.
3. Administer the prn analgesic.

4. Document the client's pain response.

190. A peripheral nerve or dorsal column stimulator is implanted to allay a client's intractable pain. What discharge instructions should the nurse give the client after surgery?

1. Tub baths should be avoided.
2. Analgesics will no longer be necessary.
3. The transmitter must be worn externally.
4. The transmitter will interfere with electronic devices.

191. After abdominal surgery a client reports pain. What action should the nurse take **first**?

1. Reposition the client.
2. Obtain the client's vital signs.
3. Administer the prescribed analgesic.
4. Determine the characteristics of the pain.

192. A client who had abdominal surgery is receiving patient-controlled analgesia (PCA) intravenously to manage pain. The pump is programmed to deliver a basal dose and bolus doses that can be accessed by the client with a lock-out time frame of 10 minutes. The nurse assesses use of the pump during the last hour and identifies that the client attempted to self-administer the analgesic 10 times. Further assessment reveals that the client is still experiencing pain. What should the nurse do **first**?

1. Monitor the client's pain level for another hour.
2. Determine the integrity of the intravenous delivery system.
3. Reprogram the pump to deliver a bolus dose every 8 minutes.
4. Arrange for the client to be evaluated by the health care provider.

193. A client with an inflamed sciatic nerve is to have a conventional transcutaneous electrical nerve stimulation (TENS) device applied to the painful nerve pathway. When operating the TENS unit, which nursing action is appropriate?

1. Maintain the settings programmed by the health care provider.
2. Turn the machine on several times a day for ten to twenty minutes.
3. Adjust the dial on the unit until the client states the pain is relieved.
4. Apply the color-coded electrodes on the client where they are most comfortable.

194. A nurse is caring for a client who had an insertion of radium for cancer of the cervix. For what radium reaction should the nurse assess the client?

1. Pain
2. Nausea
3. Excoriation
4. Restlessness

195. Radium inserted in the vagina of a client is now being removed. What safety precaution should the nurse employ when assisting with the radium removal?

1. Clean the radium in ether or alcohol.
2. Wear foil-lined rubber gloves while handling the radium.
3. Ensure that long forceps are available for removing the radium.
4. Document how long the radium was in place and when it was removed.

196. A nurse checking the perineum of a client with a radium implant for cervical cancer observes the packing protruding from the vagina. Why must the nurse notify the health care provider to remove it immediately?

1. The radioactive packing will injure healthy tissue.

2. Removal of the packing will prevent excessive blood loss.
3. The exposure of radium to the environment will diminish its effectiveness.
4. Removal of the packing will minimize life-threatening contact with the radiation.

197. A nurse is caring for a client who has a radium implant for cancer of the cervix. What is the priority nursing action?

1. Store urine in lead-lined containers.
2. Restrict visitors to a ten-minute stay.
3. Wear a lead-lined apron when giving care.
4. Avoid giving injections in the gluteal muscle.

198. A client was treated with a radium implant for cancer of the cervix. What information is important for the nurse to teach the client when giving discharge instructions?

1. Limit daily fluid intake.
2. Return for follow-up care.
3. Continue a low-residue diet.
4. Take daily mineral supplements.

199. A client has corrective surgery for a bladder laceration. What nursing intervention takes **priority** during this client's postoperative period?

1. Turning frequently
2. Raising side rails on the bed
3. Providing range-of-motion exercises
4. Massaging the back three times a day

▶200. A postmenopausal woman who has cancer of the breast decides to have a lumpectomy followed by chemotherapy. After receiving chemotherapy for several weeks, she says to a nurse at the clinic, "I don't feel well." The nurse reviews the chemotherapeutic medications the client is receiving, checks the laboratory results, and obtains the client's vital signs. Based on this information, what does the nurse conclude is the client's **priority** need?

Client Chart
Medications
cyclophosphamide (Cytoxan) DOXOrubicin fluorouracil (5-FU)
Laboratory Results
RBC: 4.2 μ L WBC: 3000 μ L Hb: 12.5 g/dL Hct: 39% Platelets: 190,000 μ L
Vital Signs
Temperature (oral): 99.8° F Pulse: 88 beats/min Resp: 24 breaths/min Blood pressure: 126/88 mm Hg

1. Promoting rest
2. Preventing infection
3. Avoiding bodily harm
4. Maintaining fluid balance

Answers and Rationales

1. 2 To promote optimism and facilitate smooth functioning, rehabilitation planning should begin on admission to the hospital.

1 The client and family often are unaware of the options available in the health care system; the nurse should be available to provide the necessary information and support. **3** Rehabilitation helps a client adjust to a new lifestyle that must compensate for the paralysis. **4** The goal of rehabilitation is to foster independence wherever the client may live after discharge,

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Process](#)

2. 3 Rehabilitation refers to a process that assists clients to obtain optimal functioning. Care should be initiated immediately when a health problem exists to avoid complications and facilitate recuperation.

1 All resources that can be beneficial to client rehabilitation, including the private health care provider and acute care facilities, should be utilized. **2** Rehabilitation is a commonality in all areas of nursing practice. **4** Rehabilitation is necessary to help clients return to a previous or optimal level of functioning.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Health-Illness Continuum and Rehabilitation](#)

3. 1 A call bell system enables the client to communicate with the staff and supports safety and security, which is a second-level need.

2 Self-esteem involves intrapersonal needs, the fourth level of basic needs. **3** Physiologic needs include air, food, and water and represent the first level of needs. **4** Interpersonal needs involve love and belonging, which are third-level needs.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

4. 4 Socialization, values, and role definition are learned within the family and help develop a sense of self. Once established in the family, the child can more easily move into society.

1, 2, 3 Although important, this is just one aspect of the family's influence; it is not as important as identity and roles in relation to emotional development.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Groups](#)

5. 4 A major premise of AA is that to be successful in achieving sobriety, clients with alcohol abuse problems must acknowledge their inability to control their drinking.

1 There are no rules about speaking at meetings, although members are strongly encouraged to do so. **2** There are no rules of attendance at meetings, although members are strongly encouraged to attend as often as possible. **3** This is not part of AA; this group strongly supports total abstinence for life.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Groups](#)

6. 3 Self-help groups are successful because they support a basic human need for acceptance. A feeling of comfort and safety and a sense of belonging may be achieved in a nonjudgmental,

supportive, sharing experience with others.

1, 2 AA may not meet this need. **4** AA meets dependency needs rather than focusing on independence.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** [Ch 1, Groups](#)

7. 3 Assimilation involves incorporating the behaviors of a dominant culture. Maintaining eye contact is characteristic of the American culture and not of Asian cultures.

1 Prejudice is a negative belief about another person or group and does not characterize this behavior. **2** Stereotyping is the perception that all members of a group are alike. **4** Ethnocentrism is the perception that one's beliefs are better than those of others.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 1, Culture and Health](#)

8. 4 A workshop provides an opportunity to discuss cultural diversity; this should include identification of one's own feelings; also, it provides an opportunity for participants to ask questions.

1 Although this will provide information, it does not promote a discussion about the topic. **2** This is not feasible or desirable; clients from other cultures are found in all settings. **3** This probably will increase tension on the unit.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Culture and Health](#)

9. 3 Because of a short attention span and distractibility, consistent limit setting is essential toward providing an environment that promotes concentration, prevents confusion, and minimizes conflicts.

1 Questions should be answered, but the answers should not be judgmental. **2** A list of expectations may be overwhelming at this age. **4** Parents need to assist children with routine tasks; children this age may not be concerned with time frames.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Individual Factors Affecting Health](#)

10. 4 Understanding the disorder and the details of care are essential for the client to be self-sufficient.

1 Although this is important, a perceived understanding of the need for specific interventions must be expressed before there is a readiness for learning. **2** This is premature; this may be done eventually. **3** Although this is important, involving the college should be the client's decision.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Teaching-Learning](#)

11. 2 An individual is held legally responsible for actions committed against another individual or an individual's property.

1 This is battery, which involves physical harm. **3** This is the definition of negligence. **4** This is the definition of a crime.

Client Need: Management of Care; **Cognitive Level:** Knowledge; **Nursing Process:**

Assessment/Analysis; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

12. 3 Using a stretcher with worn straps is negligent; this oversight does not reflect the actions

of a reasonably prudent nurse.

1, 4 The nurse is responsible and must ascertain the adequate functioning of equipment. **2** The hospital shares responsibility for safe, functioning equipment.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

13. 3 It is the nurse's responsibility to foresee potential harm and prevent risks by acting as a client advocate.

1 This is not acceptable as a rationale for inaction. **2** The nurse and health care provider share interdependent roles in the assessment and care of clients. **4** High temperatures are common in children but are nonetheless a valid cause for concern.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

14. 1 Each state or province protects the health and welfare of its populace by regulating nursing practice.

2 Although the members of the profession can also benefit from a clear description of their role, this is not the primary purpose of the law. **3** The employing agency does assume responsibility for its employees and therefore benefits from maintenance of standards, but this is not the purpose of the law. **4** This is too limited; they are just one portion of the population that is protected.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

15. 3 The Nurse Practice Act states that nurses diagnose and treat human responses to actual or potential health problems. Administration of oxygen in an emergency situation is within the scope of nursing practice.

1, 2, 4 Because the client's clinical manifestations reflected an immediate need for oxygen, postponement of treatment could have resulted in further deterioration of the client's condition.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

16. 4 The nurse's data collection was not adequate because the nurse did not ask about the date of the previous tetanus inoculation. The nurse failed to support the life and well-being of a client.

1 The nurse's assessment was not thorough in regard to determining the date of immunization. **2** It was essential to determine when the client was last immunized; for a "tetanus-prone" wound, like a puncture from a rusty nail, some form of tetanus immunization usually is given. **3** This is not an independent function of the nurse.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

17. 4 False imprisonment is a wrong committed by one person against another in a willful, intentional way without just cause and/or excuse.

1 Negligence is an unintentional tort. **2** Malpractice, which is professional negligence, is classified as an unintentional tort. **3** Breach of duty is an unintentional tort.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

18. 4 Personal liability insurance will represent a nurse before the State Board of Nursing, whereas employee liability insurance will not.

1 A nurse can be sued whether or not the nurse has liability insurance. **2** Employer liability insurance

will represent the nurse in charges related to employment, not charges brought by the State Board of Nursing. **3** Liability insurance is available for all nurses.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Nurse's Rights and Responsibilities](#)

19. 1 Assault is a threat or an attempt to do violence to another, and battery means touching an individual in an offensive manner or actually injuring another person.

2 The nurse's behavior demonstrates anger and does not take into account the growth and developmental needs of children in this age group. **3** Although the behavior (scratching) needs to be decreased, this can be done with mittens, not immobilization. **4** A 3-year-old child does not have the capacity to understand cause (scratching) and effect (bleeding).

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

20. 1 Assault is a threat or an attempt to do violence to another.

2 Assault implies harm to persons rather than property. **3** This definition is too broad to describe assault. **4** This is the definition of battery.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

21. 3 Battery means touching in an offensive manner or actually injuring another person.

1 Battery refers to actual bodily harm rather than threats of physical or psychologic harm. **2** Battery refers to harm against persons instead of property. **4** This is the definition of negligence.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

22. 2 Legally, a person cannot be locked in a room (isolated) unless there is a threat of danger either to the self or to others.

1 Limit setting in this situation is not warranted. This is a reaction to separation from the parent, which is common at this age. **3** Crying, although irritating, will not harm the other children. **4** A child should never be isolated.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

23. 3 The client's rights have been violated. All clients have the right to a complete and accurate explanation of treatment based on cognitive ability.

1 All interventions should be explained because they are not routine to the client. **2** When administering treatment, the nurse is responsible for explaining what the treatment is and why it is being given. **4** The Patient Care Partnership (The Patient's Bill of Rights) states that the client should be informed.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Clients' Rights](#)

24. 4 Informed consent means the client must comprehend the surgery, the alternatives, and the consequences.

1 This description is not within nursing's domain. **2** Although this is true, it does not determine the client's ability to give informed consent. **3** Although this is true, the nurse should first assess the client's knowledge of the surgery.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Clients' Rights](#)

25. 4 Although a hysterectomy may be performed, conservative management may include cervical conization and laser treatment that do not preclude future pregnancies; clients have a right to be informed by their health care provider of all treatment options.

1 This currently is not the issue for this client. **2, 3** This negates the client's feelings.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Clients' Rights](#)

26. 3 This is considered a routine procedure to meet basic physiologic needs and is covered by a consent signed at the time of admission.

1 The need for consent is not negated because the procedure is beneficial. **2, 4** This treatment does not require special consent.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Clients' Rights](#)

27. 4 The client is unconscious. Although the spouse can give consent, there is no legal power to refuse a treatment for the client unless previously authorized to do so by a power of attorney or a health care proxy; the court can make a decision for the client.

1, 3 This alternative is without legal basis, and the nurse may be held liable. **2** Explanations will not be effective at this time and will not meet the client's needs.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Clients' Rights](#)

28. 3 Because the client is not certified as incompetent, the right of informed consent is retained.

1 The client can sign the consent, but the client's signature requires only one witness. **2, 4** Because there is no evidence of incompetence, the client should sign the consent.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Clients' Rights](#)

29. 1 A person is legally unable to sign a consent until the age of 18 years unless the client is an emancipated minor or married. The nurse must determine the legal status of the adolescent.

2 Although the adolescent may be capable of intelligent choices, 18 is the legal age of consent unless the client is emancipated or married. **3** Parents or guardians are legally responsible under all circumstances unless the adolescent is an emancipated minor or married. **4** Adolescents have the capacity to choose, but not the legal right in this situation unless they are legally emancipated or married.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Clients' Rights](#)

► **30. Answer: 1, 2, 3.**

1 Clients who are mentally competent have the right to refuse treatment; the nurse must respect this right. **2** Client's questions must always be answered truthfully. **3** The health care provider should be notified when a client refuses an intervention so that an alternate treatment plan can be formulated. This is done after the nurse explores the client's reasons for refusal. **4** The client had a discussion

with the nurse that indicated that the client had sufficient information to make the decision to refuse the medication. **5** The client has a right to refuse treatment; this right takes precedence over the health care provider's prescription.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Clients' Rights](#)

31. 4 The nurse should remove and dispose of the patch in a manner that protects self and others from exposure to the fentanyl (Duragesic).

1, 2 This is not the responsibility of nonprofessionals because they do not know how to protect themselves and others from exposure to the fentanyl. **3** It is unnecessary to return a used fentanyl patch.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Clients' Rights](#)

▶ **32. Answer: 1, 2, 4.**

1 Opioid analgesics can cause respiratory depression; the nurse must monitor respirations. **2** The intensity of pain must be documented before and after administering an analgesic to evaluate its effectiveness. **3** Pruritus is a common side effect that can be managed with antihistamines. It is not an allergic response, so it does not preclude administration. **4** Because of the potential for abuse, the nurse is legally required to verify an accurate count of doses before taking a dose from the locked source and at the change of the shift. **5** The nurse should not discard an opioid in a client's room. Any waste of an opioid must be witnessed by another nurse.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

33. 3 This is an invasion of privacy, which is an intentional tort.

1, 2, 4 This is an example of professional negligence (malpractice).

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

34. 1 When a client signs herself and her infant out of the hospital, she is legally responsible for her infant.

2, 3, 4 The infant is the responsibility of the mother and can leave with the mother when she signs them out.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Clients' Rights](#)

35. 4 This response is a threat (assault) because the nurse is attempting to put pressure on the client to speak or be left alone.

1 This is not a reward and punishment technique that is used in behavior modification therapy. **2, 3** Clients in emotional crisis should not be left alone.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Torts and Crimes Important to Nurses](#)

36. 1 The Nurse Practice Act requires nurses to diagnose human responses.

2 This is a physical assessment, not a medical diagnosis, and is within the nurse's role. **3** Assessments should not differ when done by the nurse. **4** The nurse is capable of independently performing a physical assessment.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

37. 3 The reporting of possible child abuse is required by law, and the nurse's identity can remain confidential.

1 The nurse is functioning in a professional capacity and therefore can be held accountable. **2, 4** Although the Good Samaritan Act protects health professionals, the nurse is still responsible for acting as any reasonably prudent nurse would in a similar situation.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

38. 3 Because the client's condition is terminal, the nursing priority should be directed toward providing basic care and comfort.

1, 2, 4 Although these are important aspects of nursing care, provision of comfort is the priority when caring for a dying client.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Type of Condition Affecting the Client](#)

39. 3 Because family members are old enough to understand the client's needs, they should be encouraged to participate in the care.

1 Self-care increases oxygen utilization, thereby increasing fatigue and dyspnea. **2** Overworking the client causes undue fatigue; there should be frequent rest periods between different aspects of care. **4** This deprives the client of a support system.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Type of Condition Affecting the Client](#)

40. 2 Practicing ambulation several hours a day without adequate preparation is not helpful in the rehabilitation process and may exhaust the client; it is essential that the client master specific skills such as maintaining balance, sitting, standing, and stair climbing for safety.

1 Because different muscle groups are utilized, the client must be instructed about simple maneuvers; transfer from a sitting to a standing position must be accomplished before ambulation. **3** Balance is essential to prevent falls. **4** The muscles used for crutch walking are different from those used in nonassisted ambulation; therefore, they must be strengthened by active exercises before ambulation.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Teaching-Learning](#)

41. 2 The nursing process is a step-by-step method that scientifically provides for a client's nursing needs.

1, 3, 4 This is only one step in the nursing process.

Client Need: Management of Care; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Process](#)

42. Answer: 4, 3, 1, 2, 5.

4 First the nurse should gather data. **3** Based on the data, the client's needs are assessed. **1** After the needs have been determined, the goals for care are established. **2** The next step is planning care based on the knowledge gained from the previous steps. **5** Implementation follows the development

of the plan of care.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Process](#)

43. 1 An actual or potential client health problem is based on the analysis and interpretation of the data previously collected during the assessment phase of the nursing process.

2 Gathering data is included in the client's assessment. **3** Nursing interventions are based on the earlier steps of the nursing process. **4** The plan of care includes nursing actions to meet client needs. The needs must first be identified before nursing actions are planned.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Process](#)

44. 1 The primary nurse provides or oversees all aspects of care, including assessment, implementation, and evaluation of that care.

2 A clinician is an expert teacher or practitioner in the clinical area. **3** The nurse coordinator oversees all the staff and clients on a unit and coordinates care. **4** A clinical nurse specialist is a title given to a nurse specially prepared for one very specific clinical role. It requires a master's degree level of education.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Society and Health](#)

45. 3 Helping the client to meet physical needs is within the role of the nurse; arranging blankets on the client's bed is an appropriate intervention.

1 The nurse's comfort needs should not take precedence over the client's needs; the nurse should not assume responsibility for the role of care provider if incapable of providing care. **2** It is not a good deed but fulfills the expected role of the nurse; this response sounds grudgingly compliant. **4** This is within the nurse's job description.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

46. 4 When the implementation of a plan of care does not effectively produce the desired outcome, the plan should be changed.

1 Time is not relevant in the revision of a plan of care. **2** Client response to care is the determining factor, not the validity of the health problem. **3** Various methods may have the same outcome; their effectiveness is most important.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Nursing Process](#)

► **47. Answer: 1, 4.**

1 Acquiring knowledge or understanding aids in developing concepts, rather than skills or attitudes, and is a basic learning task in the cognitive domain. **2** Values and self-realization are in the affective domain. **3** Skills acquisition is in the psychomotor domain. **4** Acquiring knowledge or understanding aids in developing concepts rather than skills or attitudes and is a basic learning task in the cognitive domain. **5** Skills acquisition is in the psychomotor domain.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Teaching-Learning](#)

48. 3 Success is a basic motivation for learning. People receive satisfaction when a goal is reached.

1 Progress toward long-range goals is often not readily apparent and may be

discouraging. **2** Constructive criticism is an important aspect of client teaching, but if it is not tempered with praise, it is discouraging. **4** This is an important part of teaching, but it probably will not motivate the client.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Teaching-Learning](#)

49. 3 A paradoxical response to a drug is directly opposite the desired therapeutic response.

1 An allergic response is an antigen-antibody reaction. **2** A synergistic response involves drug combinations that enhance each other. **4** This is a response to a drug that is more pronounced than the common response.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Medication Administration, Drug Effects](#)

50. 3 Hypersensitivity results from the production of antibodies in response to exposure to certain foreign substances (allergens). Earlier exposure is necessary for the development of these antibodies.

1 This is not a sensitivity reaction to penicillin; hay fever and asthma are atopic conditions. **2** It is an active, not passive, immune response. **4** Antibodies developed when there was a prior, not current, exposure to penicillin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Medication Administration, Drug Effects](#)

51. 2 Legally, a nurse cannot administer medications without a prescription from a legally licensed individual.

1 The nurse cannot give the medication without a current health care provider's prescription; this is a dependent function of the nurse. **3** The nurse should not ask if the health care provider is aware of the problem; it is the nurse's responsibility to document the client's health history. **4** It is the nurse's responsibility to review the health care provider's orders and question them when appropriate

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

► **52. Answer: 1 mL.** When 132 pounds is converted to kilograms, it equals 60 kg.

The practitioner prescribed 5 mcg/kg; therefore, $5 \times 60 = 300$ mcg. This desired amount is contained in 1 mL, as indicated on the vial label.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

► **53. Answer: 2.4 mL.** Use the "Desire over Have" formula to solve this problem.

Desire 60 mg = x mL

Have 125 mg 5 mL

$$125x = 300$$

$$x = 300 \div 125 = 2.4 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

►54. **Answer: 1.5 mL.** Use the “Desire over Have” formula to solve the problem.

$$\text{Desire } 375 \text{ mg} = x \text{ mL}$$

$$\text{Have } 250 \text{ 1 mL}$$

$$250x = 375$$

$$x = 375 \div 250$$

$$x = 1.5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

55. 2 The wasting of controlled substances should be witnessed by two licensed personnel according to federal regulations; this can be done by an RN or LPN.

1 Although the nursing supervisor is licensed and may perform this function, it is not an efficient use of this individual’s expertise. **3** Federal regulations do not require the participation by the client’s health care provider in this situation. **4** A nursing assistant is not a licensed person who can take responsibility for the wasting of controlled substances.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

56. 4 The vaccination is scratched into the skin using a bifurcated needle.

1 An intramuscular injection using the Z-track technique will administer the vaccine too deep. **2** An intravenous injection is unsafe and ineffective. **3** A subcutaneous injection will administer the vaccine too deep.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

[Ch 2, Nursing Responsibilities Related to Medication Administration](#)

►57. Use the “Desire over Have” formula of ratio and proportion to solve this problem.

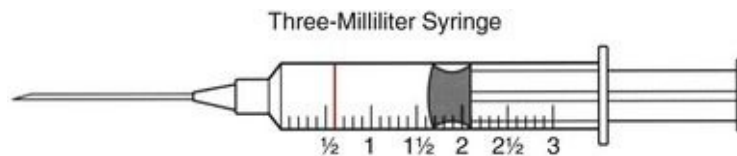
$$\text{Desire } 125 \text{ mg} = x \text{ mL}$$

$$\text{Have } 225 \text{ mg } 1 \text{ mL}$$

$$225x = 125$$

$$x = 125 \div 225$$

$$x = 0.55 \text{ mL. Round the answer up to 0.6 mL.}$$



Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

58. 3 When an oral medication is available in a suspension form, the nurse can use it for clients who cannot swallow capsules. Use the “Desire over Have” formula to solve the problem.

$$\text{Desire } 100 \text{ mg} = x \text{ mL}$$

$$\text{Have } 125 \text{ mg } 5 \text{ mL}$$

$$125x = 500$$

$$x = 500 \div 125$$

$$x = 4 \text{ mL}$$

1 Because a palatable suspension is available, it is a better alternative than opening the capsule. **2** The route of administration cannot be altered without the health care provider's approval. **4** Intramuscular injections should be avoided because of risks for tissue injury and infection.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

►59. Answer: **2, 3, 6.**

1 NSAIDs do not cause diuresis; reversible renal ischemia and renal insufficiency in clients with heart failure, cirrhosis, or hypovolemia can be potential adverse effects of NSAIDs. **2** Prostaglandins accumulate at the site of an injury, causing pain; NSAIDs inhibit COX-1 and COX-2 (both are isoforms of the enzyme cyclooxygenase), which inhibit the production of prostaglandins, thereby contributing to analgesia. **3** NSAIDs inhibit COX-2, which is associated with fever, thereby causing antipyresis. **4** NSAIDs do not cause bronchodilation. **5** This is an adverse effect, not a desired outcome; NSAIDs can impair platelet function by inhibiting thromboxane, an aggregating agent, resulting in bleeding. **6** NSAIDs inhibit COX-2, which is associated with inflammation, thereby reducing inflammation.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Nonsteroidal Antiinflammatory Drugs \(NSAIDs\)](#)

60. 2 Paraphrasing encourages the client to express the rationale for this request.

1 This is making an assumption without enough information. **3** This statement may increase the client's anxiety. **4** Although this request should be forwarded to the health care provider, the reason for the choice of general anesthesia should be explored.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

61. 1 Past experiences have the most meaningful influence on present learning.

2, 3, 4 Although this is a consideration that affects learning, its influence is not as great as past experiences.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 2, Teaching-Learning](#)

62. 3 In the initial stage of grief the degree of anguish experienced is influenced by cultural background.

1 Although these factors enter into the grief process, they are not as important as culture. **2** This is not directly related to a grief response. **4** While past experience is important, it is not as significant as culture.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 1, Culture and Health](#)

63. 1 Without some form of communication there can be no socialization.

2, 3, 4 People interact with other social beings, not with inanimate objects.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 2, Communication; Basic Concepts](#)

64. 1 Feedback permits the client to ask questions and express feelings and allows the nurse to verify client understanding.

2 Medical assessments do not always include nurse-client relationships. **3** Team conferences are subject to all members' evaluations of a client's status. **4** Nurse-client communication should be evaluated by the client's verbal and behavioral responses.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Communication; Basic Concepts](#)

65. 1 When nurses make judgmental remarks and client needs are not placed first, the standards of care are violated and quality of care is compromised.

2 Assessments should be objective, not subjective and biased. **3** There is no information about the client's acuity to come to this conclusion. **4** The statement does not reflect information about complexity of care.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

66. 3 Relaxation of muscles and facial expression are examples of nonverbal behavior; nonverbal behavior is an excellent index of feelings because it is less likely to be consciously controlled.

1 Increased activity may be an expression of anger or hostility. **2** Clients may suppress verbal outbursts despite feelings and become withdrawn. **4** Refusing to talk may be a sign that the client is just not ready to discuss feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

► **67. Answer: 1, 3, 5.**

1 Taking routine vital signs is a universal activity that all nursing assistants (NAs) are taught to perform regardless of the setting; it is within the job description for NAs. **2** NAs do not have the expertise or credentials to apply sterile dressings. **3** Answering call lights is a universal activity that all NAs are taught to perform regardless of the setting; it is within the job description for NAs. **4** NAs do not have the expertise or credentials to administer intravenous solutions. **5** Making an occupied bed is a universal activity that all NAs are taught to perform regardless of the setting; it is within the job description for NAs. **6** NAs do not have the expertise or credentials to document clients' responses.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Leadership and Management, Principles of Leadership](#)

68. 1 Sitting quietly with the client conveys the message that the nurse cares and accepts the client's feelings; this helps to establish trust.

2 This is negating feelings and the client's right to cry when upset. **3** Distraction closes the door on further communication of feelings. **4** After a trusting relationship has been established, the nurse can help the client explore the problem in more depth.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation, **Reference:** [Ch 2, The Nurse-Client Relationship](#)

69. 3 An honest nurse-client relationship should be maintained so that trust can develop.

1, 2 Although other health care team members may need to be informed eventually, the initial action should involve only the nurse and client. **4** This does not promote trust or communication between the client and nurse.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

70. 1 The cause of the alarm should be investigated and appropriate intervention instituted; after the client's needs are met, then other tasks can be performed.

2 An alarm should never be ignored; the client's status takes priority over the change-of-shift report. **3** The diastolic pressure limit has been ordered by the health care provider and should not be changed for the convenience of the nurse. **4** Alarms should always remain on; the alarm indicates that the client's blood pressure has decreased and immediate assessment is required.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Process](#)

71. 3 This addresses the fact that the client's feelings of anxiety are valid.

1, 2 This does not address the client's concerns and may inhibit the expression of feelings. **4** This is irrelevant and does not address the client's concerns.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

72. 1 Orienting the client to the hospital unit provides knowledge that may reduce the strangeness of the environment.

2 This is part of orienting the client to the unit. This alone is not enough when orienting a client to the hospital. **3** This may be false reassurance, because no one can guarantee that there is no reason to be concerned. **4** This implies that staff members are available only if the client has specific questions.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Communication/Documentation;** **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

73. 2 Because of the variety of factors vying for the nurse's time, efficient use of the time available for teaching is essential to meet the standards of care and legal responsibilities of the nurse.

1 The increased awareness and knowledge of health issues by consumers may provide a foundation on which the teaching plan may be built; informed consumerism should be viewed as positive, not negative. **3** Assessing cultural beliefs is part of the initial and continuing assessment of clients; this should not cause additional stress when teaching. **4** Generally, adults are motivated, independent learners, and the nurse teacher should be a facilitator of learning.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, Teaching-Learning](#)

74. 1 The client has the right to make this decision, and the staff should accept the client's wishes.

2 The client is a doctor, and the nurse's statement attacks the client's self-concept. **3** The informality of using first names is not encouraged unless it is the client's choice. **4** The nurse can and should honor the client's request.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

75. 3 This response attempts to open the communication process.

1 Reflecting the words, not the feelings, serves to entrench the communicant's position and does little to open the flow of communication. **2** This shifts the focus away from the client. **4** This is authoritative and closes the flow of communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

76. Answer: 1, 4.

1 Performing a bed bath for a client on bed rest is within the scope of practice of a nursing assistant (NA). **2** Evaluating human responses to medications requires the expertise of a licensed professional nurse. **3** This activity requires a professional nursing judgment to determine whether or not the medication should be administered. **4** This activity does not require professional nursing judgment and is within the job description of NAs. **5** Evaluating human responses to health care interventions requires the expertise of a licensed professional nurse.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Leadership and Management, Principles of Leadership](#)

77. 2 The nurse has demonstrate recognition of the verbalized concern and a willingness to listen.

1 The client did not state this as the diagnosis; this response puts the client on the defensive. **3** Avoiding the question indicates that the nurse is unwilling to listen. **4** This cuts off communication and denies feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

78. 1 The first step in the problem-solving process is data collection so that client needs can be identified. During the initial interview a direct approach obtains specific information such as allergies, current medications, and health history.

2 This approach is too broad because in a nondirective interview the client controls the subject matter. **4** This is premature at the initial visit.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

79. 3 These guidelines govern safe nursing practice; nurses are legally responsible to perform according to these guidelines.

1 This explains what the public can expect from nurses, but it is not used to govern nursing practice. **2, 4** There are no data that indicate this information is necessary.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

80. 1 Privacy may provide an environment that is conducive to the client sharing information about the situation. The client needs to be kept safe; this action ensures additional time for assessment to rule out the possibility of abuse.

2 This is premature; further assessment is needed to determine if it is necessary to notify the

appropriate agency. **3** This will form a separate relationship with the adult child, which is not in the client's best interest. **4** This is inappropriate; this situation presents a legal, not ethical, issue.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

►81. Answer: **1, 2, 4.**

1 Eye contact indicates to the client that the nurse is listening and interested. **2** Paraphrasing is an effective interviewing technique; it indicates to the client that the message was heard and invites the client to elaborate further. **3** This can be threatening to the client, who may not have the answer to these questions. **4** Open-ended statements provide a milieu in which people can verbalize their problems rather than be placed in a situation of providing a forced response. **5** False reassurance is detrimental to the nurse-client relationship and does not promote communication. **6** Direct questions do not open or promote communication.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

82. 2 Nurses must identify their own feelings and prejudices because these may affect the ability to provide objective, nonjudgmental nursing care.

1 Exploring a client's emotional well-being can be accomplished only after the nurse works through one's own feelings. **3** The focus should be on the client, not the family. **4** Health team members should work together for the benefit of all clients, not just this client.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

83. 2 Hypersensitivity can produce an anaphylactic reaction with edema of the respiratory system, resulting in respiratory obstruction, respiratory arrest, and asphyxia.

1 This is unrelated to anaphylaxis. **3** This is associated with excessive exercise. **4** In an anaphylactic reaction the blood pressure decreases, not increases.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 2, Medication Administration, Drug Effects](#)

►84. Answer: **2, 3.**

1 Personal protective equipment (PPE) is not required because the nurse is not in contact with body secretions. **2** PPE should be used because the newborn is covered with amniotic fluid and maternal blood. **3** PPE should be used because the nurse may be exposed to blood and fluid that are contained in the portable wound drainage system. **4** PPE is not necessary when conducting an interview because it is unlikely that the nurse will come in contact with the client's body fluids. **5** PPE is not necessary when obtaining the blood pressure of a client, even if the client is HIV positive.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients at Risk for Infection, Table 3-1 Precautions to Prevent the Spread of Microorganisms](#)

85. 4 Agency policy determines procedures; if the procedure is out of date or problematic, the nurse should contact the health care provider for a change in the order.

1, 3 The nurse cannot use another product without a health care provider's order. **2** The nurse will be risking liability if agency policy is not followed unless the order is changed by the health care provider.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

►86. Answer: **4, 2, 3, 1, 5.**

4 The first action should be to remove the victim from the source of further injury. **2** After further injury is avoided, reestablishing breathing becomes the priority. **3** Applying pressure to stop the bleeding becomes the priority after breathing has been reestablished. **1** The next step is to objectively evaluate the victim's responses to the crisis and the care. **5** Transportation to the hospital can occur after the client has been physically stabilized.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 3, Emergency Situations, Concepts Related to First Aid](#)

87. 2 The goal in a disaster, when need exceeds resources, is to benefit the largest number of people; helping those who need less care first benefits the largest number because they become available to help others.

1, 3, 4 This is not the priority in a disaster.

Client Need: Safety and Infection Control; **Cognitive Level:** Knowledge; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 3, Emergency Situations, Concepts Related to First Aid](#)

88. 4 Studies have demonstrated that people from China, Greece, and Ethiopia view honesty about diagnosis and prognosis as heartless, unnecessary, and even harmful to the client; usually family members from these cultures decide what is most appropriate to share with the client.

1, 2 This information is not relevant when caring for a dying client. **3** Based on the client's culture, this question should not be asked because the family will be making the decision about what medical information the client should be given.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Concepts from Sociology](#)

89. 4 The nurse's presence communicates concern and provides an opportunity for the client to initiate communication; silence is an effective interpersonal technique that permits the client to direct the content and extent of verbalizations without the nurse imposing on the client's privacy.

1 Crying, part of depression, usually ceases when the individual reaches acceptance. **2** During acceptance the client may decide not to have visitors, preferring time for reflection. **3** Detached from the environment, the client may find that the details of various procedures lose significance.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Grieving Process](#)

90. 4 Seeking other opinions to disprove the inevitable is a form of denial employed by individuals having illnesses with a poor prognosis.

1 If the client is crying, the client is aware of the magnitude of the situation and is past the stage of denial. **2** Criticism that is unjust is often characteristic of the stage of anger. **3** This is most common during the depression experienced as one moves toward acceptance or during the acceptance stage.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 1, Grieving Process](#)

91. 1 Bargaining is one of the stages of grieving, in which the client promises some type of desirable behavior to postpone the inevitability of death.

2 Frustration is a subjective experience, a feeling of being thwarted, but it is not one of the stages of grieving. **3** Classified as the fourth stage of grieving, depression represents the grief experienced

as the individual recognizes the inescapability of fate. **4** Rationalization is a defense mechanism in which attempts are made to justify or explain an unacceptable action or feeling; it is not a stage of the grieving process.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 1, Grieving Process](#)

92. 2 Detachment is a coping mechanism that the client needs, especially when faced with the inevitability of death; the nurse should accept this behavior.

1 Ignoring the behavior does not convey a willingness to listen and denies the client's feelings. **3** The client is in acceptance. It is unnecessary to point out the reality of the situation. **4** It is counterproductive to encourage the client to become involved with the environment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 1, Grieving Process](#)

93. 3 This is truthful and provides basic information that may prompt recollection of what occurred; it is a starting point.

1 This ignores the client's question; avoidance may increase anxiety. **2** This ignores the client's question; the frustration of trying to remember will increase anxiety. **4** This is too blunt for the initial response to the client's question; the client may not be ready to hear this at this time.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Communication/Documentation:** **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

94. 2 This response demonstrates that the nurse cares about the client and will have time for the client's special emotional needs. This approach allays anxiety and reduces emotional stress.

1 This indicates that the nurse's other tasks are more important than the client's needs. **3** This is false reassurance and not therapeutic. **4** This does not respond to the client's need and cuts off communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Communication/Documentation:** **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

95. 1 At this time the client is using this behavior as a defense mechanism. Acceptance can be an effective interpersonal technique, since it is nonjudgmental. Eventually, limits may need to be set to address the behavior if it becomes more aggressive or hostile.

2 During periods of overt hostility, perceptions are altered, making it difficult for the client to evaluate the situation rationally. **3** Withdrawal signifies nonacceptance and rejection. **4** The staff may be the target of a broad array of emotions; by focusing on only behaviors that affect the staff, the full scope of the client's feelings are not considered.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

96. 3 This response promotes an exploration of the client's dilemma; it encourages further communication.

1 Although this is true, this response is not supportive and abandons the client. **2, 4** It is inappropriate for the nurse to give advice.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Communication/Documentation:** **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse-Client Relationship](#)

97. 2 Communication is important in relieving anxiety and reducing stress.

- 1** This does not acknowledge the client's feelings and does not address the source of the anxiety. **3** Learning is limited when anxiety is too high. **4** The focus should be on the client, not others. Reassurance may cut off communication and deny emotions.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, The Nurse-Client Relationship
- 98. 3 Because of the profound effect of paralysis on body image, the nurse should foster an environment that permits exploration of feelings without judgment, punishment, or rejection.**
1 Attempts to distract the client may be interpreted as denial of the client's feelings and will not resolve the underlying problem. **2, 4** This is an important part of nursing care, but it is not related to the client's feelings.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, The Nurse-Client Relationship
- 99. 2 The nurse should identify clues to a client's anxiety and encourage verbalization of feelings.**
1, 4 This response negates the client's feelings and presents a negative connotation. **3** This response focuses on the task rather than on the client's feelings.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, The Nurse-Client Relationship
- 100. 4 This question may validate the client's understanding; the response may indicate the need for further teaching or that the client understands; understanding and accepting the need for restrictions will increase adherence to the diet.**
1 Assessing the client's food preferences and teaching about diets follow an assessment of the client's understanding about the need for a specific diet; the client must understand the need for and the benefits of the diet before there is a readiness for learning. **2, 3** This is an authoritarian approach that should be avoided.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 2, Teaching-Learning
- 101. 1 The nurse should assess the situation before planning an intervention.**
2 This minimizes concerns and cuts off communication. **3** This is premature; more information is needed. **4** The nurse needs more information; pulling the curtain may make the client feel isolated, which may increase anxiety.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 2, Nursing Process
- 102. 1 This statement is open-ended and encourages the client to verbalize concerns.**
2, 4 This cuts off communication. **3** Nothing in the situation indicates that surgery is planned; this response may increase anxiety.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, The Nurse-Client Relationship
- 103. 4 A portable wound drainage system has negative pressure; a nurse must ensure that the collection chamber is compressed so that fluid flows down the pressure gradient from the client to the collection device.**
1 This is Newton's law of gravity, which is not the physical principle underlying the functioning of a

portable wound drainage system. **2, 3** Although true, this is not what causes the fluid to drain in a portable wound drainage system

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)

104. 4 Release of adrenocortical steroids (cortisol) by the stress of surgery causes renal retention of sodium and excretion of potassium.

1 Although sodium may be depleted by nasogastric suction, retention by the kidneys generally balances this loss. **2, 3** This is not depleted by surgery or urinary excretion.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Acid-Base Balance](#)

▶**105. Answer: 1, 2, 6.**

1 Clean gloves should be worn to check the IV site because there is a risk of coming into contact with the client's blood. **2** Ensuring that the medication is mixed is important. Rotating the bag is one way, although there are others. **3** The amount and type of solution depend on the medication. **4** The needle does not have to be changed if sterility is maintained. **5** The IVPB should be hung higher, not lower, than the existing bag. **6** Because IV solutions enter the body's internal environment, all solutions and medications using this route must be sterile to prevent the introduction of microbes.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

106. 3 Hypotonic solutions are less concentrated (contain less than 0.85 g of sodium chloride in each 100 mL) than body fluids.

1 Isotonic solutions are those that cause no change in the cellular volume or pressure, because their concentration is equivalent to that of body fluid. **2** This relates to two compounds that possess the same molecular formula but that differ in their properties or in the position of atoms in the molecules (isomers). **4** Hypertonic solutions contain more than 0.85 g of solute in each 100 mL.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, Fluid and Electrolyte Balance](#)

107. 2 Because of fluid overload in the intravascular space, the neck veins become visibly distended.

1, 3 This occurs with a fluid deficit. **4** If sodium causes fluid retention, its concentration is unchanged; if fluid is retained independently of sodium, its concentration is decreased.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems](#)

108. 2 Skin elasticity will decrease because of a decrease in interstitial fluid.

1 The pulse rate will increase to oxygenate the body's cells. **3** Specific gravity will increase because of the greater concentration of waste particles in the decreased amount of urine. **4** The temperature will increase, not decrease.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

109. 2 Dehydration is most readily and accurately measured by serial assessments of body weight; 1 L of fluid weighs 2.2 lb.

1 Although dry skin may be associated with dehydration, it also is associated with aging and some

disorders (e.g., hypothyroidism). **3** Although hypovolemia will eventually result in a decrease in blood pressure, it is not an accurate, reliable measure because there are many other causes of hypotension. **4** This is too general and not an objective determination of fluid volume deficit.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

110. 3 Increased respirations blow off carbon dioxide (CO₂), which decreases the hydrogen ion concentration and the pH increases (less acidity). Decreased respirations result in CO₂ buildup, which increases hydrogen ion concentration and the pH falls (more acidity). The kidneys either conserve or excrete bicarbonate and hydrogen ions, which helps to adjust the body's pH. The buffering capacity of the renal system is greater than that of the pulmonary system, but the pulmonary system is quicker to respond.

1, 4 These systems do not maintain the pH. **2** Although the circulatory system carries fluids and electrolytes to the kidneys, it does not interact with the urinary system to regulate plasma pH.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

111. 1 Blood plasma and interstitial fluid are both part of the extracellular fluid and are of the same ionic composition.

2 The osmotic pressure is the same. **3** The composition is the same. **4** The main cation of both extracellular fluids is sodium.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

112. 2 Interstitial fluid constitutes about 16% of body weight, which is 10 to 12 L in an adult male of 68 kg (150 lb).

1 Plasma is 4% of body weight. **3** Dense tissue is part of the intracellular component. **4** Body secretions are derived from extracellular fluid and are calculated as part of the 20% of the total body weight.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

113. 4 The concentration of potassium is greater inside the cell and is important in establishing a membrane potential, a critical factor in the cell's ability to function.

1 Sodium is the most abundant cation of the extracellular compartment, not the intracellular compartment. **2** Calcium is the most abundant electrolyte in the body; 99% is concentrated in the teeth and bones, and only 1% is available for bodily functions. **3** Chloride is an extracellular, not intracellular, anion.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

114. 2 The excreted ammonia combines with hydrogen ions in the glomerular filtrate to form ammonium ions, which are excreted from the body. This mechanism helps rid the body of excess hydrogen, maintaining acid-base balance.

1, 4 This is not affected by excretion of ammonia. **3** Ammonia is formed by the decomposition of bacteria in the urine; ammonia excretion is not related to the process and does not control bacterial levels.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

115. 1 Excess fluid can move into the lungs, causing crackles; clear breath sounds support that

treatment was effective.

2 While it may make palpation more difficult, excess fluid will not diminish pedal pulses. **3** A normal potassium level can be maintained independently of fluid excess correction. **4** As the client excretes excess fluid, the urine specific gravity will decrease, not increase.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Acid-Base Balance](#)

116. 4 Because the plasma colloidal oncotic pressure (COP) is the major force drawing fluid from the interstitial spaces back into the capillaries, a drop in COP caused by albuminuria results in edema.

1 Hydrostatic tissue pressure is unaffected by alteration of protein levels; colloidal pressure is affected. **2** Hydrostatic pressure is influenced by the volume of fluid and the diameter of the blood vessel, not directly by the presence of albumin. **3** The osmotic pressure of tissues is unchanged.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

117. 4 Albumin is hypertonic and will draw additional fluid from the tissues into the intravascular space.

1 This will absorb the watery diarrhea, giving more bulk to the stool. **2** This is appropriate because diarrhea causes potassium loss. **3** This is a hypotonic solution, which can correct dehydration.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Acid-Base Balance](#)

118. 2 Sodium bicarbonate is a base and one of the major buffers in the body.

1 Potassium, a cation, is not a buffer; only a base can buffer an acid. **3** Carbon dioxide is carried in aqueous solution as carbonic acid (H_2CO_3); an acid does not buffer another acid. **4** Sodium chloride is not a buffer; it is a salt.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

119. 3 Gastric lavage causes an excessive loss of gastric fluid, resulting in excessive loss of hydrochloric acid (HCL) that can lead to alkalosis; the HCL is not available to neutralize the sodium bicarbonate (NaHCO_3) secreted into the duodenum by the pancreas. The intestinal tract absorbs the excess bicarbonate, and alkalosis results.

1 Gastric lavage will lead to alkalosis, which is associated with increased pH. **2** Gastric lavage will not affect oxygen levels. **4** Gastric lavage may lead to dehydration, which will increase osmotic pressure.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Acid-Base Balance](#)

120. 1 The pH of blood is maintained within the narrow range of 7.35 to 7.45. When there is an increase in hydrogen ions, the respiratory, buffer, and renal systems attempt to compensate to maintain the pH. If compensation is not successful, acidosis results and is reflected in a lower pH.

2, 3 This is within the acceptable range for pH. **4** This is slightly alkaline.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Acid-Base Balance](#)

121. 3 One of the kidneys' functions is to eliminate potassium from the body; diseases of the kidneys often interfere with this function, and hyperkalemia may develop, necessitating dialysis.

1 Clients with Crohn disease have diarrhea, resulting in potassium loss. **2** Clients with Cushing disease will retain sodium and excrete potassium. **4** Clients with gastroesophageal reflux disease

are prone to vomiting that may lead to sodium and chloride loss with minimal loss of potassium.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 3, Acid-Base Balance

122. 2 Vital signs monitor cardiorespiratory status; hyperkalemia causes cardiac dysrhythmias.

The health care provider should be notified because medical intervention may be necessary.

1 A repeat laboratory test will take time and probably reaffirm the original results; the client needs immediate attention. **3** The cardiac arrest team is always on alert and will respond when called for a cardiac arrest. **4** These are insufficient interventions.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 3, Acid-Base Balance

▶**123. Answer: 3, 4, 5.**

1 Tetany is caused by hypocalcemia. **2** Seizures caused by electrolyte imbalances are associated with low calcium or sodium levels. **3** Because of potassium's role in the sodium/potassium pump, hyperkalemia will cause diarrhea. **4** Because of potassium's role in the sodium/potassium pump, hyperkalemia will cause weakness. **5** Because of potassium's role in the sodium/potassium pump, hyperkalemia will cause cardiac dysrhythmias.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 3, Acid-Base Balance

124. 3 Once treatment with insulin for diabetic ketoacidosis is begun, potassium ions reenter the cell, causing hypokalemia; therefore, potassium, along with the replacement fluids, is needed.

1 Potassium will not correct hyperpnea. **2** Flaccid paralysis does not occur in diabetic ketoacidosis. **4** Considering the relationship between insulin and potassium, treatment with KCl is prophylactic, preventing the development of dysrhythmias.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Nursing Process: Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

▶**125. Answer: 495 mL.** Intake includes 350 mL of IV fluid, 600 mL of NGT feeding, and 150 mL of water via NGT, for a total intake of 1100 mL; output includes voidings of 150, 220, and 235 mL, for a total output of 605 mL. Subtract 605 mL from 1100 mL for a difference of 495 mL.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

126. 3 The liver manufactures albumin, the major plasma protein. A deficit of this protein lowers the osmotic (oncotic) pressure in the intravascular space, leading to a fluid shift.

1 An enlarged liver compresses the portal system, causing increased, rather than decreased, pressure. **2** The kidneys are not the primary source of the pathologic condition. It is the liver's ability to manufacture albumin that maintains the colloid oncotic pressure. **4** Potassium is not produced by the body, nor is its major function the maintenance of fluid balance.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 3, Fluid and Electrolyte Balance

127. 2 An infusion of dextrose in water does not provide proteins required for tissue growth, repair, and maintenance; therefore, tissue breakdown occurs to supply the essential amino acids.

1 Each liter provides approximately 170 calories, which is insufficient to meet minimal energy requirements; tissue breakdown will result. **3** Weight loss is caused by insufficient nutrient intake; vitamins do not prevent weight loss. **4** An infusion of 5% dextrose in water may decrease

electrolyte concentration.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

►128. **Answer: 31 drops per minute.** Use the following formula to solve the problem.

$$\text{Drops per minute} = \frac{\text{total volume in drops}}{\frac{(\text{total mL} \times \text{drop factor})}{\text{total time in minutes (hours} \times 60)}}$$

$$\begin{aligned}\text{Drops per minute} &= \frac{1000 \text{ mL} \times 15}{8 \times 60} = \frac{15,000}{480} = 31.25 \\ &= 31 \text{ gtts/min}\end{aligned}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

129. **2 Hyperventilation causes excessive loss of carbon dioxide, leading to carbonic acid deficit and respiratory alkalosis.**

1 Cardiac arrest is unlikely; the client may experience dysrhythmias but will lose consciousness and begin breathing regularly. **3** Hyperventilation causes alkalosis; the pH is increased. **4** This cannot occur; the usual oxygen saturation of hemoglobin is 95% to 98%.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Acid-Base Balance

►130. **Answer: 950 mL.**

The client received 150 mL from the first bag, 200 mL from IVPBs, and 600 mL from the current bag. The sum of these volumes is 950 mL.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 3, General Nursing Care of Clients With Fluid and Electrolyte Problems

131. **1 A low pH and low bicarbonate level are consistent with metabolic acidosis.**

2, 4 The pH indicates acidosis. **3** The CO₂ concentration is within normal limits, which is inconsistent with respiratory acidosis; it is elevated with respiratory acidosis.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 3, Acid-Base Balance

132. **4 The high pH and low carbon dioxide level are consistent with respiratory alkalosis, which can be caused by mechanical ventilation that is too aggressive.**

1 Airway obstruction causes carbon dioxide buildup, which leads to respiratory acidosis. **2** Inadequate nutrition causes excess ketones, which can lead to metabolic acidosis. **3** Prolonged gastric suction causes loss of hydrochloric acid, which can lead to metabolic alkalosis.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 3, Acid-Base Balance

133. 2 When albumin is administered slowly and oral fluid intake is restricted, fluid moves from the interstitial spaces into the circulatory system so it can be eliminated by the kidneys.

Administration should not exceed 5 to 10 mL/min.

1 Oral fluids are restricted to facilitate the optimal effects of the albumin, which shifts fluids from the interstitial spaces to the intravascular compartment. **3** Rapid administration may cause circulatory overload; fluid is restricted, not withheld. **4** Rapid administration may cause circulatory overload; unrestricted fluid intake will limit the shift of fluid from the interstitial to the intravascular compartment, interfering with the optimal effects of the albumin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

134. 4 Serum albumin, a protein, establishes the plasma colloid osmotic (oncotic) pressure because of its high molecular weight and size.

1 Blood clotting involves blood protein fractions other than albumin; for example, prothrombin and fibrinogen are within the alpha- and beta-globulin fractions. **2** Red blood cell formation (erythropoiesis) occurs in red marrow and can be related to albumin only indirectly; albumin is the blood transport protein for thyroxine, which stimulates metabolism in all cells, including those in red bone marrow. **3** Albumin does not activate white blood cells; WBCs are activated by antigens and substances released from damaged or diseased cells.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Fluid and Electrolyte Balance

135. 4 After 24 hours there is increased risk for contamination of the solution and the bag should be changed.

1, 2, 3 It is unnecessary to change the bag this often.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

136. 2 Infiltration is caused by catheter displacement, allowing fluid to leak into the tissues.

1 This will affect the flow rate, not cause infiltration. **3** This can lead to infection and phlebitis, not infiltration. **4** This can lead to phlebitis, not infiltration.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

►**137. Answer: 2, 3, 4.**

1 Heat is associated with phlebitis; the accumulation of room temperature IV fluid in the tissue makes the site feel cool. **2** The accumulation of fluid in the tissues between the surface of the skin and the blood vessels makes the skin appear pale. **3** The accumulation of fluid in the interstitial compartment causes swelling. **4** As the needle/catheter is dislodged from the vein, the drip rate of the IV slows or ceases. **5** This is a sign of circulatory overload; when an IV infusion has infiltrated, the intravascular fluid volume does not increase.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

138. 2 When an IV infusion infiltrates, it should be removed to prevent edema and pain.

1 Elevation does not change the position of the IV cannula; the infusion must be discontinued. **3** This will add to the infiltration of fluid. **4** Soaks may be applied, if ordered, after the IV cannula is removed.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems](#)

▶**139. Answer: 167 mL/hr.** Electronic infusion control devices require a nurse to set the rate (mL/hr) and volume to be infused. Solve the problem by dividing the total milliliters to be infused by the number of hours of the infusion. $2000 \div 12 = 166.66$. Most agencies will round this to a whole number (167), but some devices can be set to the nearest tenth (166.7), so the nurse should check agency policy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems](#)

140. 1 Hypokalemia causes a flattening of the T wave on an electrocardiogram, as observed on the monitor, because of its effect on muscle function.

2 Hypokalemia causes a depression of the ST segment. **3** Hypokalemia causes a widening of the QRS complex. **4** Hypokalemia does not cause a deflection of the Q wave.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Fluid and Electrolyte Balance](#)

141. 1 Potassium follows insulin into the cells of the body, thereby raising the intracellular potassium level and preventing fatal dysrhythmias.

2 Insulin does not cause excretion of these substances. **3** Potassium is not excreted as a result of this therapy; it shifts into the intracellular compartment. **4** The potassium level has no effect on pancreatic insulin production.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems](#)

142. 4 Hypokalemia diminishes the magnitude of the neuronal and muscle cell resting potentials. Abdominal distention results from flaccidity of intestinal and abdominal musculature.

1 Edema is a sign of sodium excess. **2** Muscle spasms are a sign of hypocalcemia. **3** Kussmaul breathing is a sign of metabolic acidosis.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Fluid and Electrolyte Balance](#)

▶**143. Answer: 38 drops per minute.** Solve the problem by using the following formula:

$$\text{Drops per minute} = \frac{\text{total number of drops}}{\text{total time in minutes}}$$

$$\text{Drops per minute} = \frac{50 \text{ mL} \times 15 \text{ (drop factor)}}{20 \text{ minutes}} = \frac{750}{20} = 37.5$$

Round the answer to 38 drops per minute.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Fluid and Electrolyte Problems

144. **1 Clients and their families need to maintain honest, open interpersonal communication so that concerns can be shared and future problems addressed.**

2 While an understanding of the disease is important, details will not assist the significant other in maintaining an active, caring role. 3 The spouse may want to know this, but it will not help meet the needs of both the spouse and the client. 4 Although this should be done, it does not address the spouse's immediate concern.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Neoplastic Disorders

145. **1 This recognizes and acknowledges the client's concerns without assuming a specific feeling is involved; it allows the client to set the framework for discussion and express self-identified feelings.**

2 This is an assumption by the nurse; the client's statement is not specific enough to come to this conclusion. 3, 4 This avoids the client's concerns and cuts off communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Neoplastic Disorders

146. **1 People in panic may initiate a group panic reaction even in those who appear to be in control.**

2 Comatose individuals will not cause panic in others. 3 Euphoric individuals will not adversely affect others. 4 Depressed people will be quiet and not affect others.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Emergency Situations, Concepts Related to First Aid

147. **1 Core rewarming with heated oxygen and administration of warmed oral or intravenous fluids is the preferred method of treatment.**

2 The client will be too weak to ambulate. 3 Oral temperatures are not the most accurate assessment of core temperature because of environmental influences. 4 Warmed oral feedings are advised; gavage feedings are unnecessary.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Specific Emergencies

148. **3 Clothing retains body heat; clothing must be removed before other cooling methods are employed to reduce body temperature.**

1 Offering fluids is contraindicated because the client is unresponsive. 2 There are no data to indicate a need for suctioning. 4 Although intubation may become necessary, it is not the initial action.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Emergency Situations, Specific Emergencies

149. **3 The high osmotic pressure of the salt water draws fluid from the vascular space into the alveoli, causing hypovolemia.**

1, 2, 4 This involves aspiration of hypotonic freshwater, which causes fluid to move into the vascular system, leading to fluid overload.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Emergency Situations, Specific Emergencies](#)

▶150. Answer: **2, 4.**

1 Fever may not cause difficult breathing. **2** Increased body heat dilates blood vessels, causing a flushed face. **3** Pain is not related to fever. **4** The pulse rate increases to meet increased tissue demands for oxygen in the febrile state. **5** Blood pressure is not expected to increase with fever.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, General Nursing Care of Clients at Risk for Infection](#)

151. 2 The client who is prescribed bed rest must exercise the legs; dorsiflexion of the feet prevents venous stasis and thrombus formation.

1 Limiting fluid intake may lead to hemoconcentration and subsequent thrombus formation. **3** This improves pulmonary function but does not prevent venous stasis. **4** This is unsafe because it promotes venous stasis by compressing the popliteal space.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care for Clients during the Postoperative Period](#)

152. 1 Paralysis of the sympathetic vasomotor nerves after administration of a spinal anesthetic results in dilation of blood vessels, which causes a subsequent decrease in blood pressure.

2 These receptors are sensitive to pH, oxygen, and carbon dioxide tension; they are not related to hypotension and are not affected by spinal anesthesia. **3** The strength of cardiac contractions is not affected by spinal anesthesia. **4** The cardiac accelerator center neurons in the medulla regulate heart rate; they are not related to hypotension and are not affected by spinal anesthesia.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Related Pharmacology, Local Anesthetics](#)

153. 2 Clients adapting to illness frequently feel afraid and helpless and strike out at health team members as a way of maintaining control or denying their fear.

1 There is no evidence that the client denies the existence of the health problem. **3** Although disorders such as brain attacks and atherosclerosis, which are associated with hypertension, may lead to cerebral anoxia, there is insufficient evidence to support this conclusion. **4** Captopril (an antihypertensive) is a renin-angiotensin antagonist that reduces blood pressure and does not cause behavioral changes; alprazolam is prescribed to reduce anxiety.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 1, Grieving Process](#)

154. 1 The client and significant family members should be included in dietary teaching; families provide support that promotes adherence.

2 The client has already received this information. **3** This could violate confidentiality. The client should be involved in his or her own care; the client will ultimately assume the responsibility. **4** The dietitian is a resource person who can give specific, practical information about diet and food preparation once there is a basic understanding of the reasons for the diet.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Teaching-Learning](#)

155. 3 Individuals born after 1957 should receive one additional dose of measles, mumps, and

rubella (MMR) vaccine if they are students in postsecondary educational institutions.

1 Currently there is no vaccine for hepatitis C. **2** The influenza B (HIB) immunization is unnecessary. **4** If the student received an additional tetanus/diphtheria vaccine (DTaP) at age 12, it is not necessary. A booster dose of tetanus toxoid (Td) should be received every 10 years.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Review of Physiology (Immunity)

156. 4 The Centers for Disease Control and Prevention recommend that adults be immunized with pneumococcal vaccine at age 65 or older with a single dose of the vaccine; if the pneumococcal vaccine was received before 65 years of age or if there is the highest risk of fatal pneumococcal infection, revaccination should occur 5 years after the initial vaccination.

1 The pneumococcal vaccine should not be administered every 2 years. **2, 3** The pneumococcal vaccine should not be administered annually.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Infection, Review of Physiology (Immunity)

157. 2 The gamma-globulin fraction in the plasma is the fraction that includes the antibodies.

1 Albumin helps regulate fluid shifts by maintaining plasma oncotic pressure. **3** Thrombin is involved with clotting. **4** Hemoglobin carries oxygen.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 3, Infection, Review of Physiology (Immunity)

158. 4 Gamma globulin, which is an immune globulin, contains most of the antibodies circulating in the blood. When injected into an individual, it prevents a specific antigen from entering a host cell.

1, 3 Gamma globulin does not stimulate antibody production. **2** This does not affect antigen-antibody function.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 3, Infection, Review of Physiology (Immunity)

159. 3 Human tetanus antitoxin (tetanus immune globulin [TIG]) provides antibodies against tetanus; it is used for the individual who may be infected and has never received tetanus toxoid or has not received it for more than 10 years. It confers passive immunity.

1 Administration of the tetanus toxoid (Td) will produce active, not passive, immunity. **2** Although equine tetanus antitoxin provides passive immunity, the risk for a hypersensitivity reaction is high and therefore TIG is preferred. **4** Diphtheria, tetanus, pertussis (DTaP) vaccine produces active, not passive, immunity; in addition, DTaP usually is not given to adults.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Infection, Review of Physiology (Immunity)

160. 2 Tetanus antitoxin provides antibodies, which confer immediate passive immunity.

1 Antitoxin does not stimulate production of antibodies. **3** It provides passive, not active, immunity. **4** Passive immunity, by definition, is not long-lasting.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Infection, Review of Physiology (Immunity)

161. 3 After a submucosal resection (SMR), hemorrhage from the area should be suspected if the client is swallowing frequently or expelling blood with saliva.

- 1** A headache in the back of the head is not a complication of a submucosal resection. **2** Crepitus is caused by leakage of air into tissue spaces; it is not an expected complication of SMR. **4** The nerves and structures involved with speech are not within the operative area. However, the sound of the voice is altered temporarily by the presence of nasal packing and edema.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)
- 162. 4 Additional fluid from surrounding tissues will be drawn into the lung because of the high osmotic pressure exerted by the salt content of the aspirated ocean water; this results in pulmonary edema.**
- 1** Hypoxia and acidosis may occur after a near-drowning. **2** This is not a sequela of near-drowning. **3** Hypovolemia occurs because fluid is drawn into the lungs by the hypertonic saltwater.
Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Emergency Situations, Specific Emergencies](#)
- 163. 4 This minimizes pooling of respiratory secretions and maximizes chest expansion, which aids in the removal of secretions; this helps maintain the airway and is an independent nursing function.**
- 1, 2** This is part of pulmonary therapy that requires a health care provider's order. **3** This will remove secretions once they accumulate in the upper airway, not prevent their accumulation.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)
- 164. 2 Turning the client to the side promotes drainage of secretions and prevents aspiration, especially when the gag reflex is not intact. This position also brings the tongue forward, preventing it from occluding the airway when it is in the relaxed state.**
- 1** The risk for aspiration is increased when this position is assumed by a semialert client. **3** This may cause the neck to flex in a client who is not alert, interfering with respirations. **4** This position is not used for a postoperative client because it interferes with breathing.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)
- 165. 3 Maintenance of a patent airway is always the priority, because airway obstruction impedes breathing and may result in death.**
- 1, 2, 4** This is important postoperative care; however, a patent airway is the priority.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)
- 166. 2 During radiation therapy with radium implants the client is placed in isolation so that exposure to radiation by family and staff is decreased.**
- 1** This is unnecessary; a full bladder will not disrupt the seeds. **3** Excess exposure to radiation is hazardous to personnel. **4** Gloves will not protect the nurse from radiation.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, Radiation](#)
- 167. 2 The nurse should anticipate drainage and reinforce the surgical dressing as needed.**

1 Changing a dressing at this time is unnecessary and increases the risk for infection. **3** Montgomery ties are used when frequent dressing changes are anticipated; they are not appropriate at this time. **4** An abdominal binder is rarely ordered, and it will interfere with assessment of the dressing at this time.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)

▶168. **2 Paralytic ileus occurs when neurologic impulses are diminished as a result of anesthesia, infection, or surgery.**

1 Interference in blood supply will result in necrosis of the bowel. **3** Perforation of the bowel will result in pain and peritonitis. **4** Obstruction of the bowel will initially cause increased peristalsis and bowel sounds.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)

▶169. Answer: **1, 3.**

1 Ambulation will stimulate peristalsis, increasing passage of flatus and decreasing distention. **2** Carbonated beverages such as ginger ale increase flatulence and should be avoided. **3** Monitoring bowel sounds is important because it provides information about peristalsis. **4** Using a straw should be avoided because it causes swallowing of air, which increases flatulence. **5** Opioids will slow peristalsis, contributing to increased distention.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)

▶170. Answer: **4, 5.**

1 Diplopia does not indicate an electrolyte deficit. **2** A skin rash does not indicate an electrolyte deficit. **3** Leg cramps occur with potassium excess, not deficit. **4** Potassium, the major intracellular cation, functions with sodium and calcium to regulate neuromuscular activity and contraction of muscle fibers, particularly the heart muscle; tachycardia is associated with hypokalemia. **5** Hypokalemia is associated with diarrhea. Muscle weakness occurs with hypokalemia because of the alteration in the sodium potassium pump mechanism.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Fluid and Electrolyte Balance](#)

▶171. Answer: **2, 4.**

1 A change in status does not require medication reconciliation. **2** Medication reconciliation involves the creation of a list of all medications the client is taking and comparing it to the health care provider's orders on admission. **3** A medication reconciliation should be completed long before this time. **4** Medication reconciliation involves the creation of a list of all medications the client is taking and comparing it to the health care provider's orders when there is a transfer to a different setting or service, and/or discharge. **5** Total hip replacement is elective surgery, and scheduling takes place before admission; medication reconciliation takes place when the client is admitted.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, Nursing Responsibilities Related to Medication Administration](#)

▶172. Answer: **1, 2.**

1 Ibuprofen (Motrin, Advil) irritates the gastrointestinal (GI) mucosa and can cause mucosal erosion, resulting in bleeding; blood in the stool (melena) occurs as the digestive process acts on the blood in the upper GI tract. **2** Hemoglobin, which carries oxygen to body cells, is decreased with anemia; the heart rate increases as a compensatory response to increase oxygen to body cells. **3** Constipation usually is related to immobility, a low-fiber diet, and inadequate fluid intake, not the data listed in this situation. **4** Clay-colored stools are related to biliary problems, not GI bleeding. **5** Painful bowel movements are related to hemorrhoids, not GI bleeding.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Pain, Related Pharmacology](#)

173. 1 The Nurse Practice Act states that the nurse will do health teaching and administer nursing care supportive to life and well-being.

2 The teaching was essential before discharge. **3** The client is responsible for self-care. **4** Health teaching is an independent nursing function.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)

174. 2 Unwashed hands are considered contaminated and are used to turn on sink faucets. Recontamination of washed hands may be prevented by using foot pedals or a paper towel barrier when closing the faucets.

1 They are not considered contaminated for this reason; areas cannot be sterile. **3** It is unrelated to the number of people but rather to being touched by contaminated hands. **4** Although bacterial growth is facilitated in moist environments, this is not why sink faucets are considered contaminated.

Client Need: Safety and Infection Control; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Infection, Review of Microbiology](#)

175. 4 Friction is necessary for the removal of microorganisms.

1 Although soap reduces surface tension, which helps remove debris, without friction it has minimal value. **2** Although the length of time the hands are washed is important, without friction it has minimal value. **3** Although water flushes some microorganisms from the skin, without friction it has minimal value.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients at Risk for Infection](#)

176. 4 When a sterile surface becomes wet, microorganisms from the unsterile surface below the sterile field will be drawn up, contaminating the sterile field. The absorption of fluids by gauze results from the adhesion of water to the gauze threads; the surface tension of water causes contraction of the fiber, pulling fluid up the threads.

1 Dialysis is separation of substances in solution utilizing their differing rates of diffusion through a membrane. **2** Osmosis refers to movement of water through a semipermeable membrane. **3** Diffusion is movement of molecules from a high to a low concentration.

Client Need: Safety and Infection Control; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients at Risk for Infection](#)

177. 1 Surgical asepsis means that practices are employed to keep a defined site or objects free of all microorganisms.

2, 3 This applies to personal protective equipment and medical asepsis. **4** This applies to medical asepsis.

- Client Need:** Safety and Infection Control; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients at Risk for Infection](#)
178. **4 This covering will not adhere to the wound, and it will protect the area until the health care provider arrives.**
- 1, 2** This is not the priority; the client has needs that must be met first. **3** This is contraindicated because it may injure delicate tissues and organs; also it is not within the scope of nursing practice.
- Client Need:** Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)
179. **4 A portable wound drainage system (e.g., Jackson-Pratt, Hemovac) is compressed before closing the port to reestablish the negative pressure necessary for suction.**
- 1** This is not necessary; a portable wound drainage system usually removes excess drainage before it leaks onto the dressing. **2** Portable wound drainage systems are not irrigated because this will increase the risk of instilling microorganisms into the wound. **3** The nurse should avoid touching the port because it is sterile.
- Client Need:** Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)
180. **4 Vitamin C (ascorbic acid [Ascorbicap]) plays a major role in wound healing. It is necessary for the maintenance and formation of collagen, the major protein of most connective tissues.**
- 1** Vitamin A (Aquasol A) is important for the healing process; however, vitamin C is the priority because it cements the ground substance of supportive tissue. **2** Cyanocobalamin (Cobex) is a vitamin B₁₂ preparation needed for red blood cell synthesis and a healthy nervous system. **3** Phytonadione (Mephyton) is vitamin K, which plays a major role in blood coagulation.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the Postoperative Period](#)
181. **2 According to the Nurse Practice Act, a nurse may independently treat human responses to actual or potential health problems.**
- 1** An activity level is prescribed by a health care provider; this is a dependent function of the nurse. **3** There is not enough information to come to this conclusion. **4** Application of an emollient and reinforcing a dressing are independent nursing functions.
- Client Need:** Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)
182. **1 Clients should change position at least every 2 hours to prevent pressure ulcers. The nurse should not deviate from this standard of practice because of the cognitively-impaired client's refusal to move. The nurse was negligent for not changing the client's position.**
- 2** Although pressure ulcers may occur, nursing care must include preventive measures. **3** The family is included in the health team. **4** When a capable client refuses necessary health care, the nurse should provide health teaching to promote understanding of the treatment plan. If the client makes an informed decision after an explanation, then the client's rights must be respected; however, this client is cognitively impaired.
- Client Need:** Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2, The Nurse's Rights and Responsibilities](#)
183. **3 The mucosal lining of the oral cavity, oropharynx, and esophagus is sensitive to the effects**

of radiation therapy; the inflammatory response causes mucosal edema that may progress to an airway obstruction.

1 A decrease in salivary secretions resulting in dry mouth may interfere with nutritional intake, but it is not life-threatening. **2** Erythema of the skin may cause dry or wet desquamation, but it is not life-threatening. **4** Radiation to the neck area should not produce as significant bone marrow suppression as radiation to the other sites.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Radiation](#)

184. 2 Current radiation therapy accurately targets malignant lesions with pinpoint precision, minimizing the detrimental effects of radiation to healthy tissue.

1 The dose is not as significant as the extent of tissue being irradiated. **3** When radiation therapy is prescribed, the health care provider takes into consideration the ability of the client to tolerate the therapy, determining that the benefit outweighs the risk. **4** This does not influence radiation's effect.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, Radiation](#)

185. 2 Radiodermatitis occurs 3 to 6 weeks after the start of treatment.

1 The word "burn" should be avoided because it may increase anxiety. **3** Emollients are contraindicated; they may alter the calculated x-ray route and injure healthy tissue. **4** This response does not address the client's concern.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, Radiation](#)

186. 1 Cold reduces the sensitivity of pain receptors in the skin. In addition, local blood vessels constrict, limiting the amount of edema and its related pressure and discomfort.

2 Local blood vessels constrict. **3** Local cold applications do not depress vital signs. **4** Local cold applications do not directly affect blood viscosity. This is not a clinical indicator that a nurse can observe.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Nonpharmacologic Pain Management Strategies](#)

►**187. Answer: 1, 5.**

1 Stupor may occur with hypothermia because of slowed cerebral metabolic processes. **2** Pallor, not erythema, is present as a result of peripheral vasoconstriction. **3** Drowsiness occurs; the client is unable to focus on anxiety-producing aspects of the situation. **4** Respirations are decreased. **5** Peripheral vasoconstriction and the effect of cold on the peripheral nervous system result in paresthesias in the affected body parts.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 3, Emergency Situations, Specific Emergencies](#)

►**188. Answer: 2, 3, 4, 5.**

1 Massage is contraindicated because it may injure tissues that have sustained frostbite. **2** A rectal temperature provides the most accurate temperature. **3** Older adults have less subcutaneous fat and inefficient temperature regulating mechanisms, which makes them vulnerable to extremes in environmental temperature. The extremities are more distal sites of circulation and are at increased risk for frostbite. **4** Hypothermia decreases cerebral perfusion, which will result in confusion and a decreased level of consciousness. **5** Significant others should be notified of the client's admission

to the emergency department, if condoned by the client. Significant others can provide additional client information and may be a support for the client.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 3, Emergency Situations, Specific Emergencies](#)

189. 2 Immediately before administration of an analgesic, an assessment of vital signs is necessary to determine whether any contraindications to the medication exist (e.g., hypotension, respirations ≤ 12 breaths/min).

1 Pain prevents both psychologic and physiologic rest. **3** Before administration of an analgesic, the nurse must check the health care provider's prescription, the time of the last administration, and the client's vital signs. **4** A complete assessment including vital signs should be done before documenting.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients in Pain](#)

190. 3 Electrodes are attached to sensory nerves or over the dorsal column; a transmitter is worn externally and, by electric stimulation, may be used to interfere with the transmission of painful stimuli as needed.

1 Clients may bathe when the transmitter is disconnected. **2** The client may need analgesics in conjunction with the transmitter. **4** The transmitter should not interfere with other electronic devices.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients in Pain](#)

191. 4 The exact nature of the pain must be determined to distinguish whether or not it is a result of the surgery.

1, 2, 3 This should be done later; the first action is to determine the cause of the pain.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** [Ch 3, General Nursing Care of Clients in Pain](#)

192. 2 Initially, integrity of the intravenous system should be verified to ensure that the client is receiving medication. The intravenous tubing may be kinked or compressed, or the catheter may be dislodged.

1 Continued monitoring will result in the client experiencing unnecessary pain. **3** The nurse may not reprogram the pump to deliver larger or more frequent doses of medication without a health care provider's prescription. **4** The health care provider should be notified if the system is intact and the client is not obtaining relief from pain. The prescription may have to be revised; the basal dose may be increased, the length of the delay may be reduced, or another medication or mode of delivery may be prescribed.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** [Ch 3, Related Pharmacology, Opioid Analgesics](#)

193. 3 The voltage or current is adjusted on the basis of the degree of pain relief experienced by the client.

1 This may provide too little or too much stimulation to achieve the desired response. **2** This is true of the pain suppressor transcutaneous electrical nerve stimulation (TENS) unit, not the conventional unit. **4** The electrodes should be applied either on the painful area or immediately below or above the area.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 3, Nonpharmacologic Pain Management Strategies](#)

194. 1 Pain may indicate a toxic effect.

2, 3 This is an expected side effect of internal radiotherapy. **4** This is associated with the need to maintain position, not with radium itself.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 3, Radiation](#)

195. 3 Radium must be handled with long forceps because distance helps limit exposure.

1 A nurse does not clean radium implants. **2** This does not provide adequate shielding from the gamma rays emitted by radium. **4** The amount and duration of exposure are important in assessing the effect on the client; however, this will not affect safety during removal.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients with Neoplastic Disorders](#)

196. 1 Packing maintains a radium implant in its correct placement; correct placement minimizes the effect on healthy tissue.

2 There should not be active bleeding with a radium implant; cellular sloughing is expected. **3** This is not true. **4** Although exposure to the radioactive packing damages healthy tissue, it is not life-threatening.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients with Neoplastic Disorders](#)

197. 2 Restriction of each visitor to a 10-minute stay minimizes the risk for exposure. Some institutions will not allow visitors while an implant is in place.

1 The urine is not radioactive. **3** Lead-lined aprons are not effective shields against rays emitted by internal sources of radiation. **4** Radium implants will not affect the location of intramuscular injections.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients with Neoplastic Disorders](#)

198. 2 Before discharge it is important for the nurse to instruct the client to return for follow-up care at specified intervals.

1 Fluids are not reduced unless cardiac or renal pathology is present. **3** When the implant is in place, a low-residue diet is indicated to avoid pressure from a distended colon; when the radium implant is removed, the client can return to a regular diet. **4** If the diet is adequate, mineral supplements are unnecessary.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients with Neoplastic Disorders](#)

199. 1 Frequent position changes are important to ensure urinary drainage; gravity promotes flow, which prevents obstruction.

2 This is not a priority unless the client is sedated. **3** Range-of-motion exercises are of minimal importance because the client is able to move without limitation. **4** Back care is necessary, but it is not the priority.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 3, General Nursing Care of Clients during the](#)

Postoperative Period

►200. **2** The prevention of infection is the priority because an infection can be life-threatening for a client who is immunocompromised. Chemotherapeutic medications depress the bone marrow, causing leukopenia. This client's white blood cell count is below the expected range of 4500 to 11,000/mm³ for an older female adult. While the elevation in the client's temperature, pulse, and respirations may be related to the direct effects of the chemotherapeutic agents, they also may reflect that the client is resisting a microbiologic stress.

1 Although a balance between rest and activity is important, it is not the priority. While chemotherapeutic medications depress the bone marrow and cause anemia, this client's red blood cell count is within the expected range of 4.0 to 5.0 million/mm³ for an older female adult. The client's hemoglobin level is within the expected range of 11.5 to 16.0 g/dL. **3** Even though preventing injury is important, it is not the priority. Although chemotherapeutic medications depress the bone marrow, causing thrombocytopenia, this client's platelet count is within the expected range of 150,000 to 400,000/mm³ for an adult. **4** While maintaining fluid balance is important, it is not the priority. The client's hematocrit is within the expected range of 38% to 41% for an older female adult, indicating that the client is not dehydrated. The client's blood pressure is not decreased, which occurs with dehydration. Although chemotherapeutic medications may cause nausea, vomiting, and diarrhea, the client did not indicate that these occurred.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 3, General Nursing Care of Clients with Neoplastic Disorders

UNIT 2

Medical-Surgical Nursing



CHAPTER 5

The Young Adult (Age 20 to 44 Years)

Data Base

A Physiologic development

1. Physical maturation occurs
2. Muscle strength and coordination peak
3. Biorhythms are established
4. Sexuality
 - a. Established sex drive remains high for men
 - b. Female sex drive reaches peak during later phase of young adulthood
 - c. Physiologically optimal period for childbearing
5. Basal metabolic rate (BMR) decreases at 2% to 4% per decade after 20 years of age

B Psychosocial development

1. Mental abilities reflect formal operations (see Chapter 34, Nursing Care of Adolescents, Growth and Development)
2. Resolving developmental crisis of intimacy versus isolation and beginning to resolve developmental crisis of generativity versus stagnation
3. Establishing new family relationships and parenting patterns
4. Establishing self in, and advancing in, chosen occupation

C Common health problems: accidents, acquired immunodeficiency syndrome (AIDS), sexually transmitted infections (STIs), cancer involving reproductive organs, hypertension, suicide, alcoholism, spousal abuse, fertility regulation, periodontal disease, unbalanced diet, obesity, intimacy problems

General Nursing Care of Young Adults

Assessment/Analysis

1. Obtain history of drug/alcohol use, sexual practices, family relationships
2. Determine baseline height/weight, dietary history
3. Measure vital signs to establish baseline
4. Determine health practices related to cancer prevention/detection

Planning/Implementation

1. Encourage attendance at safety programs to promote accident prevention (e.g., defensive driving)
2. Increase public awareness of problems and availability of crisis counseling, support groups, other community resources (e.g., hot lines, Alcoholics Anonymous, family planning clinics)
3. Teach safe sex practices
4. Promote awareness that optimal diet and exercise are essential to achieving and maintaining optimal health; encourage nutritional evaluation and consultation
5. Teach to use exogenous supplemental vitamins with caution, especially vitamins A, D, and E; excessive doses can cause health problems
6. Teach dietary guidelines following U.S. Department of Agriculture (USDA) recommendations
 - a. Eat a variety of foods
 - b. Maintain healthy body mass index (BMI)

- c. Reduce saturated fat, cholesterol
- d. Eat adequate amount of vegetables, grain products, fruit (fruits are low in sodium but high in sugar)
- e. Use salt in moderation
- f. Limit daily intake of alcoholic beverages to no more than one drink for women and two drinks for men
- g. Maintain recommended daily caloric and calcium intake
- 7. Teach breast and testicular self-examination techniques; encourage regular medical checkups

Evaluation/Outcomes

- 1. Establishes safe health care practices
- 2. Maintains ideal body weight
- 3. Maintains blood pressure within expected limits
- 4. Remains free from infection

The Middle-Age Adult (Age 45 to 59 Years)

Data Base

A Physiologic development

1. Greater diversity in physiologic conditioning results from established lifestyle
2. Early clinical findings of aging (e.g., wrinkling, thinning hair, decreased muscle tone, decreased nerve function)
3. Decreased BMR with subsequent weight gain unless caloric intake is reduced
4. Decreased production of sexual hormones
 - a. Menopause (see Chapter 23, Childbearing and Women's Health Nursing, Perimenopause)
 - b. Male climacteric; may pass unnoticed, especially in those with high self-esteem; clinical findings may include diminished potency, less forceful ejaculation, thinning/graying hair, fatigue, depression

B Psychosocial development

1. Cognitive abilities enhanced because of motivation, past experiences
2. Resolving developmental crisis of generativity versus stagnation
3. Adjusting to changes in family caused by aging parents, growing or returning children
4. Maintaining satisfactory status in one's career
5. Accepting physical changes associated with advancing age
6. Developing personally satisfying social and civic activities

C Health problems: cardiovascular disease, hypertension, alcoholism, sexual dysfunction, presbyopia, unbalanced/inadequate diet, deteriorating vision/hearing, type 2 diabetes, obesity, depression

General Nursing Care of Middle-Age Adults

Assessment/Analysis

1. Determine cardiovascular status (e.g., vital signs, peripheral pulses, peripheral edema, shortness of breath, chest pain)
2. Measure visual acuity
3. Obtain history of alcohol use, sexual patterns, family relationships
4. Determine baseline height/weight, dietary history
5. Question client about leisure activities, retirement plans

Planning/Implementation

1. Reinforce importance of regular exercise to prevent cardiovascular, musculoskeletal deterioration
2. Emphasize dietary changes (e.g., reduction of calories, fats, protein; increased calcium, fiber; encourage to follow USDA recommendations)
3. Stress need for regular medical evaluations and self-evaluations
4. Encourage attendance at self-help groups to stop substance dependency (e.g., smoking, drinking alcohol, overeating)

Evaluation/Outcomes

1. Maintains ideal body weight
2. Maintains blood pressure within expected limits
3. Establishes healthy dietary pattern
4. Participates in exercise regimen
5. Develops coping skills to manage stress

The Young-Older Adult (Age 60 to 74 Years)

Data Base

A Physiologic development

1. Slowing of reaction time
2. Decrease in sensory acuity
3. Diminished muscle tone, strength
4. Problems associated with dental caries, ill-fitting dentures, or no teeth/dentures
5. Increased diversity in health status/function resulting from earlier lifestyle
6. Development of chronic health problems

B Psychosocial development

1. Cognitive abilities may be affected by cardiovascular disease
2. Adjusting to retirement; some individuals experience loss of self-esteem; others enjoy freedom to explore other interests
3. Coping with altered economic status; adjusting to fixed income
4. Resolving death of parents and possibly spouse
5. Accepting separation from children and their families
6. Resolving developmental crisis of ego integrity versus despair
7. May experience depression

C Health problems: cardiovascular disease, cancer, presbyopia, accidents, respiratory disease, osteoporosis/osteoarthritis, hearing loss (especially for high-pitched sounds), unbalanced/inadequate diet, depression

General Nursing Care of Young-Older Adults

Assessment/Analysis

1. Determine cardiovascular status (e.g., vital signs, peripheral pulses, peripheral edema, shortness of breath, history of chest pain, changes in sensation)
2. Measure visual/auditory acuities
3. Obtain history relative to warning signs of cancer
4. Identify coping skills, support systems

Planning/Implementation

1. Encourage to maintain schedule of regular medical, dental, visual examinations to prevent or control health problems
2. Assess living conditions for hazards that can cause accidents
3. Refer widows/widowers to appropriate self-help groups as necessary
4. Encourage to anticipate/plan for retirement and to develop new interests/support systems
5. Encourage nutritional assessment/consultation to prevent nutrient deficiencies and to provide for diet modifications appropriate for aging

Evaluation/Outcomes

1. Participates in exercise program

2. Verbalizes fears to health care providers
3. Remains free from injury
4. Maintains satisfying interpersonal relationships
5. Consumes nutritionally adequate diet
6. Maintains therapeutic regimen

The Middle-Older Adult (Age 75 to 84 Years) and Old-Older Adult (Age 85+ Years)

Data Base

A Physiologic development

1. Diminished sensation (e.g., visual, auditory), diminished reaction time
2. Increased sensitivity to cold because of decreased subcutaneous tissue, decreased thyroid functioning, impaired circulation
3. Decreased enzyme secretion/motility of gastrointestinal (GI) tract
4. Decreased glomerular filtration rate
5. Decreased cardiac output
6. Arteriosclerotic changes with diminished elasticity of blood vessels
7. Decreased lung capacity
8. Demineralization and other degenerative skeletal changes, particularly in weight-bearing bones
9. Muscle atrophy
10. Decreased metabolic rate and declining function of organs (e.g., liver, kidneys); increased risk of adverse reaction or toxicity when taking medications

B Psychosocial development

1. Cognitive abilities not necessarily affected by age, but may be impaired as result of disease, leading to diminished awareness and increased safety risk
2. Resolving developmental crisis of ego integrity versus despair; depends on previous resolution of task of generativity versus stagnation
3. Adjusting to death of significant others
4. Adapting to decreased physical capacity, changes in body image
5. Adjusting to economic burden of fixed income
6. Recognizing inevitability of death
7. Reminiscing increasingly about past

C Health problems: cardiovascular disease, cancer, accidents (e.g., falls, automobile collisions), respiratory disease, cerebral vascular insufficiency, malnutrition, problems with perception (e.g., cataracts, glaucoma, hearing loss)

General Nursing Care of Middle-Older and Old-Older Adults

Assessment/Analysis

1. Determine cardiovascular status: vital signs, peripheral pulses, peripheral edema, shortness of breath, history of chest pain, changes in sensation
2. Identify neurologic deficits: level of consciousness, orientation, motor function, sensory function
3. Identify deteriorating musculoskeletal functioning, effect on quality of life
4. Determine respiratory function: respiratory rate, rhythm, depth; use of accessory muscles; breath sounds; pulmonary function tests; oxygen saturation level
5. Review nutritional status (e.g., dietary history, height/weight, skin condition, serum protein and albumin levels)
6. Ascertain medications taken routinely (chronic health problems and use of over-the-counter

medications leads to polypharmacy)

7. Assess coping abilities

8. Assess resources/support systems

Planning/Implementation

1. Encourage to maintain schedule of regular medical supervision and exercise

2. Promote maximal degree of independence

3. Initiate appropriate referrals for those requiring assistance with activities of daily living

4. Open channels of communication for reality orientation, reminiscing, emotional support; explain procedures/expectations; reinforce as necessary

5. Refer to social services and other resources that can provide economic assistance

6. Ensure appropriate fit of prosthetic devices (e.g., dentures, contact lenses, eye prosthetics, hearing aids, braces, limbs); teach proper care of such devices

7. Encourage to follow USDA dietary recommendations/reduced caloric intake

Evaluation/Outcomes

1. Performs or assists with self-care activities

2. Remains free from injury

3. Uses community resources to maximize independence

4. Maintains nutritionally adequate diet

5. Maintains social relationships

6. Adjusts to changes in functional abilities

7. Maintains therapeutic regimen

CHAPTER 6

Nursing Care of Clients with Circulatory System (Cardiovascular, Blood, and Lymphatic Systems) Disorders

Overview

Review of Anatomy and Physiology

Blood

A Volume: males: 5 to 6 L; females: 4.5 to 5.5 L

B Viscosity: about 5.5 times as viscous as pure water; reflected by hematocrit (percentage of blood volume that is made up of red blood cells [RBCs])

1. Males: 45% to 52%
2. Females: 37% to 48%

C Hematopoiesis

1. Location: red marrow of vertebrae, sternum, ribs, iliac crests, clavicles, scapulae, and skull
2. Pluripotential stem cell differentiates into myeloid and lymphoid stem cells
 - a. Myeloid stem cells further differentiate into erythrocytes, platelets, neutrophils, monocytes, eosinophils, basophils, and mast cells
 - b. Lymphoid stem cells further differentiate into B and T lymphocytes

D Blood components

1. Plasma

- a. Water: 3 L in average adult; 90% of plasma
- b. Ions: see Fluid, Electrolyte, and Acid-Base Balance in [Chapter 3](#)
- c. Albumin (major plasma protein)
 - (1) Acts as a buffer
 - (2) Maintains plasma colloid osmotic pressure
- d. Glucose: prime oxidative metabolite
- e. Serum: plasma with fewer or no coagulating proteins

2. Formed elements

a. Erythrocytes (RBCs)

- (1) Shape: pliable biconcave disk that maximizes surface area proportional to volume for ease of diffusion of gases
- (2) Number: males: 4.5 to $6.2 \times 10^6/\text{mm}^3$; females: 4.0 to $5.5 \times 10^6/\text{mm}^3$
- (3) Formation (erythropoiesis): liver and kidneys secrete proteins that help form erythropoietin, which stimulates erythrocyte production by red bone marrow
- (4) Principal component is hemoglobin; functions to bind oxygen through iron in heme and carbon dioxide through globulin portion; can carry both simultaneously
- (5) Erythrocytes live for about 120 days; old or deteriorated ones are removed by reticuloendothelial cells of liver, spleen, and bone marrow; heme is converted to bilirubin, which is excreted from liver as part of bile

b. Leukocytes white blood cells [WBCs]

(1) Types

- (a) Granulocytes (polymorphonuclear): neutrophils, eosinophils, and basophils
- (b) Agranulocytes (mononuclear): monocytes that become macrophages in tissue spaces and lymphocytes

(2) Functions

- (a) Phagocytosis of bacteria by neutrophils and macrophages; phagocytosis of

antigen-antibody complexes by eosinophils

(b) Antibody synthesis: B lymphocytes become plasma cells, which produce most circulatory antibodies

(c) Destruction of transplanted tissues and cancer cells by T lymphocytes, which form in lymphoid tissue and mature in the thymus

(3) Leukocytes live for a few hours or days; some T lymphocytes live for many years and provide long-term immunity

c. Platelets (thrombocytes)

(1) Number: 150,000 to 450,000/mm³

(2) Function in blood coagulation (agglutination, adhesiveness, aggregation)

(a) Adhere to each other and to damaged areas of circulatory system to limit or prevent blood loss

(b) Release chemicals that constrict damaged blood vessels

E Blood groups

1. Four blood types: A, B, AB, and O; type indicates antigens on or in the RBC membrane (e.g., type A blood has A antigens; type O blood has no antigens)
2. Blood can be either Rh-positive or Rh-negative; usually blood does not contain anti-Rh antibodies. However, Rh-negative blood will contain anti-Rh antibodies if the individual has been transfused with Rh-positive blood or has carried an Rh-positive fetus without treatment; Rh-positive blood never contains anti-Rh antibodies; people with Rh-positive blood can receive blood from an Rh-negative donor; people with Rh-negative blood cannot receive blood from an Rh-positive donor
3. Plasma: usually contains no antibodies against antigens present on its own RBCs, but does contain antibodies against other A or B antigens not present on its RBCs
4. The potential danger in transfusing blood is that the donor's blood may be agglutinated (clumped) by the recipient's antibodies

F Hemostasis: process to arrest blood loss ([Figure 6-1: Blood clotting mechanism](#))

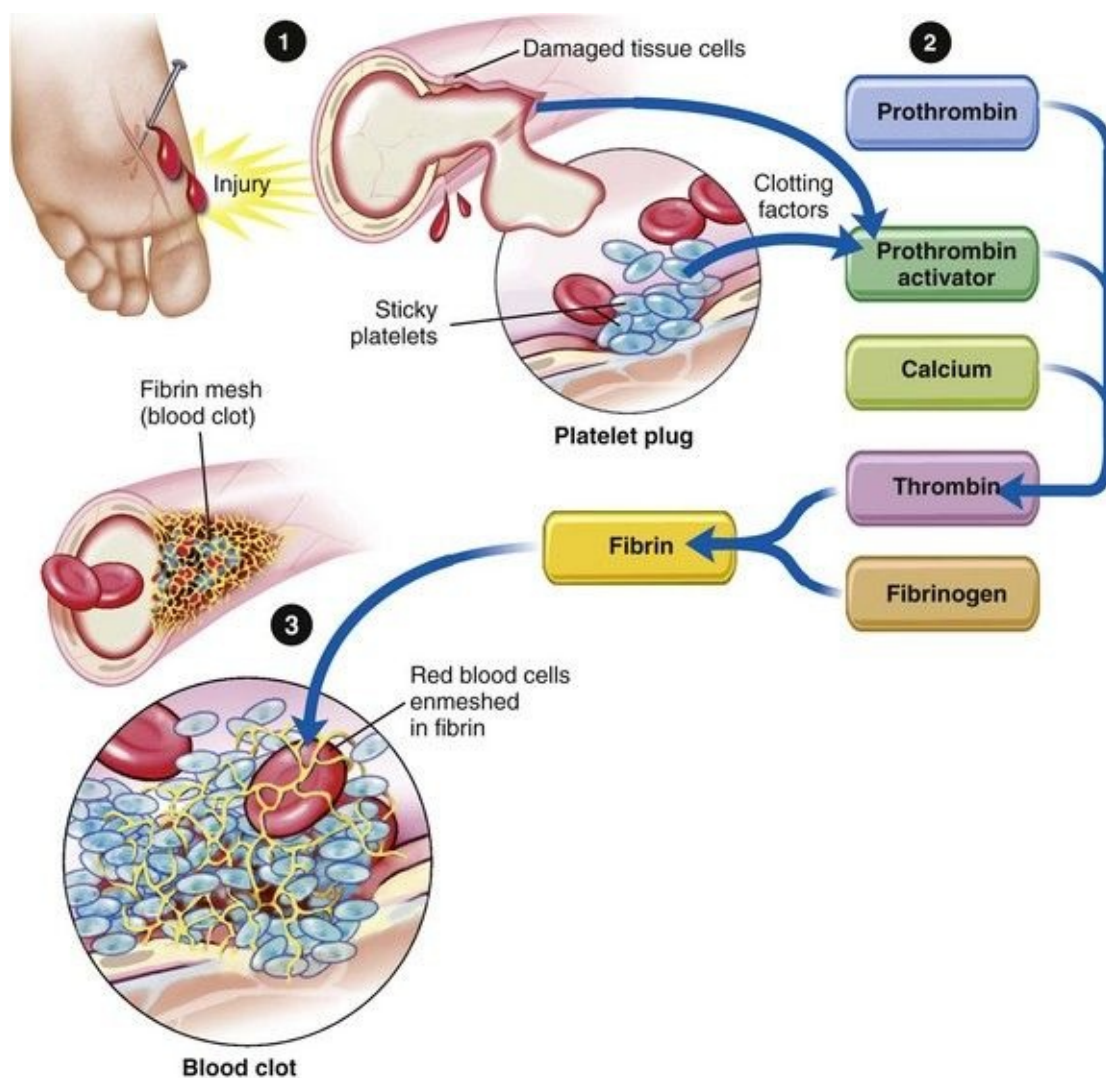


FIGURE 6-1 Blood clotting mechanism. The complex clotting mechanism can be condensed into three basic steps: (1) Release of clotting factors from both injured tissue cells and sticky platelets at the injury site (which form temporary platelet plug); (2) series of chemical reactions that eventually result in the formation of thrombin; and (3) formation of fibrin and trapping of blood cells to form a clot. (From Thibodeau GA, Patton KT: *Anatomy and physiology*, ed 6, St. Louis, 2007, Mosby.)

1. Vasoconstriction
2. Aggregation of platelets: adhere to damaged blood vessel walls, forming plugs
3. Blood coagulation (clotting): blood becomes gel as soluble fibrinogen is converted to insoluble fibrin
 - a. Extrinsic clotting mechanism: trigger is blood contacting damaged tissue
 - b. Intrinsic clotting mechanism: trigger is release of chemicals (platelet factors such as thromboplastin) from platelets aggregated at site of injury
 - c. Liver cells synthesize prothrombin, fibrinogen, and other clotting factors; adequate amounts of vitamin K must be present in blood for liver to produce prothrombin; calcium acts as a catalyst to convert prothrombin to thrombin
 - d. Prothrombin is converted to thrombin, which converts fibrinogen to fibrin; fibrin is an insoluble protein formed from soluble protein fibrinogen in the presence of thrombin; fibrin appears as a tangled mass of threads in which blood cells become enmeshed
 - e. When new endothelial cells form, the fibrin clot is destroyed by plasmin, which is formed from plasminogen

Heart

(Figure 6-2: Structures of the heart and course of blood through chambers)

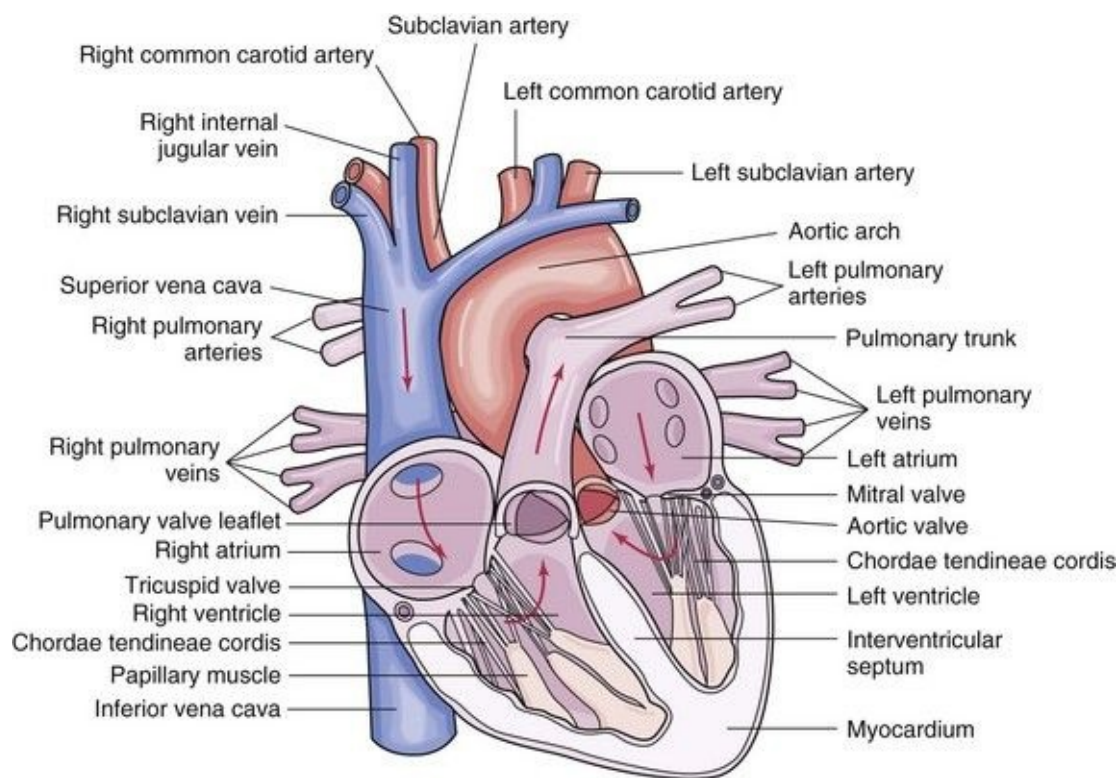


FIGURE 6-2 Structures of the heart and course of blood through chambers. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

A Layers

1. Pericardium (protective covering): parietal and visceral (epicardium) layers create a protective sac containing a small amount of lubricating fluid that reduces friction
2. Myocardium (cardiac muscle cells): rhythmic contraction (systole) and relaxation (diastole) pumps blood through systemic and pulmonary circulations
3. Endocardium (endothelial inner lining of inner chambers and valves)

B Chambers

1. Right atrium: receives deoxygenated blood from systemic circulation via the vena cava
2. Right ventricle: pumps deoxygenated blood to the pulmonary circulation via the pulmonary artery
3. Left atrium: receives oxygenated blood from the pulmonary circulation via the pulmonary vein
4. Left ventricle: pumps oxygenated blood to the systemic circulation via the aorta

C Valves

1. Atrioventricular valves between atria and ventricles: tricuspid on right, mitral (bicuspid) on left; valves consist of three parts: flaps or cusps, chordae tendineae, papillary muscles; closure during early systole prevents backward flow of blood (regurgitation) into atrium and causes first heart sound (S_1)
2. Semilunar valves: pulmonic valve between right ventricle and pulmonary arteries, and aortic valve between left ventricle and aorta; closure at end of systole prevents backward flow of blood into ventricles and causes second heart sound (S_2)
3. Auscultation for S_1 , S_2 , murmurs caused by regurgitation of blood through valves, and snaps/clicks

caused by stenosis of valves

- a. Apical pulse or mitral valve: located at fifth intercostal space near left midclavicular line
- b. Aortic valve: located at second intercostal space on right of sternum
- c. Pulmonic valve: located at second intercostal space on left of sternum
- d. Tricuspid valve: located at fifth intercostal space on left of sternum

D Blood supply to myocardium (heart muscle)

1. Left coronary artery branches from the aorta and divides to form left anterior descending artery and circumflex artery, supplying blood to anterior and inferior surfaces of left ventricle
2. Right coronary artery branches from the aorta, mainly supplying right side of heart, but also inferior surface of left ventricle
3. Greatest flow of blood into myocardium occurs when the heart relaxes (diastole), as a result of decreased arterial compression; an increased heart rate shortens diastole, leading to decreased time for myocardial perfusion
4. Relatively few anastomoses exist between the larger branches of the coronary arteries (poor collateral circulation); if one of these vessels becomes occluded suddenly, little or no blood can reach myocardial cells supplied by that vessel; however, collateral circulation can develop slowly over time

E Conduction system of heart: cardiac muscle cells have ability to generate impulses that cause contractions (automaticity)

1. Sinoatrial (SA) node: located in right atrial wall; referred to as pacemaker of the heart because it inherently generates impulses at the rate of 60 to 100/min
2. Atrioventricular (AV) node: located in base of the right atrium; capable of generating 40 to 60 impulses per minute if SA node is nonfunctional
3. Bundle of His: lies at the intraventricular septum and bifurcates into the right and left bundle branches; disruption in conduction here is called a bundle branch block
4. Purkinje fibers: extend from the right and left bundle branches, spreading electrical impulses throughout the ventricular walls
5. Usually a nerve impulse begins at the SA node and spreads through both atria to the AV node; after a short delay it is conducted to the bundle of His, bundle branches, and finally Purkinje fibers; the ventricles can generate 20 to 40 impulses per minute if both SA and AV nodes fail as pacemakers

F Cardiac output (CO) ($CO = \text{heart rate} \times \text{stroke volume}$): volume of blood pumped per minute by the ventricles; average for adult at rest is approximately 5 L/min

1. Preload: extent to which left ventricle stretches at end of diastole as a result of left ventricular end-diastolic volume; Frank-Starling law states when the heart is stretched by an increased returning volume of blood, it contracts more strongly, resulting in an increased stroke volume; subject to physiologic limitations
2. Afterload: arterial resistance that heart must overcome to eject contents of the left ventricle during systole; an increased afterload caused by systemic vasoconstriction will decrease stroke volume unless contractility is increased
3. Contractility: force of cardiac muscle contraction; increased by sympathetic nervous system, leading to increased stroke volume; decreased by parasympathetic nervous system; influences ejection fraction (percent of blood volume at the end of diastole that is ejected by ventricular contraction)
4. Heart rate: cardiac contractions per minute; increased by sympathetic nervous system and decreased by parasympathetic nervous system; bradycardia is a rate less than 60 beats/min;

tachycardia is a rate greater than 100 beats/min

Blood Vessels

A Arteries

1. Carry blood away from heart (all arteries except pulmonary artery carry oxygenated blood)
2. Branch into smaller and smaller vessels called arterioles, which branch into microscopic capillaries
3. Structure: lining (tunica intima) of endothelium; middle coat (tunica media) of smooth muscle, elastic, and fibrous tissues, which permits constriction and dilation; outer coat (tunica adventitia or externa) of fibrous tissue; this firmness allows arteries to remain open instead of collapsing when cut
4. Peripheral pulses can be felt wherever an artery lies near the surface of the skin and over a firm background such as bone; sites: radial—at wrist; carotid—along anterior edge of sternocleidomastoid muscle, at level of lower margin of thyroid cartilage; brachial—at bend of the elbow, along inner margin of biceps muscle; femoral—in groin; popliteal—behind knee; posterior tibial—behind medial malleolus; dorsalis pedis—on anterior surface of foot, just below bend of the ankle; volume or amplitude of pulse may be absent, thready, diminished, have an acceptable volume, or bounding ([Figure 6-3: Palpation of the arterial pulses](#))



FIGURE 6-3 Palpation of the arterial pulses. **A**, Carotid. **B**, Brachial. **C**, Radial. **D**, Femoral. **E**, Popliteal. **F**, Dorsalis pedis. **G**, Posterior tibial. (From Seidel HM et al: *Mosby's guide to physical examination*, ed 7, St. Louis, 2011, Mosby.)

5. Pulse deficit: difference between apical and radial pulses
6. Blood pressure: systolic—pressure within arteries when heart is contracting; diastolic—pressure within arteries when heart is at rest between contractions; pulse pressure—difference between systolic and diastolic pressures

B Veins

1. Carry blood toward heart (all veins except pulmonary veins carry deoxygenated blood)
2. Branch into venules, which collect blood from capillaries; veins in cranial cavity formed by dura

mater are called sinuses

3. Structure: same three coats as arteries, but thinner and fewer elastic and muscle fibers, allowing veins to collapse when cut; semilunar valves present in most veins more than 2 mm in diameter prevent backward flow of blood

C Capillaries

1. Carry blood from arterioles and unite to form small veins or venules, which in turn unite to form veins
2. Exchange of substances between blood and interstitial fluid occurs in capillaries
3. Structure: only lining coat present (intima); wall only one cell thick to allow for diffusion of gases and small molecules

Regulatory Mechanisms Affecting Circulation

A Autonomic nervous system

1. Sympathetic nervous system: increases heart rate and cardiac contractility, dilates coronary and skeletal blood vessels, and constricts blood vessels supplying abdominal organs and skin through stimulation of alpha- and beta-adrenergic receptors by catecholamines (epinephrine, norepinephrine, dopamine)
2. Parasympathetic nervous system: decreases heart rate and contractility, and causes vasodilation through cholinergic fibers; stimulation of vagus nerve initiates parasympathetic response
3. Baroreceptors in the aortic arch and carotid sinus respond to changes in BP
 - a. Increased arterial BP baroreceptors, which causes parasympathetic responses (vasodilation and decreased heart rate and contractility)
 - b. Decreased arterial pressure inhibits baroreceptors, which results in increased sympathetic responses (vasoconstriction and increased heart rate and contractility)
4. Chemoreceptors respond to changes in levels of oxygen, carbon dioxide, and blood pH by stimulating the autonomic nervous system

B Renin-angiotensin-aldosterone mechanism: when renal perfusion decreases, there is retention of sodium and water, which increases blood volume; vasoconstriction occurs, which increases BP

C Intrinsic circulatory regulation: increased BP raises hydrostatic pressure of plasma, leading to increased filtration of plasma from intravascular to interstitial spaces, resulting in reduced venous return, decreased cardiac output, and decreased BP

Lymphatic System

A Lymph vessels

1. Structure: lymph capillaries similar to blood capillaries in structure; larger lymphatics similar to veins but are thinner-walled, have more valves, and have lymph nodes along their course
2. Functions: return fluid and interstitial proteins to the venous system via thoracic and right lymphatic ducts at the junction between internal jugular and subclavian veins; interference with return of proteins to the blood results in edema

B Lymph nodes

1. Located throughout the body; usually occur in clusters
2. Functions: help defend the body against foreign substances (notably, bacteria and tumor cells)
 - a. Release lymphocytes into circulation for early identification of foreign substances
 - b. Respond to sensitized lymphocytes: dormant T and B lymphocytes in nodes enlarge, multiply,

and differentiate to fight the invading substance

C Spleen

1. Location: left hypochondrium, above and behind cardiac portion of the stomach

2. Functions

- Reticuloendothelial cells form macrophages that protect the body from antigens through phagocytosis; removes damaged cells from circulation
- Contains B and T lymphocytes essential for humoral and cellular immune responses
- Sequesters newly formed reticulocytes until they become mature erythrocytes; serves as reservoir of erythrocytes and platelets; sympathetic stimulation causes constriction of its capsule, squeezing out an estimated 200 mL of blood into general circulation within 1 minute
- Participates in the formation and development of blood cells (hematopoiesis) if bone marrow fails to function

Review of Microorganisms

A *Streptococcus pyogenes*: gram-positive streptococcus; most virulent strain (group A beta hemolytic) causes scarlet fever, septic sore throat, tonsillitis, cellulitis, puerperal fever, erysipelas, rheumatic fever, and glomerulonephritis

B *Streptococcus viridans*: gram-positive streptococcus; distinguishable from *S. pyogenes* by its alpha hemolysis (rather than beta) of RBCs; common cause of infective endocarditis

C *Staphylococcus aureus*: gram-positive cocci associated with infective endocarditis in IV drug users

Related Pharmacology

Cardiac Glycosides

A Description

- Increase force of cardiac contraction (positive inotropic effect) by increasing permeability of cardiac muscle membranes to calcium and sodium ions required for contraction of muscle fibrils
- Decrease rate of cardiac contractions (negative chronotropic effect) by an action mediated through the vagus nerve; this action slows firing of the SA node and slows impulse transmission at the AV node
- Slow conduction velocity (negative dromotropic effect); occurs by direct action and by increased vagal stimulation
- Increase cardiac output by increasing effectiveness of heart pump
- Effective in treating heart failure and atrial flutter and fibrillation
- Available in oral and parenteral (intramuscular [IM], IV) preparations
- Digitalization: rapid or slow administration of a loading dose to reach the therapeutic blood level; after desired effect is achieved the dosage is kept at a maintenance level, which replaces amount of drug metabolized and excreted each day
- Used less often than newer classifications of cardiac medications because of high risk of toxicity

B Examples: digitalis; digoxin (Lanoxin)

C Major side effects: diarrhea (local effect), nausea, vomiting (malabsorption of all nutrients); bradycardia (increased vagal tone at AV node)

D Toxicity: premature ventricular complexes (increased spontaneous rate of ventricular depolarization), xanthopsia/yellow vision (effect on visual cones); muscle weakness (central nervous

system [CNS] effect, neurotoxicity, hypokalemia), blurred vision (CNS effect), anorexia and vomiting (local effect stimulates chemoreceptor zone in medulla); toxicity treated with digoxin immune Fab (Digibind)

E Nursing care

1. Check apical pulse before administration: withhold dose and contact health care provider if rate is excessively slow (parameter set by health care provider; usually below 50 to 60 beats/min)
2. Encourage intake of potassium-rich foods unless potassium supplement is prescribed
3. Assess for signs of impending toxicity (e.g., anorexia, nausea, vomiting, dysrhythmias, xanthopsia)
4. Monitor for hypokalemia, which potentiates the effects of digitalis; electrocardiogram (ECG) will indicate depressed T waves with hypokalemia
5. Instruct to count radial pulse and record before each administration; notify health care provider of side effects; report any changes in heart rate or rhythm
6. Digoxin—monitor blood level during therapy (therapeutic serum level: 0.5 to 2.0 ng/mL)

Antidysrhythmics

A Description

1. Treat abnormal variations in cardiac rate and rhythm; also prevent dysrhythmias
2. Available in oral and parenteral (IM, IV) preparations

B Examples

1. Class IA antidysrhythmics: suppress ectopic foci by increasing refractory period and slowing depolarization: disopyramide (Norpace), quinidine preparations (e.g., quinidine sulfate, quinidine polygalacturonate [Cardioquin])
2. Class IB antidysrhythmics: suppress ventricular dysrhythmias by decreasing automaticity and increasing ventricular electrical stimulation threshold; lidocaine, phenytoin (Dilantin)
3. Class IC antidysrhythmics: slow conduction and increase ventricular refractoriness: flecainide (Tambocor)
4. Class II antidysrhythmics (beta blockers or beta-adrenergic blockers): decrease heart rate, contractility, and automaticity by blocking beta-adrenergic receptor sites from catecholamines; decrease myocardial workload and oxygen requirements; indicated for tachydysrhythmias, hypertension, angina; propranolol (Inderal), metoprolol (Lopressor), atenolol (Tenormin), timolol (Blocadren), nadolol (Corgard), sotalol (Betapace)
5. Class III antidysrhythmics: prolong repolarization; amiodarone (Cordarone) for ventricular tachycardia and fibrillation; dofetilide (Tikosyn) and, ibutilide (Corvert) for atrial flutter and fibrillation
6. Class IV antidysrhythmics (calcium channel blockers or calcium antagonists): block calcium influx into muscle cells during depolarization; control atrial dysrhythmias by decreasing cardiac automaticity and impulse conduction; reduce peripheral vascular resistance in treatment of hypertension: diltiazem (Cardizem), NIFEdipine (Procardia), verapamil (Calan), felodipine (Plendil)

C Major side effects: hypotension (decreased cardiac output caused by vasodilation); dizziness (hypotension); nausea and vomiting (irritation of gastric mucosa); heart block (direct cardiac toxic effect, cardiac depressant effect); heart failure (decreased contractility); anticholinergic effect (decreased parasympathetic stimulation); blood dyscrasias (e.g., decreased RBCs, WBCs, and platelet synthesis)

D Toxicity: diarrhea (gastrointestinal [GI] irritation), CNS disturbances (neurotoxicity), sensory

disturbances (neurotoxicity)

E Nursing care

1. Assess vital signs during course of therapy; monitor drug blood levels
2. Use cardiac monitoring during IV administration; ensure follow-up ECGs
3. Use infusion-control device for continuous IV administration
4. Administer oral preparations with meals to reduce GI irritation
5. Use safety precautions (e.g., recumbent position, supervised ambulation, side rails) when CNS effects are manifested
6. Instruct to notify health care provider of side effects (e.g., changes in heart rate or rhythm, fatigue, weight gain, bleeding)
7. Instruct to change positions slowly; increase fiber and fluid intake to prevent constipation
8. Use caution when administering beta blockers to clients with diabetes (may mask signs of hypoglycemia), bronchospasms, or heart failure

Cardiac Stimulants

A Description

1. Increase heart rate
2. Act by either indirect or direct mechanisms affecting autonomic nervous system
3. Available in parenteral (IM, IV), endotracheal, and intracardiac preparations

B Examples

1. Atropine (atropine sulfate): suppresses parasympathetic nervous system control at SA and AV nodes by reducing vagal stimulation, thus allowing heart rate to increase
2. EpiNEPHrine (Adrenalin): stimulates rate and force of cardiac contraction via sympathetic nervous system

C Major side effects: tachycardia (sympathetic stimulation); headache (dilation of cerebral vessels); CNS stimulation (sympathetic stimulation); cardiac dysrhythmias (cardiovascular system stimulation); atropine causes anticholinergic effects resulting from decreased parasympathetic stimulation (e.g., dry mouth, blurred vision, urinary retention)

D Nursing care

1. Assess vital signs during course of therapy
2. Use cardiac monitoring during IV administration
3. Ensure follow-up ECGs

Coronary Vasodilators

A Description

1. Decrease cardiac workload and myocardial oxygen requirements by vasodilatory action that decreases preload and afterload
2. Nitrates act directly at receptors in smooth muscles, causing vasodilation, which decreases preload, thus decreasing cardiac workload
3. Calcium channel blockers inhibit influx of calcium ions across cell membranes during depolarization of cardiac and vascular smooth muscle
4. Effective in treatment of angina pectoris
5. Available in oral, sublingual tablets and spray, sustained-release buccal, topical (including transdermal), and IV preparations

B Examples

1. Nitrates (sublingual): nitroglycerin, isosorbide dinitrate (Isordil, Sorbitrate)
2. Nitrates (oral): isosorbide dinitrate (Isordil, Sorbitrate)
3. Nitrates (topical)
 - a. Nitroglycerin ointment (Nitro-Bid; Nitrol)
 - b. Nitroglycerin transdermal (Nitro-Dur; Transderm-Nitro)
4. Nitrates (IV): nitroglycerin (Nitro-Bid IV, Tridil); nitroprusside (Nitropress)
5. Calcium channel blockers: see Class IV antidysrhythmics
6. Human B-type natriuretic peptide: nesiritide (Natrecor)

C Major side effects: headache (dilation of cerebral vessels); flushing (peripheral vasodilation); orthostatic hypotension (loss of compensatory vasoconstriction with position change); tachycardia (reflex reaction to severe hypotension); dizziness (orthostatic hypotension)

D Nursing care

1. Assess for hypotension before administering; if present, withhold drug
2. Encourage to change positions slowly and remain seated after taking sublingual nitroglycerin to avoid orthostatic hypotension
3. Instruct to take sublingual nitroglycerin preparations before angina-producing activities; for chest pain take sublingual preparations every 5 minutes, not to exceed three in 15 minutes; obtain emergency care if pain persists
4. Store in original amber glass container; avoid placing in heat, light, moisture, or plastic
5. Explain that slight stinging, burning, or tingling under the tongue indicates potency of drug; obtain a new supply every 3 months
6. Wear clean gloves when administering topical preparation to prevent absorption through fingers
7. Use glass container and tubing supplied by manufacturer when administering IV nitroglycerin preparations; standard tubing can absorb nitroglycerin; titrate using an infusion control pump; monitor BP every 5 to 15 minutes

Antihypertensives

A Description

1. Actions
 - a. Promote dilation of peripheral blood vessels, thus decreasing BP, peripheral vascular resistance, and afterload
 - b. Reduce cardiac contractility
 - c. Reduce volume
2. Available in oral, parenteral (IM, IV), and transdermal preparations

B Examples

1. Angiotensin-converting enzyme inhibitors (ACEIs): stop conversion of angiotensin I to II, blocking vasoconstriction and fluid retention from aldosterone secretion; captopril (Capoten), enalapril (Vasotec), benazepril (Lotensin), lisinopril (Prinivil, Zestril), quinapril (Accupril), fosinopril (Monopril)
2. Angiotensin II receptor blockers (ARBs): block angiotensin II from binding to specific vascular smooth muscle and adrenal gland receptor sites; stop vasoconstriction and fluid retention; similar antihypertensive effect of ACEIs but less likely to cause chronic cough: candesartan (Atacand), irbesartan (Avapro), losartan (Cozaar), valsartan (Diovan)
3. Calcium channel blockers (see Class IV antidysrhythmics)

4. Diuretics (see [Diuretics](#))
5. Beta blockers (see Class II antidysrhythmics)
6. Alpha₁ blockers: inhibit effects of norepinephrine by blocking receptors that control vasomotor tone; doxazosin (Cardura), prazosin (Minipress), terazosin (Hytrin)
7. Alpha-beta blockers: combine effects of alpha₁ and beta blockers, leading to vasodilation, decreased contractility, and decreased heart rate; labetalol (Normodyne), carvedilol (Coreg)
8. Central alpha₂ agonists: decrease sympathetic activity from CNS; clonidine (Catapres), methyldopa (Aldomet)
9. Direct vasodilators: relax smooth muscles of arterioles, resulting in decreased peripheral vascular resistance; hydrALAZINE (Apresoline), minoxidil (Loniten), nitroprusside (Nitropress), diazoxide (Hyperstat IV)

C Major side effects

1. Orthostatic hypotension (loss of compensatory vasoconstriction with position change)
2. Dizziness (orthostatic hypotension); drowsiness (cerebral hypoxia)
3. Cardiac rate alteration: bradycardia caused by sympatholytics (decreased sympathetic stimulation to heart); tachycardia caused by direct relaxers (reflex reaction to severe hypotension)
4. Sexual disturbances (failure of erection or ejaculation caused by loss of vascular tone)
5. Blood dyscrasias (hemolytic anemia, decreased WBCs, decreased platelet synthesis)
6. Beta blockers can cause bronchospasm and mask hypoglycemia
7. ACEIs may cause a dry cough; small percentage may develop life-threatening angioedema
8. Calcium channel blockers may cause leg edema

D Nursing care

1. Assess vital signs, especially pulse rate; monitor BP in standing and supine positions; ensure systolic pressure is maintained at greater than 80 mm Hg
2. Monitor urinary output during initial titration
3. Protect nitroprusside IV solution from light during administration
4. Instruct to follow a low-sodium diet; eat foods high in B-complex vitamins
5. Inform to continue taking medication as prescribed because therapy usually is life-long and abrupt cessation may lead to rebound hypertension
6. Teach to avoid engaging in hazardous activities when initially taking antihypertensives; change positions slowly
7. Teach to report side effects; report significant weight loss because dose may need to be adjusted

Diuretics

A Description

1. Interfere with sodium reabsorption in kidney
2. Increase urine output, which reduces hypervolemia; decrease preload and afterload
3. Available in oral and parenteral preparations

B Examples

1. Thiazides: interfere with sodium ion transport at loop of Henle and inhibit carbonic anhydrase activity at distal tubule sites; chlorothiazide (Diuril); hydrochlorothiazide (HCTZ, HydroDIURIL); metolazone (Zaroxolyn) which is a thiazide-like diuretic
2. Potassium-sparers: interfere with aldosterone-induced reabsorption of sodium ions at distal nephron sites to increase sodium chloride excretion and decrease potassium ion loss;

spironolactone (Aldactone), triamterene (Dyrenium), amiloride (Midamor)

3. Loop diuretics: interfere with active transport of sodium ions in loop of Henle and inhibit sodium chloride and water reabsorption at proximal tubule sites; may be given IV; furosemide (Lasix), bumetanide (Bumex), and torsemide (Demadex)

C Major side effects: GI irritation (local effect); hyponatremia (inhibition of sodium reabsorption at the kidney tubule); orthostatic hypotension (reduced blood volume); hyperuricemia (partial blockage of uric acid excretion); dehydration (excessive sodium and water loss); hyperglycemia; furosemide (Lasix) may cause hearing problems when administered rapidly

1. All diuretics except potassium-sparers: hypokalemia (increased potassium excretion); increased urinary excretion of magnesium and zinc
2. Potassium-sparers: hyperkalemia (reabsorption of potassium at kidney tubule); hypomagnesemia (increased excretion of magnesium at kidney tubule); hypocalcemia (increased urinary excretion of calcium)
3. Furosemide (Lasix) competes with aspirin for renal excretion sites and may cause aspirin (ASA) toxicity
4. Thiazides and loop diuretics may cause hyperglycemia in clients with diabetes

D Nursing care

1. Monitor intake and output (I&O); weigh daily (same time, scale, clothing); assess for signs of fluid-electrolyte imbalance
2. Administer in the morning so that maximal effect occurs during waking hours
3. Monitor pulse rate and BP; instruct to change position slowly
4. Encourage intake of foods high in calcium, magnesium, zinc, and potassium (except if taking potassium-sparers)
5. Monitor serum electrolytes and glucose levels

Medications to Manage Hypotension in Shock

A Description

1. Constrict peripheral blood vessels and/or increase cardiac output through alpha- and beta-adrenergic stimulation
2. Elevate BP
3. Available in parenteral (IV) preparations

B Examples: norepinephrine (Levophed), phenylephrine (Neo-Synephrine), DOPamine (Intropin), DOBUTamine (Dobutrex); vasopressin (Pitressin) in high doses is a nonadrenergic vasoconstrictor

C Major side effects: hypertension (compression of cerebral blood vessels); headache (increase in BP); GI disturbance (autonomic dysfunction)

D Nursing care

1. Assess vital signs; monitor BP frequently; titrate IV depending on BP readings to prevent hypertension
2. Assess for IV infiltration; may lead to tissue necrosis; use infusion control pump
3. Monitor peripheral circulation and urinary output

Anticoagulants

A Description

1. Prevent fibrin formation by interfering with production of various clotting factors in the

coagulation process

2. Prevent platelet aggregation and clot extension
3. Used for prevention and treatment of thrombus and embolus
4. Available in oral and parenteral (subcutaneous [Sub-Q], IV) preparations; may be given concurrently until oral medication reaches therapeutic level

B Examples

1. Heparin sodium: administered IV or Sub-Q
2. Low-molecular-weight heparin administered Sub-Q: enoxaparin (Lovenox), dalteparin (Fragmin), fondaparinux (Arixtra)
3. Dabigatran (Pradaxa); a direct thrombin inhibitor; benefit is routine blood coagulation studies are unnecessary
4. Lepirudin (Refludan) administered IV; indicated for clients who have heparin-induced thrombocytopenia (HIT)
5. Warfarin (Coumadin) administered orally
6. Antiplatelet drugs administered orally: ASA, ticlopidine (Ticlid), clopidogrel (Plavix)

C Major side effects: fever, chills, bronchospasm (hypersensitivity); skin rash (hypersensitivity); petechiae, bruising, hemorrhage (interference with clotting mechanisms); diarrhea (GI irritation); thrombocytopenia and other blood dyscrasias; ASA may cause tinnitus and hearing loss

D Nursing care

1. Monitor blood work when client is receiving warfarin (Coumadin)
 - a. Platelets
 - b. International normalized ratio (INR): therapeutic value should be 2.0 to 3.5; change in drug regimen requires more frequent INRs because many drugs have interactive effects
2. Monitor blood work when client is receiving heparin derivatives
 - a. Platelets
 - b. Prothrombin time (PT); therapeutic value should be 1.5 to 2 times the normal value
 - c. Activated partial thromboplastin time (aPTT); therapeutic value should be 1.5 to 2 times normal value when given as a continuous IV drip
3. Monitor blood work if surgery cannot be delayed when client is receiving dabigatran (Pradaxa) to evaluate bleeding risk
 - a. Ecarin clotting time (ECT)
 - b. Activated thromboplastin time (aPTT)
 - c. Thrombin time (TT)
4. Administer subcutaneous heparin in the abdomen; do not aspirate or massage the area
5. Have appropriate antidote available: vitamin K for warfarin; protamine sulfate for heparin
6. Assess for signs of bleeding
7. Avoid intramuscular injections and salicylates with the concomitant administration of anticoagulants to prevent bleeding
8. Instruct to carry a medical alert card; immediately report signs of bleeding or injury; avoid alcohol and medications containing aspirin
9. Instruct to avoid interacting herbal supplements (e.g., garlic, ginseng, green tea, and St. John's wort); avoid excessive intake of dietary sources of vitamin K and cranberry juice when taking warfarin sodium
10. Maintain safety precautions (e.g., use electric razor and soft toothbrush) to prevent bleeding
11. Follow schedule for coagulation studies; may be daily, weekly, monthly, or every 3 months

Thrombolytics (Fibrinolytics)

A Description

1. Convert plasminogen to plasmin, which initiates local fibrinolysis
2. Dissolve occluding thrombi
3. Administered intravenously or intraarterially
4. Initial loading dose is administered concomitantly with heparin
5. Therapy must be instituted within hours of the onset of myocardial infarction, pulmonary embolism, or acute ischemic brain attack

B Examples: streptokinase (Streptase); tissue plasminogen activator (t-PA) such as alteplase (Activase)

C Major side effects: bleeding, especially GI if there is a history of peptic ulcer disease or cerebral if there is a history of uncontrolled hypertension (increased fibrinolytic activity); allergic reactions (introduction of a foreign protein); low-grade fever (resulting from absorption of infarcted tissue); reperfusion dysrhythmias

D Nursing care

1. Screen clients for contraindications and complete all venipuncture procedures before initiating therapy; observe for signs of bleeding; monitor PTT and fibrinogen concentration; monitor vital signs and neurologic status
2. Assess for signs of allergic reactions such as chills, urticaria, pruritus, rash, and malaise
3. Keep aminocaproic acid (Amicar), a fibrinolysis inhibitor, available
4. Maintain continuous IV infusion of heparin after thrombolytic therapy

Antianemics

A Description

1. Promote RBC production; effective in treatment of anemia caused by chronic kidney disease or chemotherapy, iron deficiency anemia, and inadequate nutrition
2. Colony-stimulating factors stimulate red blood cell production; iron-containing compounds and vitamin replacements needed for the formation of RBCs
3. Available in oral and parenteral (IM, IV, Sub-Q) preparations

B Examples

1. Colony-stimulating factors: epoetin (Epogen, Procrit) administered Sub-Q or IV three times a week
2. Iron compounds: oral—ferrous gluconate, ferrous sulfate; parenteral—iron dextran
3. Vitamin replacements: cyanocobalamin—vitamin B₁₂, folic acid—vitamin B₉

C Major side effects

1. Epoetin: seizures, hypertension, thrombotic events
2. Iron replacements: nausea, vomiting (irritation of gastric mucosa); constipation (delayed passage of iron and stool); black stools (presence of unabsorbed iron in stool); stained teeth (liquid preparations that come into contact with enamel); tissue staining (injectable preparations that leak iron into tissue)
3. Vitamin replacements: local irritation (tissue effect at injection site or in mouth); allergic reactions, anaphylaxis (hypersensitivity); diarrhea (GI irritation)

D Nursing care

1. Epoetin
 - a. Monitor BP, hematocrit, patency of dialysis shunt if present

b. Institute seizure precautions if there is a precipitous rise in hematocrit level

c. Do not shake vial, which may inactivate drug

2. Iron replacements

a. Inform about side effects of therapy

b. Teach to take liquid preparations diluted with water or fruit juice through a straw on an empty stomach, if possible, for optimum absorption; take ascorbic acid (vitamin C) concurrently because it increases iron absorption; encourage oral hygiene after iron administration to prevent staining of teeth and irritation of oral mucosa

c. Encourage intake of foods high in iron, vitamin B₁₂, and folic acid; increase high-fiber foods to reduce potential of constipation

d. Have available deferoxamine (Desferal), the antidote for iron toxicity

3. Vitamin replacements

a. Vitamin B₁₂: inform that it cannot be taken orally; use Z-track method for IM injection; therapy is life-long for pernicious anemia

b. Folic acid: instruct about dietary sources of folic acid (e.g., fresh fruits, vegetables, and meats)

Antilipidemics

A Description

1. Improve lipid profile by reducing cholesterol or triglyceride synthesis and/or increasing high-density lipoprotein (HDL) level

2. Used to attain recommended goals for low-density lipoprotein (LDL) levels established by the National Cholesterol Education Program's (NCEP) Adult Treatment Panel (ATP III) (ATP IV will be available in fall 2011)

a. Clients with coronary heart disease: less than 100 mg/dL with optional lower goal of less than 70 mg/dL

b. Clients with two or more risk factors: less than 130 mg/dL with optional lower goal of less than 100 mg/dL

c. Clients with zero to one risk factor: less than 160 mg/dL

B Examples

1. HMG-CoA reductase inhibitors (statins): lower levels of total cholesterol, LDL, and triglycerides; increase HDL levels; pravastatin (Pravachol), lovastatin (Mevacor), simvastatin (Zocor); atorvastatin (Lipitor)

2. Fibrates: decrease levels of total cholesterol, LDL, and triglycerides; gemfibrozil (Lopid), fenofibrate (Tricor)

3. Bile acid sequestrants: bind with intestinal bile, preventing absorption and lowering LDL and total cholesterol levels; cholestyramine (Questran), colestipol (Colestid)

4. Nicotinic acid reduces levels of total cholesterol, triglycerides, and LDL; increases HDL levels

C Major side effects

1. Nausea, vomiting, diarrhea (GI irritation)

2. Musculoskeletal disturbances (direct musculoskeletal tissue effect)

3. Hepatic disturbances (hepatic toxicity)

4. Reduced absorption of fat and fat-soluble vitamins (A, D, E, K) as well as vitamin B₁₂ and iron

5. Statins: rhabdomyolysis (potentially fatal skeletal muscle disease)

6. Bile acid sequestrants: constipation

7. Nicotinic acid (niacin): facial flushing

D Nursing care

1. Encourage adherence to dietary program
 - a. Low cholesterol, low fat (especially saturated)
 - b. Replace vegetable oils high in polyunsaturated fatty acid with those high in monounsaturated fatty acid (e.g., olive oil, canola oil)
 - c. Eat fish high in omega-3 fatty acids several times per week (e.g., salmon, tuna, halibut)
 - d. Increase intake of high-fiber foods (e.g., fruits, vegetables, cereal grains, legumes); soluble fibers (e.g., oat, bran, legumes) are particularly effective in reducing blood lipid levels
2. Instruct to take medications with meals to reduce GI irritation; take statins at hour of sleep to enhance effectiveness
3. Provide schedule for monitoring blood work: liver function tests, serum cholesterol, LDL, HDL, triglycerides, hemoglobin, RBCs, and fat-soluble vitamin levels
4. Cholestyramine: mix with full glass of liquid; incorporate measures to prevent constipation
5. Simvastatin (Zocor): teratogenic
6. Lovastatin and gemfibrozil: assess for visual disturbances with prolonged use
7. Statins: instruct to report muscle pain, fever, and dark urine, which are signs of rhabdomyolysis; monitor creatine kinase (CK) level

Phosphodiesterase Inhibitors

A Description

1. Inhibit cyclic adenosine monophosphate phosphodiesterase, leading to increased levels of adenosine monophosphate within the cells
2. Increase cardiac contractility (inotropic effect) and cardiac output
3. Cause vasodilation, decreasing peripheral vascular resistance, preload, and afterload
4. Used for short-term treatment of heart failure; administered IV

B Examples: inamrinone (Inocor), milrinone (Primacor)

C Major side effects: hypotension, dysrhythmias, nephrogenic diabetes insipidus, hepatotoxicity, anorexia, abdominal cramps, thrombocytopenia; overdose can cause death

D Nursing care

1. Monitor for therapeutic effects: decreased pulmonary capillary wedge pressure (PCWP), resolution of clinical indicators of heart failure (e.g., daily weights, I&O, breath sounds)
2. Monitor BP and cardiac rhythm
3. Use infusion control pump to administer; consult with health care provider for titration based on clinical indicators
4. Monitor potassium levels, which may be low secondary to diuresis; administer supplements as needed

Related Procedures

Angiography (Arteriogram)

A Definition: x-ray examination using contrast agent to visualize patency of arteries; may be performed using computed tomography (CT) with contrast or magnetic resonance imaging (MRI)

B Nursing care

1. Assess for iodine or shellfish allergy and adequate kidney function to excrete dye; hydration and n-acetylcysteine (Mucomyst) may be administered if there is reduced renal function
2. Inform about risks (e.g., allergic reaction, bleeding, embolus, cardiac dysrhythmia) and to expect sensation of warmth as contrast agent is injected
3. Administer prescribed sedative before procedure
4. Monitor for indicators of an allergic response such as dyspnea and diaphoresis; be prepared to administer steroids, antihistamines, and epinephrine
5. Postprocedure: check injection site for bleeding and inflammation; maintain pressure over insertion site; assess circulatory status of extremities; maintain bed rest; provide hydration; monitor urinary output

Angioplasty

A Definition

1. Percutaneous coronary intervention (PCI) or transluminal coronary angioplasty (PTCA): introduction of a balloon-tipped catheter into coronary artery to the stenosis to reduce or eliminate occlusion by the atheroma (plaque)
 - a. Performed via coronary catheterization; heparin infusion used to prevent thrombus formation
 - b. Thrombolytic therapy may be combined with PCI in some situations
 - c. Stents, which are mesh structural supports, may be inserted to maintain patency; requires long-term anticoagulation therapy after insertion
 - d. Calcified lesions that cannot be removed by PTCA require an atherectomy, which mechanically removes plaque by shaving and retrieving it from the vessel's lumen
 - e. Complications include arterial spasm or perforation and thrombus formation; emergency open heart surgery may be necessary; vessel occlusion may occur as a result of cellular response to procedure
2. Percutaneous angioplasty also is used to dilate stenotic vessels by stretching the artery wall away from the plaque; used in aorta, iliac, femoral, popliteal, tibial, and renal vessels and arteriovenous dialysis shunts; stent placement generally follows procedure

B Nursing care: see care for Cardiac Catheterization; administer prescribed vasoactive drugs such as calcium channel blockers and nitroglycerin before, during, and after this procedure; monitor for angina, dysrhythmias, bleeding, and evidence of restenosis and reocclusion

Blood Transfusion

A Purpose: restores blood volume after hemorrhage; maintains hemoglobin levels in clients with severe anemia; replaces specific blood components

B Sources of blood for transfusion

1. Homologous: random collection of blood by volunteer donors
2. Autologous: donation of a client's own blood before hospitalization; possible when donor's hemoglobin remains higher than 11 g/dL; donations can be saved for 5 weeks
3. Directed donation: donation of blood by a donor for a specific client
4. Blood salvage: client's blood is suctioned from a closed body cavity (e.g., operative site, trauma site, joint) into a cell-saver machine, processed, and transfused back into the client; must be used within 6 hours of collection; contains high levels of potassium

C Blood components and use

1. Whole blood: volume replacement for blood loss
 2. Packed RBCs: increase RBC mass
 3. Platelets: increase platelets to prevent bleeding related to thrombocytopenia
 4. Fresh frozen plasma: contains plasma, antibodies, clotting factors
 5. Cryoprecipitate: contains factor VIII, fibrinogen, and factor XIII to treat hemophilia
 6. Albumin: volume expander to treat hypoproteinemia
 7. Plasma protein factor: to treat some types of hemophilia
 8. IV gamma globulin: contains immunoglobulin G (IgG) antibodies to treat immunodeficiency
- D Nursing care
1. Obtain and document informed consent
 2. Check that blood or blood components are typed and cross-matched for compatibility; follow agency policy; two nurses should verify blood type, Rh factor, client identification, blood numbers, and expiration date
 3. Blood must be administered within 30 minutes of arrival on unit
 4. Obtain baseline vital signs before administration and monitor every 5 minutes for 15 minutes and then every 15 minutes during the transfusion
 5. Initiate an IV with normal saline infusing through a large-bore catheter and a blood administration set containing a filter; solutions containing glucose should not be used
 6. Maintain standard precautions when handling blood and IV equipment; assure client that risk for acquired immunodeficiency syndrome (AIDS) is minimal because blood is screened
 7. Invert blood container gently to suspend RBCs within the plasma
 8. Administer at appropriate rate
 - a. Platelets, plasma, and cryoprecipitate may be infused rapidly; assess for signs of circulatory overload
 - b. Blood transfusions should be completed within 4 hours because potential for bacterial contamination increases over time
 - c. Administer slowly for first 15 minutes to detect transfusion reaction
 - d. Use IV controller to provide safe infusion rate; ensure that IV controller is appropriate for blood administration
 9. Monitor for signs of hemolytic reaction: usually occurs within first 10 to 15 minutes; shivering, headache, flank pain, increased pulse and respiratory rates, hemoglobinuria, oliguria, progressive signs of shock and renal failure
 10. Monitor for signs of febrile reaction: usually occurs within 30 minutes; chills, fever, muscle stiffness
 11. Monitor for allergic reaction: hives, wheezing, flushing, pruritus, joint pain
 12. If reaction occurs: stop infusion immediately; replace IV tubing containing blood; maintain patency of IV tubing with normal saline; monitor vital signs and I&O frequently; send blood to the laboratory; send urine specimen to laboratory if a hemolytic reaction is suspected; evaluate hemoglobin and hematocrit laboratory results; monitor urine output; notify health care provider

Bone Marrow Aspiration

A Definition: puncture to collect tissue from bone marrow of sternum or iliac crest; performed to study cells involved in blood production

B Nursing care: allay anxiety; explain pain is brief, only occurs during aspiration, and conscious sedation may be used; position to expose site; apply pressure for several minutes after procedure;

monitor for signs and symptoms of bleeding and infection

Cardiac Catheterization

A Definition: introduction of a catheter into heart via a peripheral vessel

1. Injection of contrast material to visualize chambers, coronary circulation, and great vessels
2. Withdrawal of blood samples to evaluate cardiac function
3. Measurement of pressures within chambers and blood vessels (e.g., pulmonary wedge pressure)
4. Electrophysiological (EP) study may be done using a catheter with electrodes to assess certain dysrhythmias and, if needed, treated with ablation to destroy ectopic foci

B Nursing care

1. Precatheterization
 - a. Inform of purpose, possible complications (e.g., hemorrhage, myocardial infarction, brain attack), and sensations it causes (e.g., urge to cough, nausea, heat); allow time for verbalization of fears
 - b. Identify allergies to iodine; assess for adequate urine output; hydration and n-acetylcysteine (Mucomyst) may be administered if there is reduced renal function
 - c. Maintain nothing by mouth (NPO [nil per os]) for 8 to 12 hours before; administer prescribed sedatives
2. Postcatheterization
 - a. Monitor vital signs frequently; cardiac dysrhythmias are more common during procedure but may occur afterward
 - b. Assess puncture site for bleeding; use pressure at insertion site (e.g., commercial hemostatic device, sandbags or ice packs)
 - c. Assess involved extremity for signs of ischemia (e.g., absence of peripheral pulses, changes in sensation, color, and temperature)
 - d. Maintain bed rest for prescribed number of hours; maintain in supine position; prevent hip flexion
 - e. Increase fluids to eliminate dye

Cardiac Monitoring

(Figure 6-4: Events of the cardiac cycle)

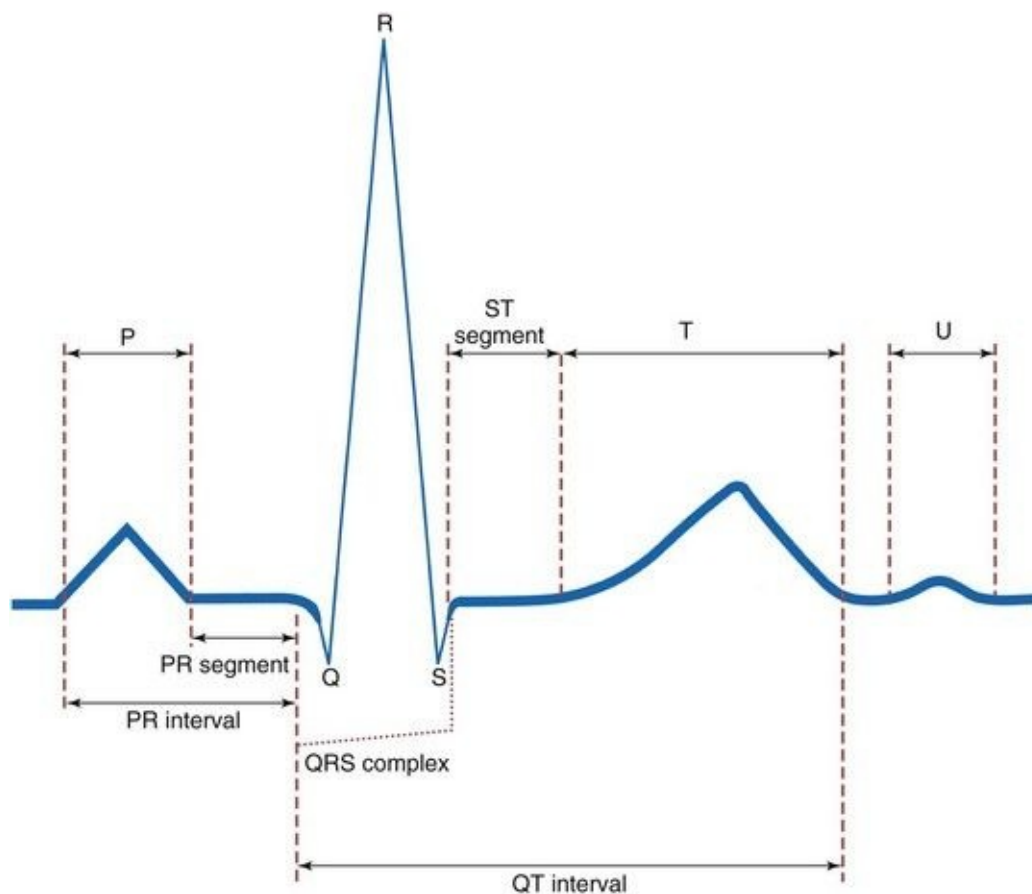


FIGURE 6-4 Events of the cardiac cycle. (From Ignatavicius DD, Workman ML: *Medical-surgical nursing: critical thinking for collaborative care*, ed 6, St. Louis, 2010, Saunders.)

A Definition

1. Electric observation of conductivity patterns of heart using skin electrodes and a monitoring device; heart's electric activity is conducted to skin surface by ionized fluids bathing cells and tissues
2. Used when danger of dysrhythmias is apparent (e.g., heart disease, surgery, invasive procedures)
3. Conduction from SA node through atria causes atrial contraction and gives rise to the P wave; conduction from AV node down bundle of His and bundle branches to Purkinje's fibers, which extend to lateral walls of the ventricles, causes ventricular contraction, which gives rise to the QRS wave; ventricular repolarization is associated with the T wave; late ventricular repolarization is associated with the U wave
4. Holter monitor assesses dysrhythmias by recording cardiac tracings during routine activities throughout a 24-hour period
5. Stress test assesses cardiac conduction and function after being challenged (e.g., treadmill or bicycle exercise, stimulatory medication)

B Nursing care

1. Explain procedure and attempt to allay anxiety
2. Prepare skin on chest for electrode attachment; cleanse area with alcohol to remove dirt and oils; shave area if necessary
3. Place electrodes on skin and attach to monitor cable as indicated: RA (attach to right upper arm or chest); LA (attach to left upper arm or chest); RL (attach to right leg or lower chest [ground]); LL (attach to left leg or lower chest); turn on monitor scope and set the sensitivity when a clear picture is obtained; set the alarm and readout attachment (if available) to document any change in cardiac

activity

4. Identify rhythm and intervene appropriately; intervene immediately when life-threatening dysrhythmias occur because if anoxia lasts for more than 4 minutes, brain damage results
- Normal sinus rhythm (NSR): ventricular and atrial rate of 60 to 100 beats/min; regular rhythm; a P wave (representing atrial depolarization) precedes each QRS complex (representing ventricular depolarization); PR interval (representing conduction of an impulse from the SA node through the AV node) is 0.12 to 0.20 second; T wave after each QRS complex (representing repolarization of the ventricles)
 - Sinus bradycardia: same as NSR, but rate less than 60; atropine may be administered if symptomatic
 - Sinus tachycardia: same as NSR, but with rate greater than 100; beta blockers, calcium channel blockers may be administered and catheter ablation may be performed if severe
 - Premature atrial complexes or beats
 - (1) An ectopic focus fires an impulse before the next sinus impulse is due; a pause follows the premature atrial complex; may cause palpitations; atrial irritability often caused by stress, fatigue, caffeine, nicotine, alcohol
 - (2) Treatment includes elimination of causative agent, antidysrhythmics
 - Atrial fibrillation and flutter ([Figure 6-5: Atrial fibrillation](#)):



FIGURE 6-5 Atrial fibrillation. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

- (1) Results from rapid firing of atrial ectopic foci; not all impulses conducted to ventricles
 - (a) Fibrillation: atrial rate of 300 to 600/min; ECG shows no P waves, rather irregular forms; pulse deficit is common; danger from blood pooling in quivering atria leads to emboli formation
 - (b) Flutter: atrial rate of 250 to 400/min, P waves on ECG have saw-tooth appearance
 - (2) Administer prescribed medications: antidysrhythmics; anticoagulant until rhythm is controlled to reduce risk of brain attack (cerebral vascular accident [CVA]) caused by atrial thrombi; prepare for cardioversion; catheter ablation if dysrhythmia is prolonged
 - (3) Monitor vital signs, oxygen saturation, and potassium levels
- First-degree atrioventricular (AV) block: conduction of impulse from atria is slowed; PR interval on ECG is consistent, but greater than 0.20 seconds
 - Second-degree AV block type I (Wenckebach): repeating pattern in which conduction of atrial impulse is progressively prolonged until it is completely blocked; ECG shows increasingly long PR interval until a QRS complex does not follow a P wave

- h. Second-degree AV block type II: conduction of atrial impulses is intermittently blocked every second, third, fourth beat, etc.; P waves may precede each QRS complex
- i. Third-degree atrioventricular block (complete heart block) ([Figure 6-6: Third-degree heart block](#))

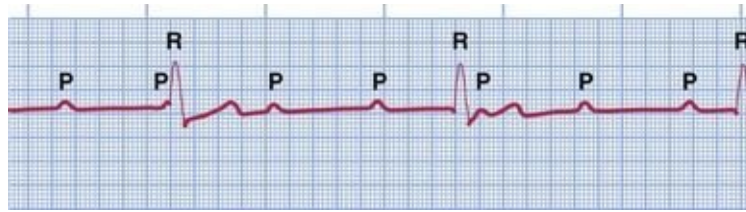


FIGURE 6-6 Third-degree heart block. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby)

- (1) No electric communication between atria and ventricles and each beat independently; does not provide long-term adequate circulation; syncope, heart failure, or cardiac arrest may ensue
 - (2) Document dysrhythmia and notify health care provider; administer medications per protocol; prepare for pacemaker insertion (see [Implantable Cardiac Devices under Related Procedures](#))
- j. Premature ventricular complexes or beats ([Figure 6-7: Premature ventricular complexes](#))

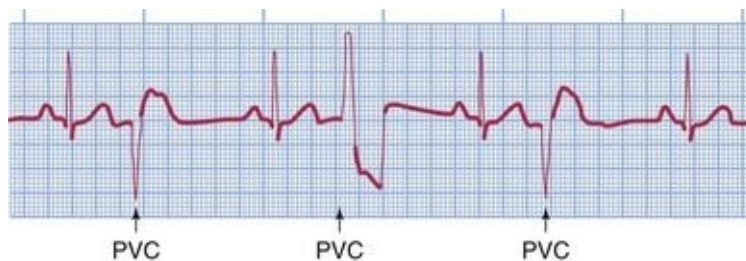


FIGURE 6-7 Premature ventricular complexes: normal sinus rhythm with multifocal PVCs. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby)

- (1) Originate in ventricles and occur before next expected sinus beat; can be life-threatening when they occur close to a T wave because cardiac repolarization is disrupted and ventricular fibrillation may ensue
 - (2) Administer medications per protocol; document dysrhythmia and notify health care provider; institute antidysrhythmics as prescribed; monitor vital signs, oxygen saturation, and potassium levels
- k. Ventricular tachycardia ([Figure 6-8: Ventricular tachycardia](#))

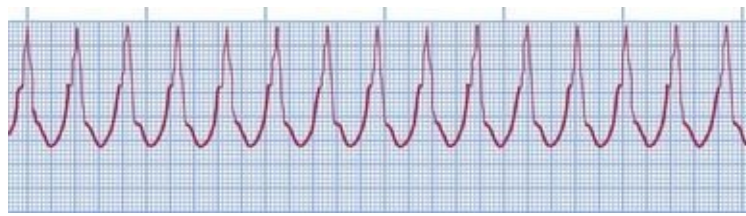


FIGURE 6-8 Ventricular tachycardia. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

- (1) Series of three or more bizarre premature ventricular complexes that occur in a regular rhythm; results in decreased cardiac output and may rapidly convert to ventricular fibrillation
- (2) Administer medications per protocol (e.g., amiodarone [Cordarone]); perform cardioversion if medications fail; be prepared to perform defibrillation and cardiopulmonary resuscitation; document dysrhythmia and notify health care provider; prepare for possible implantable cardioverter defibrillator (ICD) insertion; monitor vital signs, provide oxygen

l. Ventricular fibrillation ([Figure 6-9: Ventricular fibrillation](#))

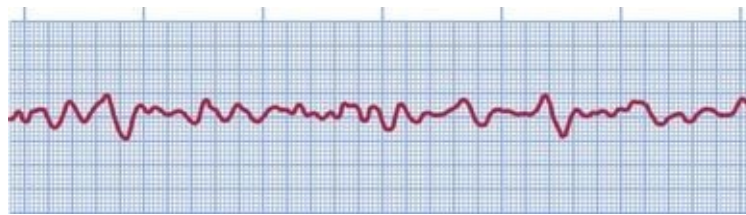


FIGURE 6-9 Ventricular fibrillation. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

- (1) Repetitive rapid stimulation from ectopic ventricular foci to which ventricles are unable to respond; ventricular contraction is replaced by uncoordinated twitching; circulation ceases and death ensues without treatment; death may be prevented by cardiopulmonary resuscitation (CPR) and defibrillation
- (2) Defibrillate immediately; inject medications per protocol; institute CPR; document dysrhythmia and notify health care provider; monitor oxygen saturation, and potassium levels

m. Cardiac standstill (asystole)

- (1) No cardiac activity (flat line on ECG tracing); terminates in death unless intervention is immediate
- (2) Institute CPR; document dysrhythmia and notify health care provider; cardiac stimulants may be given via IV or intracardiac route; pacemaker insertion may be indicated (see [Implantable Cardiac Devices under Related Procedures](#))

Cardioversion

A Definition: elective or emergent procedure during which current is administered to the myocardium in a synchronized fashion to depolarize all cells simultaneously, allowing SA node to resume pacemaker function; may be useful in treating tachydysrhythmias, atrial fibrillation, supraventricular tachycardia, and ventricular tachycardia

B Nursing care

- 1. Obtain informed consent for elective cardioversion
- 2. Maintain NPO, verify patent IV line, administer oxygen, and have suction available
- 3. Ensure that no one is touching bed/client when shock is delivered
- 4. Monitor cardiac status for dysrhythmias for several hours after procedure

Basic Life Support (Cardiopulmonary Resuscitation) by Health Care Providers

(Recommendation of American Heart Association in collaboration with the International Liaison Committee on Resuscitation [ILCOR], 2010)

A Definition: institution of external cardiac compression and ventilation to promote blood flow to heart and brain; CPR sequence C-A-B (circulation, airway, breathing)

B Nursing care

- 1. Assess level of consciousness if found unconscious: shake victim’s shoulder and shout, “Are you OK?”; if no response, call for help or activate emergency medical services (EMS) system
- 2. Assess circulation; take no more than 10 seconds to palpate carotid pulse (adults) or brachial pulse (children)
- 3. Deliver 30 external cardiac compressions initially; ensure that victim is on a firm surface and in the supine position; place heel of hand over lower half of body of sternum between the nipples, interlock hands, and compress chest; ensure complete recoil between compressions (see [Table 6-1](#) for details concerning compressions and ventilations)

Table 6-1

Component	Adults	Children	Infants
Depth of Compressions	At least 2 inches	At least 1/3 AP diameter About 2 inches	At least 1/3 AP diameter About 1 1/2 inches
Rate of Compressions	At least 100/minute Rotate health care provider every 2 minutes Minimize interruption to less than 10 seconds		
Ratio of Compressions to Ventilations	30 : 2 (1 or 2 Rescuers)	30 : 2 (Single Rescuer) 15 : 2 (2 Rescuers)	
Ventilations with Advanced Airway Placement	1 Ventilation every 6 to 8 seconds (8 to 10 breaths/minute) Asynchronous with chest compressions About 1 second per breath Visible chest rise		

- 4. After initial 30 compressions, assess and establish an airway (in less than 10 seconds); use head

tilt–chin lift maneuver (jaw thrust without hyperextension of neck if cervical injury is suspected); determine whether air is being exchanged by observing whether chest is moving, listening for whether air can be heard escaping during exhalation, and determining whether air can be felt during exhalation

5. Initiate rescue breathing by giving 2 breaths while maintaining head-tilt or jaw-thrust maneuver and pinching of victim’s nostrils; use pocket mask or bag mask if available
6. Maintain ventilation/compression ratio depending on one or two rescuers and before or after advanced airway placement; reassess carotid pulse after first five cycles and then every few minutes
7. Defibrillate using AED (automated external defibrillator); part of basic life support (BLS) for health care providers; minimize interruptions before and after shock; resume with compressions first
8. Place in recovery position if pulse and respirations resume; continue to monitor breathing regularly
9. Terminate CPR as indicated: return of cardiac rhythm and spontaneous respirations; rescuer exhaustion; health care provider-ordered cessation
10. Hands only CPR recommended for non–health care providers: activate EMS system and begin chest compressions “fast and hard” in the center of the chest (100 compressions per minute; depress chest 2 inches)

Implantable Cardiac Devices (Pacemaker, Implantable Cardiac Defibrillator)

A Definition

1. Pacemakers involve insertion of electrodes into the heart; electrodes are attached to an electronic pulse generator that replaces natural electric stimulation of the heart (SA node) to treat symptomatic bradycardia; biventricular pacing may be used for advanced heart failure
 - a. May be temporary and applied externally or may be permanent and surgically placed under skin
 - b. On-demand pacing: pacemaker stimulates heart to contract only if the ventricular rate falls below a preset rate; most frequently used
 - c. Fixed (asynchronous) pacing: pacemaker is set at a constant rate independent of the intrinsic rhythm
 - d. Number of leads and parts of heart stimulated depend on client’s status and needs
 - e. Universal code using letters indicates details about pacemaker: chambers being paced; chambers being sensed; pacemaker response to sensing; programmability; antitachycardia/defibrillation capability
2. Implantable cardioverter defibrillator (ICD): in addition to the functions of a pacemaker, an ICD has the ability to sense life-threatening dysrhythmias, such as ventricular tachycardia or fibrillation, and deliver an electrical impulse (shock) to restore a normal rhythm

B Nursing care

1. Observe cardiac monitor before, during, and after procedure to verify pacemaker capture (QRS following pacemaker spike) and observe for dysrhythmias; note stimulation threshold; have emergency medications (e.g., lidocaine, atropine sulfate) available, as well as a defibrillator; ensure electrical equipment is grounded; monitor incision for hematoma and infection
2. Teach how to measure pulse rate, to keep a diary of pulse rates and discharges of ICD, to notify health care provider immediately if rate falls below that set on pacemaker, to remain under a health

care provider's supervision because batteries must be replaced periodically; pacemaker function may be checked by special telephone devices

3. Encourage to wear a medical identification tag
4. Teach to avoid high-magnetic fields, hand-held screening devices, and MRI; to request hand searches at security gates (device may trigger airport or store alarms, but generally will not be affected); keep cell phone away from device
5. Explain that if ICD administers shock, others in physical contact with client may feel it, but will not be harmed

Nuclear Medicine Procedures

A Multiple-gated angiographic radioisotope (MUGA) scan or equilibrium radionuclide angiocardiology (ERNA)

1. Noninvasive test using computer and scintillation camera to study ventricular wall motion
2. Volume of blood pumped during one ventricular contraction is compared with total volume in left ventricle, which yields an ejection fraction
3. Ejection fraction gives important information on ventricular size and wall motion abnormalities

B Myocardial perfusion imaging

1. Intravenous injection of a radioisotope, such as thallium or technetium-99m (TC-99m), which is taken up by heart muscle
2. Damaged myocardial tissue absorbs isotope more slowly and retains it for a longer period
3. Isotope can be injected during and after exercise to determine myocardial perfusion

C Positron emission tomography (PET) scan

1. Positron-emitting isotope is administered intravenously to study patency of vessels
2. Provides detailed information about cardiac circulation
3. Specific nursing care: encourage fluid intake after test to facilitate excretion of isotope

D Magnetic resonance imaging (MRI)

1. Powerful magnetic field and computer generate images of heart and large blood vessels
2. Noninvasive and painless; clients with claustrophobia may require sedation for traditional closed MRIs
3. Contraindicated for clients with pacemaker or metal implants
4. Specific nursing care: remove all jewelry, transdermal patches that contain an aluminized layer, and equipment (e.g., IV infusion devices, oxygen tank, portable ECG monitor) from room; instruct client to lie still and be prepared to expect an intermittent thumping sound

E General nursing care

1. Review routine medications because some may affect results (e.g., beta blockers)
2. Monitor vital signs before and after test
3. Determine history of allergies and notify radiologist before test
4. Offer emotional support because of apprehension about test and results; allay fears about use of radioactive substances

Hemodynamic Monitoring with Pulmonary Artery Catheter

A Definition: catheter used to measure pulmonary capillary wedge pressure (PCWP), pulmonary artery pressure (PAP), and right atrial pressure (central venous pressure)

1. Double-lumen or triple-lumen catheter with balloon tip is inserted into a vein and advanced through

superior vena cava into right atrium and ventricle, then into pulmonary artery; after balloon is inflated, it is guided further into a distal arterial branch, where it wedges

2. Catheter yields information on circulatory status, left ventricular pumping action, filling pressures, and vascular tone

B Nursing care

1. Assist health care provider with catheter insertion into jugular or subclavian vein using sterile technique; obtain chest x-ray to check for placement and complication of pneumothorax
2. Observe insertion site for inflammation
3. Monitor line for patency and air bubbles
4. Take readings with client in supine position if possible with transducer at level of phlebostatic axis (intersection of horizontal line extending from sternal border of fourth intercostal space and midaxillary line) and compare with expected values
 - a. Pulmonary capillary occlusive or wedge pressure: 4 to 12 mm Hg
 - b. Pulmonary artery pressure: systolic—16 to 30 mm Hg; diastolic—8 to 12 mm Hg; mean—15 mm Hg
 - c. Central venous pressure (CVP) or right atrial pressure: 2 to 6 mm Hg; less than 2 mm Hg suggests low blood volume; greater than 6 mm Hg suggests fluid overload
5. Change sterile dressing as per policy
6. Notify health care provider if waveform changes or pressure readings are altered
7. Ensure balloon does not remain inflated after wedge pressure determination
8. Continue to monitor noninvasive indicators of hemodynamic status (e.g., BP mean arterial pressure, jugular vein distension)
9. Keep emergency medications and a defibrillator available

Major Disorders of the Circulatory System (Cardiovascular, Blood, and Lymphatic Systems)

Hypertension

Data Base

A Etiology and pathophysiology

1. Etiology is complex; begins insidiously; changes in arteriolar bed cause increased resistance; increased blood volume may result from hormonal or renal dysfunction; arteriolar thickening causes increased peripheral vascular resistance; abnormal renin release constricts arterioles
 - a. 90% to 95% have an unidentifiable cause (essential or primary hypertension); multiple factors such as the renin-angiotensin-aldosterone mechanism, sympathetic nervous system activity, and insulin resistance may be involved
 - b. 5% to 10% have identifiable causes (secondary hypertension); pathophysiology is related to condition causing the rise in pressure; conditions include renovascular disease; primary hyperaldosteronism; Cushing's syndrome; diabetes mellitus; neurologic disorders; dysfunction of thyroid, pituitary, or parathyroid glands; coarctation of the aorta; and pregnancy
2. Risk factors
 - a. Stress
 - b. Abdominal obesity
 - c. Diet: high sodium, low calcium, low magnesium, and low potassium
 - d. Substance abuse (e.g., cigarettes, alcohol, cocaine)
 - e. Family history
 - f. Increasing age
 - g. Sedentary lifestyle
 - h. Hyperlipidemia: increased LDL and cholesterol levels, decreased HDL level
 - i. African-American heritage
 - j. Type 2 diabetes
 - k. Renal disorders
3. Often asymptomatic; diagnosis requires three assessments of elevated BP on separate occasions
4. Classification of BP by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) (JNC 8 will be available summer 2011)
 - a. Normal: systolic less than 120 mm Hg and diastolic less than 80 mm Hg
 - b. Prehypertension: systolic 120 to 139 mm Hg or diastolic 80 to 89 mm Hg
 - c. Stage 1 hypertension: systolic 140 to 159 mm Hg or diastolic 90 to 99 mm Hg
 - d. Stage 2 hypertension: systolic 160 mm Hg or more, or diastolic 100 mm Hg or more
5. Hypertension increases risk for coronary artery disease, heart failure, myocardial infarction, brain attacks (CVAs), retinopathy, and nephropathy

B Clinical findings

1. Subjective: headache (occipital area); light-headedness; tinnitus; easy fatigue; visual disturbances; palpitations
2. Objective: BP more than 140/90 mm Hg obtained on three separate occasions; retinal changes; renal pathology (e.g., azotemia); epistaxis; cardiac hypertrophy

C Therapeutic interventions

1. Lifestyle modifications recommended by JNC 7 (JNC 8 will be available summer 2011)
 - a. Weight control or reduction to attain a body mass index of 18.5 to 24.9 kg/m²
 - b. Dietary Approaches to Stop Hypertension (DASH) eating plan: increased fruits, vegetables, and low-fat dairy products that are rich in calcium and potassium
 - c. Sodium restriction (less than 2.4 g daily)
 - d. Aerobic exercise at least 30 minutes on most days
 - e. Alcohol moderation (no more than one drink daily for women, two for men)
2. Drug therapy recommended by JNC 7 (JNC 8 will be available summer 2011)
 - a. Prehypertension: only for compelling indications
 - b. Stage 1 hypertension: thiazide diuretics for most; may consider ACEIs, ARBs, CCBs, BBs (see [Antihypertensives under Related Pharmacology](#))
 - c. Stage 2 hypertension: second drug added to thiazide diuretic for most
3. Other interventions: smoking cessation, relaxation modalities such as biofeedback and imagery; antianxiety agent

Nursing Care of Clients with Hypertension

Assessment/Analysis

1. Vital signs in both upright and recumbent positions; use appropriate cuff (width should be 40% of the arm's circumference); avoid errors of parallax when reading sphygmomanometer
2. Baseline weight
3. Presence of risk factors and clinical evidence of target organ damage

Planning/Implementation

1. Monitor levels of electrolytes, blood urea nitrogen (BUN), creatinine, lipid profile, and urine for protein
2. Encourage weight reduction if indicated; weigh daily to monitor fluid balance when there is threat of heart failure
3. Teach to monitor own BP; a BP of 180/120 mm Hg or higher represents a hypertensive emergency; advise to change position slowly and avoid hot showers to prevent orthostatic hypotension when taking antihypertensives
4. Support expression of emotions; encourage relaxation techniques
5. Reinforce that hypertension is not cured, but controlled
6. Educate client and family regarding drugs (see [Antihypertensives under Related Pharmacology](#)), follow-up care, activity restrictions, smoking cessation, limiting alcohol intake, and diet; note that many salt substitutes contain potassium chloride rather than sodium chloride and may be permitted by health care provider if there is no renal impairment; caution about use of nonsteroidal antiinflammatory drugs (NSAIDs), which can cause hypertension

Evaluation/Outcomes

1. Maintains BP at an acceptable level
2. Adheres to therapeutic regimen
3. Verbalizes need for stress reduction

Coronary Artery Disease (CAD): Ischemic Heart Disease (IHD), Coronary Heart Disease (CHD), Atherosclerosis, Angina Pectoris, Myocardial Infarction (MI)

Data Base

A Etiology and pathophysiology

1. Coronary atherosclerosis: deposition of fatty plaques along inner wall of coronary arteries leads to inflammation; macrophages infiltrate endothelium, causing further damage and development of atheromas (fibrous caps over fatty deposits); narrowing and possible obstruction occur; also affects peripheral and cerebral vessels
2. Angina pectoris: episodic pain experienced when the blood oxygen level cannot meet metabolic demands of muscles. In addition to atherosclerosis, this temporary ischemia may be precipitated by coronary artery spasms, strenuous exercise, heavy meals, hyperthyroidism, exposure to cold, and emotional stress; classified as stable, unstable (preinfarction), intractable, variant (Prinzmetal)
3. Myocardial infarction (MI): acute necrosis of heart muscle caused by interruption of oxygen supply to the area (ischemia), resulting in altered function and reduced cardiac output ([Figure 6-10: Effects of prolonged myocardial ischemia](#))

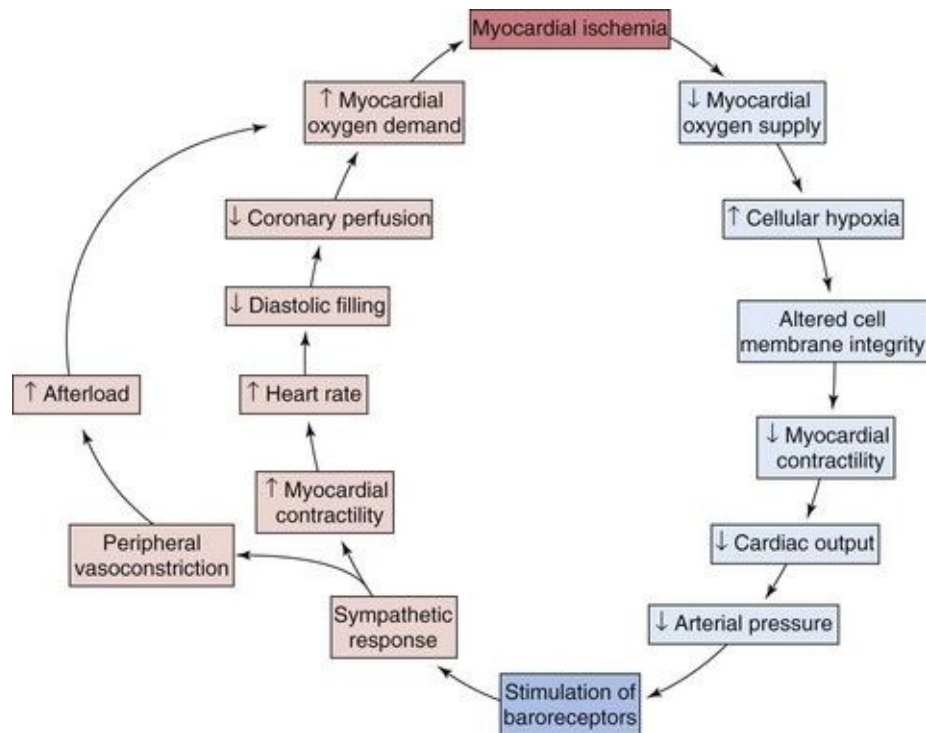


FIGURE 6-10 Effects of prolonged myocardial ischemia. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

4. Risk factors

- a. Family history
- b. Increasing age, particularly women
- c. Gender: men; women, especially after menopause (estrogen seems to provide some protection)
- d. Race; risk appears higher in African-Americans

- e. Cigarette smoking contributes to vasoconstriction, platelet activation, arterial smooth muscle cell proliferation, and reduced oxygen availability
- f. Hypertension; widened QRS complex (bundle branch block)
- g. Hyperlipidemia: increased total cholesterol; increased LDL (high: 130 to 150 mg/dL; very high: 160 mg/dL or more); increased ratio of total cholesterol or LDL to HDL; low HDL (less than 40 mg/dL); HDL greater than 60 mg/dL seems to help protect against coronary artery disease (CAD); increased triglycerides (high: 200 to 499 mg/dL; very high: 500 mg/dL or more)
- h. Obesity (particularly abdominal obesity)
- i. Sedentary lifestyle (contributes to obesity and reduced HDL)
- j. Type 2 diabetes
- k. Stress; an innate, competitive, aggressive type A personality seems less important than amount of stress and client's psychologic response)
- l. Metabolic syndrome: cluster of signs including hyperlipidemia, low HDL level, abdominal obesity, increased BP, insulin resistance, increased levels of C-reactive protein, and increased fibrinogen level

B Clinical findings

1. Subjective:

- a. Retrosternal chest pain that may radiate to arms, jaw, neck, shoulder, or back; pain described as "pressure," "crushing," or "viselike"; palpitations, apprehension, feeling of dread/impending doom, dyspnea, nausea, vomiting; pain of angina can be associated with activity and generally subsides with rest; asymptomatic with silent ischemia
- b. Atypical symptoms of angina in women include exertion-related discomfort above waist; burning or tenderness to touch in back, shoulders, arm, jaw, abdomen; overwhelming fatigue; indigestion; feeling of unease

2. Objective

- a. ECG changes may reveal ischemia (inverted T wave, elevated ST segment) or evidence of MI (presence of Q wave); a Holter monitor may be used to detect changes associated with activities of daily living (ADLs)
- b. Elevated levels of serum enzymes and isoenzymes with MI
 - (1) Cardiac troponin T (cTnT) levels increase within 3 to 6 hours and remain elevated for 14 to 21 days; accurate for assessing myocardial damage
 - (2) Cardiac troponin I (cTnI) levels rise 7 to 14 hours after an MI and remain elevated for 5 to 7 days; specific for myocardial damage
 - (3) Creatinine kinase (CK) levels elevate 3 to 6 hours after infarction, peaking at 24 hours, and returning to normal within 72 hours
 - (4) MB isoenzyme of creatine kinase (CK-MB) levels elevate 4 to 6 hours after pain, peaking within 24 hours, and returning to normal within 72 hours; specific for myocardial damage
 - (5) Myoglobin levels elevate in 1 to 3 hours; returning to normal within 12 hours
- c. C-reactive protein (CRP): elevation suggests inflammation of the vascular endothelium and coronary artery calcification
- d. Doppler flow studies
- e. Cardiac nuclear scanning (thallium, multigated acquisition scan [MUGA]) or echocardiographic studies help determine extent of vessels involved

- f. Sympathetic nervous system responses: pallor, tachycardia, diaphoresis, vomiting
- g. Signs associated with MI: dysrhythmia, elevated temperature, elevated sedimentation rate, and increased WBCs

C Therapeutic interventions

1. Prevention of MI

- a. Supervised exercise program to avoid ischemia but promote collateral circulation and increase HDL; weight control; smoking cessation; dietary restriction of sodium, cholesterol, and total and saturated fat; management of hypertension, hyperlipidemia, and diabetes
- b. Pharmacologic management: nitrates, beta-blocking agents, calcium channel blocking agents, antilipidemics, antiplatelet agents, ACEIs (see [Related Pharmacology](#))
- c. Supplemental oxygen during anginal attack as needed
- d. Percutaneous coronary interventions (PCIs) such as percutaneous transluminal coronary angioplasty (PTCA), coronary artery stent placement, and atherectomy to revascularize myocardium
- e. Coronary artery bypass graft (CABG) if medical regimen not successful

2. Management of acute MI

a. Improvement of perfusion

- (1) Administration of aspirin immediately
- (2) Beta blockers or angiotensin II receptor blockers for left ventricular systolic dysfunction (LVSD)
- (3) Thrombolytic therapy within 30 minutes of arrival; anticoagulants
- (4) IV nitroglycerin
- (5) ACEIs
- (6) Antidysrhythmics to maintain cardiac function
- (7) PCI within 90 minutes of arrival at emergency department
- (8) Intraaortic balloon pump that inflates during diastole and deflates during systole to decrease cardiac workload by decreasing afterload and increasing myocardial perfusion for cardiogenic shock
- (9) Aspirin, beta blocker, and possible antilipidemic prescribed at discharge

b. Promotion of comfort and rest

- (1) Analgesics (e.g., IV morphine) to reduce pain, anxiety, and cardiac workload by decreasing preload and afterload
- (2) Oxygen to improve tissue oxygenation
- (3) Maintenance of bed or chair rest to decrease oxygen tissue demands
- (4) Diet therapy: 2 g sodium diet or clear liquids, depending on presence of nausea

c. Continuous monitoring

- (1) Pulse oximetry
- (2) Cardiac monitoring: rate, evidence of ischemia, and dysrhythmias
- (3) Vital signs
- (4) Hemodynamic monitoring with pulmonary artery catheter (see [Related Procedures](#))

d. Assessment for complications of MI

- (1) Dysrhythmias
- (2) Cardiogenic shock
- (3) Pulmonary edema caused by acute heart failure
- (4) Thromboembolism

- (5) Extension of MI
- (6) Pericardial effusion and cardiac tamponade

Nursing Care of Clients with Coronary Artery Disease

Assessment/Analysis

1. History of chest, arm, shoulder, neck, jaw pain
2. Precipitating factors (e.g., exercise, cold)
3. Risk factors (nonmodifiable and modifiable)
4. Vital signs
5. I&O (fluid volume overload is dangerous if cardiac output is compromised)
6. Adventitious breath sounds and dependent edema with impending failure
7. Restlessness, dyspnea
8. Skin: diaphoresis; pallor; cyanosis
9. If MI is suspected, continuous ECG monitoring to detect changes in rate, rhythm, and conduction of impulses; life-threatening dysrhythmias (e.g., ventricular fibrillation and ventricular standstill); dysrhythmias such as premature ventricular complexes close to a T wave, ventricular tachycardia, torsades de pointes (a ventricular tachycardia with a prolonged QT interval that is linked to rapid deterioration), and atrial fibrillation

Planning/Implementation

1. Teach signs and management of cardiac ischemia (e.g., rest; nitrates; seek emergency care if ineffective)
2. Encourage prophylactic administration of nitrates (see [Related Pharmacology](#))
3. Reinforce need to avoid exertion (e.g., shoveling snow) and exposure to cold; however, emphasize the need for regular exercise approved by health care provider or participation in cardiac rehabilitation program
4. Support involvement in smoking cessation, weight control, and exercise programs
5. Encourage following dietary program
 - a. Low cholesterol, low fat (substitute unsaturated fat for saturated fat), low sodium (2 g daily)
 - b. Replace vegetable oils high in polyunsaturated fatty acids with those high in monounsaturated fatty acids, such as olive oil and canola oil
 - c. Eat fish high in omega-3 fatty acids several times per week (e.g., salmon, tuna, halibut)
 - d. Follow DASH diet; increase intake of high-fiber foods such as fruits, vegetables, cereal grains, and legumes; soluble fiber is particularly effective in reducing blood lipid levels (e.g., oat bran, legumes); low-fat dairy
 - e. Eliminate stimulants such as caffeine (e.g., coffee, tea, chocolate, colas, energy drinks) that can precipitate dysrhythmias
6. Educate about medications (see [Related Pharmacology](#))
7. Provide emotional support regarding alteration in lifestyle
8. Provide care after an acute MI
 - a. Document dysrhythmia and respond per protocol: medication, defibrillation, or CPR
 - b. Reduce cardiac demand: administer oxygen, analgesics, vasodilators, and other medications as prescribed

- c. Reduce risk for sensory overload: orient to unit and equipment; allow time to express feelings; encourage short visits by significant others
- d. Use measures to prevent sequelae of diminished activity: thrombophlebitis, pneumonia, constipation, skin breakdown, deconditioning

Evaluation/Outcomes

- 1. Remains free of chest pain
- 2. Verbalizes a reduced level of anxiety
- 3. Adheres to prescribed regimen (e.g., dietary, pharmacologic, and exercise)
- 4. Maintains oxygen saturation at 95% on room air

Inflammatory Disease of the Heart: Pericarditis, Myocarditis, Infective Endocarditis

Data Base

A Etiology and pathophysiology

- 1. Pericarditis
 - a. Acute or chronic inflammation of the pericardium
 - b. May be idiopathic or result from: bacterial infection (e.g., streptococcal, staphylococcal, gonococcal, meningococcal organisms); viral infection (e.g., coxsackievirus, influenza); mycotic (e.g., fungal) infection; rickettsial and parasitic infestation; trauma; collagen disease; rheumatic fever; neoplastic disease secondary to lung and breast metastasis; 4 to 6 weeks after cardiac surgery or myocardial infarction (Dressler's syndrome—pericarditis caused by antigen-antibody reaction to necrotic myocardium; causes pleural friction rub and fever)
 - c. Sequelae: loss of pericardial elasticity or accumulation of fluid within the sac; heart failure or cardiac tamponade
- 2. Myocarditis
 - a. Inflammation of the myocardium
 - b. May result from viral, bacterial, mycotic, parasitic, protozoal, or spirochetal infections or infestations; rheumatic fever; endocarditis; impaired immune system
 - c. Sequelae: impaired contractility of the heart caused by the inflammatory process; myocardial ischemia and necrosis; heart failure
- 3. Infective endocarditis
 - a. Inflammation of inner lining of heart and valves
 - b. May result from bacterial, fungal, or rickettsial infections; rheumatic heart disease; presence of invasive lines or prosthetic valves; IV drug use
 - c. Sequelae: structural damage to valves; pump failure; embolization

B Clinical findings

- 1. Subjective: precordial or substernal pain; dyspnea; chills; fatigue and malaise
- 2. Objective: dysrhythmias; increased cardiac enzymes; fever; positive blood cultures; friction rubs evident on auscultation; petechiae on body and splinter hemorrhages under nails with infective endocarditis

C Therapeutic interventions

- 1. Oxygen therapy and bed rest

2. Antibiotics to relieve underlying infection; corticosteroids; nonsteroidal antiinflammatory agents to suppress rheumatic activity
3. Pericardectomy (surgical removal of scar tissue and pericardium), if indicated
4. Cardiac monitoring

Nursing Care of Clients with Inflammatory Disease of the Heart

Assessment/Analysis

1. Signs of shock, heart failure, and dysrhythmias
2. Temperature to obtain baseline
3. Distention of neck veins
4. Friction rub and murmur
5. Overt and covert indicators of pain

Planning/Implementation

1. Maintain a tranquil environment to promote maximum rest; medicate for discomfort as needed
2. Administer IV antibiotics as prescribed
3. Monitor temperature and blood cultures to evaluate antibiotic therapy
4. Provide care after cardiac surgery (see [Cardiac Surgery](#))
5. Explain posthospitalization therapy (e.g., lifelong doses of antibiotics prophylactically when undergoing invasive procedures)

Evaluation/Outcomes

1. Verbalizes pain is relieved
2. Achieves afebrile state
3. Maintains vital signs within expected limits
4. Adheres to therapeutic regimen

Heart Failure (HF)

Data Base

A Etiology and pathophysiology

1. Inability of heart to meet oxygen demands of the body
2. Pump failure may be caused by cardiac abnormalities or conditions that place increased demands on the heart such as cardiac muscle disorders, valvular defects (e.g., mitral valve prolapse with regurgitation, aortic stenosis), hypertension, coronary atherosclerosis, hyperthyroidism, obesity, chronic obstructive pulmonary disease (COPD), and circulatory overload
3. Heart failure may be classified as diastolic (impaired ventricular filling) or systolic (impaired ventricular contraction); determined by ejection fraction
4. When one side of heart “fails,” there is buildup of pressure in the vascular system feeding into that side; signs of right ventricular failure are first evident in the systemic circulation; those of left ventricular failure are first evident in the pulmonary system, causing pulmonary edema; eventually affects both pulmonary and systemic circulation
5. Decreased cardiac output activates the renin-angiotensin-aldosterone mechanism and sympathetic

nervous system, leading to vasoconstriction and retention of sodium and water thus increasing cardiac workload

B Clinical findings

1. Left ventricular heart failure

- Subjective: dyspnea from fluid within lungs; orthopnea; fatigue; restlessness; paroxysmal nocturnal dyspnea
- Objective: decreased oxygen saturation; crackles; peripheral cyanosis; Cheyne-Stokes respirations; frothy, blood-tinged sputum; dry, nonproductive cough; decreased ejection fraction; dyspnea; decreased urine output; S3/S4 summation gallop

2. Right ventricular failure

- Subjective: abdominal pain; fatigue; bloating; nausea
- Objective: jugular vein distention (JVD); dependent, pitting edema that often subsides at night when legs are elevated; ankle edema is frequently the first sign of HF; ascites from increased hydrostatic pressure within portal system; hepatomegaly; anorexia; respiratory distress (e.g., use of accessory muscles of respiration); increased central venous pressure (CVP); diminished urinary output

3. Diagnostic tests

- B-type natriuretic peptide (BNP) rises (normal value is <100 pg/mL); produced by myocardium in response to increased ventricular end-diastolic pressure; functions to promote diuresis and vasodilation, which reduces cardiac workload
- Echocardiogram to assess ventricular function/hypertrophy
- Hemodynamic monitoring for cardiogenic shock
- Electrolytes, hematocrit, hemoglobin, BUN, creatinine, complete blood count, thyroid-stimulating hormone, and ECGs are done to identify underlying causes

C Therapeutic interventions

- Rest in high-Fowler or orthopneic position to reduce cardiac workload
- Morphine to reduce anxiety and dyspnea
- Oxygen therapy; endotracheal intubation and a ventilator for acute ventricular failure
- Decrease cardiac workload with diuretics, vasodilators, ACEIs, ARBs, beta blockers, phosphodiesterase inhibitors, and nesiritide (Natrecor)
- Increase pump performance with digitalis or dobutamine (Dobutrex)
- Potassium supplements to prevent digitalis toxicity and hypokalemia
- Hemodynamic monitoring through a multilumen pulmonary artery catheter
- Sodium-restricted diet to limit fluid retention and promote fluid excretion
- Paracentesis if ascites exists and is causing respiratory distress
- Cardiac resynchronization therapy: use of right and left ventricular pacemaker leads to synchronize contractions and improve cardiac output

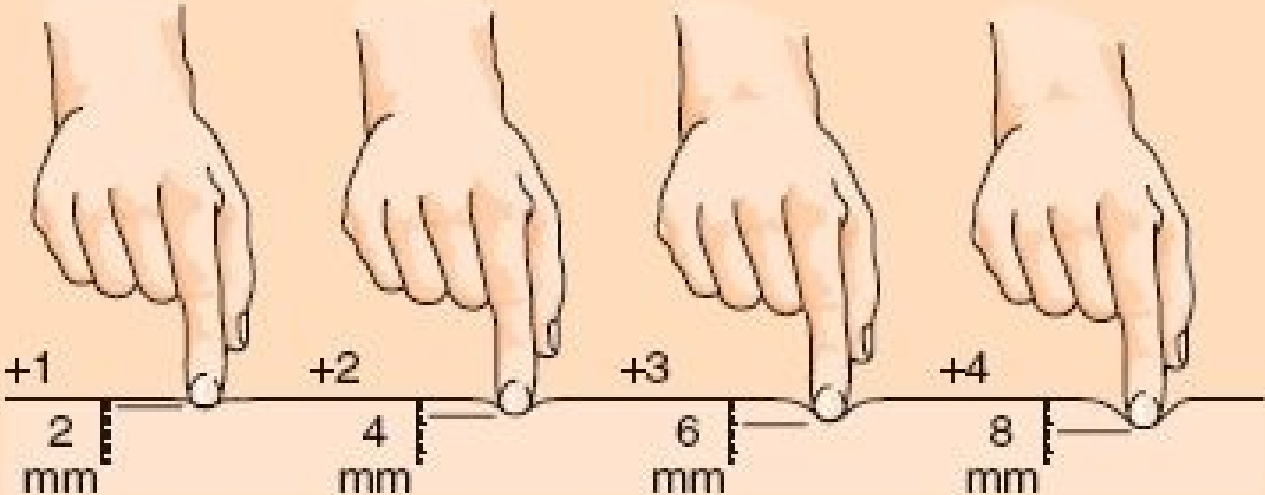
Nursing Care of Clients with Heart Failure

Assessment/Analysis

- Baseline vital signs, breath sounds, oxygen saturation (SaO_2)
- Daily weight, extent of pitting edema, circumference of edematous extremities, abdominal girth, jugular vein distention (JVD) ([Table 6-2: Pitting Edema Scale](#))

Table 6-2
Pitting Edema Scale

Scale	Description	Measurement
1+	Barely perceptible pit	2 mm (3/32 in.)
2+	Deeper pit; rebounds in a few seconds	4 mm (5/32 in.)
3+	Deep pit; rebounds in 10-20 seconds	6 mm (1/4 in.)
4+	Deeper pit; rebounds in >30 seconds	8 mm (5/16 in.)



The illustration shows four hands, each representing a different level of pitting edema. Below each hand is a horizontal line with a vertical tick mark indicating the depth of the pit. The levels are labeled +1, +2, +3, and +4 from left to right. The corresponding measurements are 2 mm, 4 mm, 6 mm, and 8 mm. The pits become progressively deeper and wider as the scale increases.

From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.

- 3. Hemodynamic status (e.g., CVP, PCWP)
- 4. Electrolyte levels (e.g., sodium, chloride, potassium)
- 5. I&O

Planning/Implementation

- 1. Maintain in high-Fowler or orthopneic position; administer supplemental oxygen
- 2. Elevate extremities except when in acute distress
- 3. Monitor vital signs, breath sounds, JVD, SaO₂
- 4. Change position slowly and frequently
- 5. Monitor I&O, daily weight, electrolytes
- 6. Restrict fluids as ordered
- 7. Provide small, frequent, low-sodium meals
- 8. Monitor invasive lines
- 9. Administer medications as prescribed: cardiac glycosides, antihypertensives, diuretics, and phosphodiesterase inhibitors (see [Related Pharmacology](#))
- 10. Help to establish balanced schedule of rest and activity; lifestyle modifications (e.g., weight control, smoking cessation)
- 11. Teach importance of continued health care provider supervision

Evaluation/Outcomes

1. Maintains adequate tissue perfusion
2. Reduces peripheral edema/ascites
3. Adheres to pharmacologic and dietary regimen

Cardiac Surgery

Data Base

A Purposes

1. Correct abnormalities: mitral stenosis or regurgitation; aortic stenosis or insufficiency; coronary occlusion; ventricular aneurysm

2. Replace failing heart (cardiac transplantation): terminal heart disease with life expectancy of less than 1 year; viral myocarditis; toxic injury to the myocardium; severe coronary heart disease

B Types of procedures: open (may require cardiopulmonary bypass machine [CPB]) or closed

1. Hypothermia may be used to decrease metabolic rate during cardiac surgery
2. Coronary artery bypass graft (CABG) surgery is done when severe atherosclerotic disease causes ischemia; involves anastomosis of a graft or a segment of a vessel (e.g., internal mammary artery, saphenous vein), bypassing diseased portion of a coronary artery; one or more vessels may be bypassed
3. Cardiac transplantation involves replacement of the diseased heart with one from a compatible donor; requires lifelong antirejection drugs including steroids and immunosuppressants
4. Surgical removal (ablation) of foci and pathways of dysrhythmias; involves mapping cardiac electrophysiologic function to locate sources of dysrhythmic foci; surgical resection is made through a sternotomy
5. Surgical repair or replacement of valves with biological or mechanical prosthetics

Nursing Care of Clients after Cardiac Surgery

Assessment/Analysis

1. Hemodynamic monitoring, vital signs
2. Airway patency, breath sounds, SaO_2
3. Tubes (e.g., indwelling urinary, chest, nasogastric) to ensure patency and to assess drainage
4. Incision for signs of hemorrhage or infection
5. Clinical indicators of complications: MI, HF, cardiac tamponade, cerebral ischemia, bleeding, fluid volume excess or deficit, dysrhythmias, renal failure

Planning/Implementation

1. Monitor hemodynamic functioning
2. Evaluate neurologic signs
3. Rewarm slowly to prevent shivering and monitor temperature for increases because fever and shivering increase workload of the heart
4. Maintain airway; an endotracheal tube with mechanical ventilation will be in place postoperatively; suction secretions as necessary; encourage coughing, deep breathing, and incentive spirometry when

artificial airway is removed

5. Monitor I&O; weigh regularly

6. Assess pain (e.g., nature, site, duration, type) and provide relief

7. Monitor arterial blood gases

8. Maintain patency of indwelling urinary catheter; monitor characteristics of urine including specific gravity

9. Provide care related to chest tubes; report if drainage exceeds 200 mL/hr (see Related Procedures, Chest Tubes in [Chapter 7](#))

10. Administer parenteral therapy, including electrolytes and blood

11. Stay with client and explain procedures to limit anxiety and fear; encourage expression of feelings; provide emotional support

12. Assess involved leg if saphenous vein has been used: assess for signs of impaired circulation, edema, or infection (some edema expected when leg is dependent)

13. Monitor for signs of complications

a. Hemorrhage that can lead to hypovolemia: decreased BP; increased pulse rate; restlessness; apprehension; lowered CVP; pallor

b. Cardiac tamponade caused by collection of fluid or blood within pericardium: decreased arterial pressure; elevated CVP; rapid, thready pulse; diminished output

c. HF: dyspnea; elevated CVP; tachycardia; edema

d. MI

e. Acute renal failure

f. Thromboembolic event affecting pulmonary, cerebral, or peripheral circulation

g. Infection

h. Psychosis resulting from inability to cope with anxiety associated with cardiac surgery or being in an intensive care environment

Evaluation/Outcomes

1. Achieves adequate cardiac output

2. Verbalizes lower pain levels

3. Performs self-care activities

Vascular Disease: Thrombophlebitis, Varicose Veins, and Peripheral Vascular Disease

Data Base

A Etiology and pathophysiology

1. Thrombus: a clot composed of platelets, fibrin, clotting factors, and cellular debris attached to interior wall of an artery or vein

2. Embolus: a clot or solid particle carried by bloodstream; may interfere with tissue perfusion in an artery or vein

3. Arterial disorders involve depriving oxygen to a body part or tissue; affected by BP and collateral circulation

a. Reduced blood flow resulting from atherosclerosis, thrombus, or embolus

b. Lower extremity arterial disease (LEAD); atherosclerosis leads to blockage of blood supply to

lower legs and feet

c. Buerger's disease (thromboangiitis obliterans)

- (1) Peripheral circulation impaired by inflammatory occlusions of peripheral arteries; thromboses of arteries may occur
- (2) Incidence is highest in young adult males who smoke

d. Raynaud's disease

- (1) Spasms of digital arteries thought to be caused by abnormal response of sympathetic nervous system to cold or emotional stress; usually bilateral; primarily occurs in young females and continues throughout life
- (2) Raynaud's phenomenon is episodic arterial spasm of the extremities secondary to another disease or abnormality

4. Venous disorders: interfere with transportation of blood back to the heart from the capillary beds; pathophysiologic changes may include impaired smooth muscle around vessels, lack of muscular contraction, damage to intima, incompetent valves; risk factors include immobility, venous stasis, vessel trauma, oral contraceptive use, pregnancy, obesity, and pelvic surgery

- a. Thrombophlebitis: inflammation of a vein
- b. Deep vein thrombosis (DVT): thrombophlebitis associated with clot formation
- c. Venous thromboembolism (VTE): DVT associated with pulmonary embolism
- d. Varicose veins: occur when veins in lower extremities become dilated and congested, which increases hydrostatic pressure, and tortuous as a result of weakness of valves or loss of elasticity of vessel walls; risk factors include family history, prolonged standing, pregnancy, leg trauma, thrombophlebitis

B Clinical findings

1. Peripheral arterial disorders

- a. Subjective: paresthesia; aching to severe or burning pain; lower extremity pain with exercise (intermittent claudication)
- b. Objective: pallor or dependent rubor; shiny, cool skin; hair loss; thickened nails; gangrenous ulcers of toes or heel; diminished or absent pulses; and decreased ankle-brachial index

2. Thrombophlebitis or DVT

- a. Subjective: may be asymptomatic until embolus is released and occludes organ; calf pain on dorsiflexion of ankle (Homans sign) is not a reliable indicator; this sign should not be elicited because dorsiflexion may dislodge the thrombus
- b. Objective: edema of one leg; redness and warmth of area along the vein; Doppler studies/flow studies of lower extremities indicate obstruction or decreased flow from the area, suggesting thrombus formation; positive D-dimer assay, which indicates products of fibrin degradation in the blood (normal value is <250 mcg/L)

3. Varicose veins

- a. Subjective: heaviness and fatigue in legs with cramping; usually relieved when legs are elevated
- b. Objective: positive venogram; positive Trendelenburg test is diagnostic of varicose veins; brown skin discoloration from breakdown of hemoglobin and deposition of ferrous sulfate; edema; stasis ulcers usually develop around ankles and calf from venous insufficiency

C Therapeutic intervention

1. Peripheral vascular disease

- a. Arterial vasodilators and antiplatelet agents

- b. Sympathectomy to sever sympathetic ganglia supplying the area; there is local vasodilation with improved circulation
- c. Bypass grafting
- d. Amputation if vascular supply is severely impaired (see Amputation in Nursing Care of Clients with Neuromusculoskeletal System Disorders in [Chapter 11](#))

2. Varicose veins

- a. Sclerotherapy: injection of a chemical irritant into vein
- b. Surgical intervention: ligation of vein above the varicosity and removal of the involved vein; the great saphenous vein may be ligated near the femoral junction (deep veins must be able to accommodate venous flow); early ambulation to prevent formation of thrombi

3. Thrombophlebitis

- a. Prophylactic interventions: antiembolism stockings and exercises to promote venous return
- b. Moist heat to promote vasodilation
- c. Elevation of extremity to reduce edema
- d. Anticoagulants to prevent recurrence
- e. Vasodilators to prevent vascular spasm
- f. Thrombolytic therapy to dissolve clot
- g. Transvenous filter or thrombectomy

Nursing Care of Clients with Vascular Disease

Assessment/Analysis

1. Risk factors and subjective data
2. Affected extremity for pulses, color, temperature, and circumference; a Doppler scan facilitates attainment of peripheral pulses
3. Mobility of involved extremity

Planning/Implementation

1. Observe for signs of vascular impairment (e.g., pallor, cyanosis, coolness of involved extremities, and amplitude and symmetry of peripheral pulses)
2. Instruct to avoid cigarette smoking (nicotine constricts vessels, massaging legs), maintaining one position for long periods, and wearing tight clothing that can affect peripheral vessels; reduce weight when indicated; control diabetes, hypertension, and lipid levels; maintain adequate hydration; perform ankle exercises so muscle contractions prevent venous stasis
3. Venous insufficiency: elevate legs to limit edema; apply antiembolism stockings before arising; apply sequential compression device for clients on prescribed bed rest; if thrombophlebitis is suspected, maintain bed rest and notify health care provider
4. Arterial insufficiency: keep extremities warm; instruct to wear gloves when exposed to cold and apply lubricants to keep skin supple; maintain dependent position of extremities to increase arterial flow and limit pain
5. Observe for clinical manifestations of thrombophlebitis and pulmonary embolism (e.g., sudden chest pain, cyanosis, hemoptysis, shock); maintain client on bed rest and notify health care provider if thrombophlebitis or pulmonary embolism is suspected
6. Provide specific care if undergoing vascular surgery: monitor for hemorrhage; notify health care

provider if bleeding is suspected; assess neurovascular status of extremity; keep extremity elevated in immediate postoperative period; allow out of bed as ordered (see Amputation, Nursing Care in [Chapter 11](#))

7. Provide specific care after vein ligation: elevate foot of the bed for first 24 hours; observe for signs of hemorrhage; maintain compression dressings; assist with ambulation
8. Provide specific care after endarterectomy and bypass grafting
 - a. Assess circulation of involved area by checking pulses, capillary refill, color, temperature, mobility, and sensory function
 - b. Monitor BP because hypotension increases possibility of thrombus formation; encourage hydration to maintain blood volume and decrease viscosity
 - c. Observe for signs of hemorrhage and pain; changes in skin color; alteration of vital signs
 - d. Ambulate as ordered; sitting should be avoided
9. Administer prescribed medications

Evaluation/Outcomes

1. Maintains tissue perfusion
2. Verbalizes reduction in pain

Aneurysms

Data Base

A Etiology and pathophysiology

1. Distention at site of a weakness in an arterial wall
 - a. Saccular aneurysm: pouchlike projection on one side of artery
 - b. Fusiform aneurysm: entire circumference of arterial wall is dilated
 - c. Mycotic aneurysm: tiny weaknesses in arterial walls resulting from infection
 - d. Dissecting aneurysm: tear in the inner lining of an arteriosclerotic aortic wall causes blood to form a hematoma between layers of the artery, compressing the lumen
2. Causes: congenital weakness; syphilis; trauma; atherosclerosis (most common cause of both thoracic and abdominal aortic aneurysms)
3. Represent surgical emergency if ruptured
4. Thoracic aortic aneurysms occur most frequently in middle-aged males; abdominal aneurysms between 60 and 90 years
5. Risk factors include history of hypertension, obesity, stress, hypercholesterolemia, cigarette smoking, familial tendency

B Clinical findings

1. Thoracic aortic aneurysm
 - a. Subjective: may be asymptomatic; dyspnea; dysphagia; pain resulting from pressure against nerves or vertebrae
 - b. Objective: hoarseness, cough, and aphonia from impingement on laryngeal nerve; unequal pulses and arterial pressure in upper extremities; trachea may be displaced from midline because of adhesions between trachea and aneurysm
2. Abdominal aortic aneurysm
 - a. Subjective: may be asymptomatic; lower back or abdominal pain, which may be severe if

aneurysm is leaking; sensory changes in lower extremities if aneurysm ruptures

- b. Objective: hypertension; pulsating abdominal mass; mottling of lower extremities and increased abdominal girth if aneurysm ruptures

3. Dissecting aortic aneurysm

- a. Subjective: restlessness; anxiety; severe pain
- b. Objective: diminished pulses; signs of shock

C Therapeutic interventions

1. Resection/repair of aneurysm with a vascular graft or endovascular stent
2. Aimed at controlling cardiac output and BP by pharmacological therapy because elevated BP increases risk of graft rupture

Nursing Care of Clients with Aneurysms

Assessment/Analysis

1. History of risk factors
2. Pulsation in abdomen (palpate gently)
3. Severe back or abdominal pain (may indicate impending rupture)
4. Peripheral neurovascular status

Planning/Implementation

1. Monitor neurovascular status of extremities
2. Monitor hemodynamic status, vital signs, SaO_2 , ECG
3. Record I&O, because acute renal failure may occur after surgery
4. Administer prescribed opioids to alleviate pain
5. Apply abdominal binder to provide support when client is coughing, deep breathing, and ambulating
6. Prevent flexion of hip and knees to eliminate pressure on arterial wall

Evaluation/Outcomes

1. Maintains adequate peripheral circulation
2. Makes lifestyle changes to modify risk factors

Shock

Data Base

A Etiology and pathophysiology

1. Hypovolemic: occurs when there is loss of fluid resulting in inadequate tissue perfusion; caused by excessive bleeding, diarrhea, or vomiting; fluid loss from fistulas or burns
2. Cardiogenic: occurs when pump failure causes inadequate tissue perfusion; caused by HF, MI, cardiac tamponade
3. Neurogenic: caused by rapid vasodilation and subsequent pooling of blood within peripheral vessels; caused by spinal anesthesia, emotional stress, drugs that inhibit the sympathetic nervous system, spinal injury
4. Anaphylactic: caused by an allergic reaction that results in a massive release of histamine and

subsequent vasodilation

5. Septic (similar to anaphylactic): reaction to bacterial toxins (generally gram-negative infections) that causes leakage of plasma into tissues, resulting in hypovolemia

B Clinical findings

1. Subjective: apprehension; restlessness; paresis of extremities
2. Objective: weak, rapid, thready pulse; diaphoresis; cold, clammy skin; pallor; decreased urine output; progressive loss of consciousness; decreased mean arterial pressure (normal is 80 to 120 mm Hg)

C Therapeutic interventions

1. Correction of underlying cause
2. Fluid and blood replacement
3. Oxygen therapy, ventilator
4. Elevation of lower extremities to ensure circulation to vital organs
5. Cardiac and hemodynamic monitoring
6. Vasoconstricting drugs to increase BP: norepinephrine (Levophed), DOPamine (Intropin), vasopressin (Pitressin)
7. Cardiotonics or inotropic agents to increase cardiac contractility: DOBUTamine (Dobutrex), DOPamine (Intropin), epiNEPHrine (Adrenalin), milrinone (Primacor)
8. Vasodilating drugs to reduce myocardial workload and ischemia: nitroglycerin (Tridil); nitroprusside (Nitropress)
9. Antihistamines: diphenhydrAMINE (Benadryl) and steroids for anaphylactic shock
10. Antibiotics for septic shock based on blood cultures
11. Drotrecogin alfa (Xigris) to interfere with coagulation cascade and decrease mortality from septic shock
12. Intraaortic balloon pump may be used to augment the failing heart

Nursing Care of Clients in Shock

Assessment/Analysis

1. History of causative and risk factors
2. Fluid I&O over previous 24 hours
3. Signs of covert bleeding: rapid, thready pulse; hypotension; increased respirations; cold, clammy skin
4. Mental status changes: restlessness and confusion progressing to lethargy and decreased level of consciousness
5. Cardiovascular status: ECG, hemodynamic monitoring, peripheral vascular assessment
6. Respiratory status: breath sounds, arterial blood gases, Sao_2

Planning/Implementation

1. Keep warm; place in supine position
2. Monitor hemodynamic status and vital signs
3. Monitor urine output and specific gravity
4. Allay anxiety
5. Administer intravenous fluids and titrate parenteral vasoactive medications as prescribed

6. Monitor oxygen saturation and provide oxygen therapy as indicated

Evaluation/Outcomes

1. Maintains stable hemodynamic status
2. Maintains urine output >30 mL/hour
3. Remains oriented to time, place, and person
4. Maintains adequate cardiac output

Anemias and Blood Disorders

Data Base

A Etiology and pathophysiology

1. Anemia: reduction in concentration of erythrocytes (RBCs) or hemoglobin
 - a. Iron deficiency anemia: most common causes are GI bleeding, menstruation, malignancy; other causes include inadequate dietary intake, malabsorption, and increased demand (e.g., pregnancy)
 - b. Megaloblastic anemia
 - (1) Folate deficiency: insufficient amount of folic acid absorbed or ingested to synthesize DNA, RNA, and proteins; associated with alcoholism, malabsorption, pregnancy, lactation
 - (2) Pernicious anemia: lack of intrinsic factor in the stomach prevents absorption of vitamin B₁₂, reducing the formation of adequate numbers of erythrocytes
 - c. Aplastic (hypoplastic) anemia: bone marrow is depressed or destroyed by a chemical or drug, leading to leukopenia, thrombocytopenia, decreased erythrocytes, and decreased leukocytes (agranulocytosis)
 - d. Hemolytic anemia: excessive or premature destruction of RBCs; causes include sickle cell anemia, thalassemia, glucose-6-phosphate dehydrogenase (G-6-PD) deficiency, antibody reactions, infection, and toxins
2. Polycythemia vera: sustained increase in number of erythrocytes, leukocytes, and platelets, with an increased blood viscosity
3. Thrombocytopenic purpura: appears to result from production of an antiplatelet antibody that coats surface of platelets and facilitates their destruction by phagocytic leukocytes

B Clinical findings

1. Subjective: fatigue, headache, paresthesias, dyspnea; sore mouth with pernicious anemia; bleeding gums and epistaxis with thrombocytopenic purpura
2. Objective
 - a. Ankle edema
 - b. Dry, pale mucous membranes
 - c. Pallor except with polycythemia vera and hemolytic anemia
 - d. Iron deficiency anemia: decreased levels of hemoglobin, erythrocytes, ferritin; increased iron-binding capacity; megaloblastic condition of blood
 - e. Pernicious anemia: beefy red tongue, lack of intrinsic factor, positive Romberg's test (loss of balance with eyes closed)
 - f. Aplastic anemia: fever; bleeding from mucous membranes; decreased levels of leukocytes,

erythrocytes, and platelets

g. Hemolytic anemia: increased reticulocytes and unconjugated bilirubin levels; jaundice

h. Polycythemia vera: increased hemoglobin level, purple-red complexion

i. Thrombocytopenic purpura: low platelet count, ecchymotic areas, hemorrhagic petechiae

C Therapeutic interventions

1. Improvement of diet: include ascorbic acid, which enhances iron uptake

2. Supplements: iron, vitamin B₁₂, folic acid

3. Blood transfusions (except for polycythemia vera)

4. Oxygen as needed

5. Epoetin (Epogen, Procrit) to stimulate bone marrow function

6. Aplastic anemia: bone marrow transplant (BMT); peripheral blood stem cell transplant (PBSCT); immunosuppressive therapy

7. Hemolytic anemia: splenectomy if indicated

8. Polycythemia vera: routine phlebotomy; low-iron diet; hydroxyurea (Droxia, Hydrea) to suppress bone marrow

Nursing Care of Clients with Anemias and Blood Disorders

Assessment/Analysis

1. History of dietary habits, symptoms, and causative agents

2. Status of skin, mucous membranes, and sclera

3. Baseline vital signs

Planning/Implementation

1. Teach dietary modifications and medication administration; emphasize foods high in iron (e.g., spinach, raisins, liver)

2. Help to balance rest and activity

3. Explain need for prevention of hemorrhage related to thrombocytopenia

4. Provide postoperative care if splenectomy is performed; encourage deep breathing and coughing; assess for abdominal distention that may reflect hemorrhage

5. Polycythemia vera: explain need for repeated phlebotomies and interventions to prevent DVTs

Evaluation/Outcomes

1. States/selects dietary sources of iron, folic acid, and vitamin B₁₂

2. Verbalizes need for and continues long-term therapeutic supervision

3. Performs activities of daily living

4. Remains afebrile and injury-free

Disseminated Intravascular Coagulation (DIC)

Data Base

A Etiology and pathophysiology

1. Response to overstimulation of clotting and anticlotting processes as a result of injury or disease;

massive amounts of microthrombi affect microcirculation

2. Complicated by hemorrhage at various sites as a result of fibrinolytic response
3. Multiple system failure may occur (e.g., circulatory, respiratory, GI, renal, neurologic) from bleeding or thrombosis

B Clinical findings

1. Subjective: restlessness, anxiety
2. Objective
 - a. Low fibrinogen level; prolonged prothrombin and partial thromboplastin times; reduced platelets; positive D-dimer assay
 - b. Hemorrhage, both subcutaneous and internal; petechiae; signs of organ failure

C Therapeutic interventions

1. Relieve underlying cause
2. Heparin to prevent formation of thrombi
3. Transfusion of blood products
4. Antifibrinolytic therapy to prevent bleeding if necessary

Nursing Care of Clients with Disseminated Intravascular Coagulation

Assessment/Analysis

1. History of causative factors (e.g., septicemia, obstetric emergencies, and septic shock)
2. Bleeding; abnormal coagulation profile

Planning/Implementation

1. Observe for bleeding; replace fluids as ordered
2. Minimize skin punctures; prevent injury
3. Monitor for renal, cerebral, and respiratory complications
4. Provide emotional support

Evaluation/Outcomes

1. Maintains circulation to all tissues
2. Verbalizes a decrease in anxiety
3. Maintains adequate cardiac output

Leukemia

Also see Leukemia in Nursing Care of Preschoolers in [Chapter 32](#).

Data Base

A Etiology and pathophysiology

1. Uncontrolled proliferation of WBCs; classified according to type of WBC affected
 - a. Acute lymphocytic leukemia (ALL): primarily occurs in children
 - b. Acute myeloid leukemia (AML): leukocytes are immature and abnormal; occurs throughout life cycle; incidence increases with age; prognosis is poor with or without chemotherapy
 - c. Chronic myeloid leukemia (CML): results from abnormal production of granulocytic cells;

occurs after the second decade; majority have Philadelphia chromosome

d. Chronic lymphocytic leukemia (CLL): results from increased production of leukocytes and lymphocytes and proliferation of cells within bone marrow, spleen, and liver; occurs most commonly in persons 50 to 70 years old; life expectancy is 2.5 to 14 years

2. Incidence highest in children aged 2 to 6 years; declines until age 35, then increases steadily
3. Etiology unknown, although genetic factors and exposure to certain toxic substances such as radiation seem to increase incidence

B Clinical findings

1. Subjective: malaise, bone pain
2. Objective: anemia, thrombocytopenia, elevated leukocytes, decreased platelets, petechiae, ecchymoses, gingival bleeding, fever, infection

C Therapeutic interventions

1. Chemotherapy
2. Transfusions of whole blood or blood fractions
3. Analgesics
4. Bone marrow transplant; peripheral blood stem cell transplant
5. Radiation to areas of lymphocytic infiltration
6. Granulocytic growth factors for neutropenia

Nursing Care of Clients with Leukemia

Assessment/Analysis

1. History of exposure to toxins
2. Overt and covert bleeding
3. Baseline vital signs; signs and symptoms of anemia, thrombocytopenia, and neutropenia

Planning/Implementation

1. Discuss importance of follow-up care with client and family
2. Provide emotional support
3. Provide specific nursing care related to chemotherapeutic therapy, transfusion, or diagnostic tests
4. Maintain a safe, injury-free environment because of increased risk of bleeding
5. Use appropriate infection control techniques; initiate neutropenic precautions as needed (e.g., private room; no flowers, fresh fruit or vegetables)
6. Pace care to limit fatigue and assist as necessary
7. Offer nutrient-dense food and adequate fluid intake

Evaluation/Outcomes

1. Remains free from bleeding episodes
2. Verbalizes a decrease in anxiety
3. Plans strategies to avoid fatigue
4. Remains free from infection

Lymphoma

Data Base

A Etiology and pathophysiology

1. Types
 - a. Hodgkin's disease: proliferation of malignant cells (Sternberg-Reed cells) within lymph node(s) usually on one side of the neck; relatively rare with good cure rate; peak incidence in young adult males, second peak when older than 50 years of age
 - b. Non-Hodgkin's lymphoma: 95% involve B lymphocytes, which become infiltrated with malignant cells that spread unpredictably; increased incidence with aging; average age at diagnosis is during sixth decade; becoming increasingly prevalent (sixth most common cancer)
2. All tissues may eventually be involved, but chiefly lymph nodes, spleen, liver, tonsils, and bone marrow
3. Cause is unknown; impaired immune function linked to increased incidence
4. Classification by staging and presence or absence of systemic symptoms

B Clinical findings

1. Subjective: pruritus; anorexia; dyspnea and dysphagia caused by pressure from enlarged nodes
2. Objective
 - a. Enlarged lymph nodes; cervical nodes usually are involved first
 - b. Confirmed by histologic examination of a lymph node
 - c. Progressive anemia
 - d. Elevated temperature
 - e. Spleen and liver may enlarge
 - f. Pressure from enlarged lymph nodes may cause dyspnea, edema, and obstructive jaundice
 - g. Thrombocytopenia if spleen and bone marrow involved

C Therapeutic interventions

1. Radiotherapy
 - a. Vital organs must be shielded
 - b. Potential side effects: nausea; skin rashes; dry mouth; dysphagia; infections; pancytopenia
2. Chemotherapy: see Neoplastic Disorders, Related Pharmacology, in [Chapter 3](#)
3. Bone marrow transplant; peripheral blood stem cell transplant
4. Surgical intervention includes excision of masses to relieve pressure on other organs

Nursing Care of Clients with Lymphomas

Assessment/Analysis

1. Lymph nodes to determine enlargement
2. Temperature for baseline
3. Liver and spleen to determine enlargement
4. Complete blood count (CBC) and liver profile for baseline data

Planning/Implementation

1. Provide emotional support
2. Protect from infection
3. Monitor temperature

4. Observe for signs of anemia; provide adequate rest
5. Examine sclera and skin for signs of jaundice
6. Encourage high-nutrient dense foods; monitor for anorexia and nausea; prevent dehydration

Evaluation/Outcomes

1. Remains afebrile
2. Conserves energy
3. Verbalizes feelings related to therapy/prognosis



CHAPTER 7

Nursing Care of Clients with Respiratory System Disorders

Overview

Review of Anatomy and Physiology

Structures and Functions of the Respiratory System

(Figure 7-1: The respiratory system)

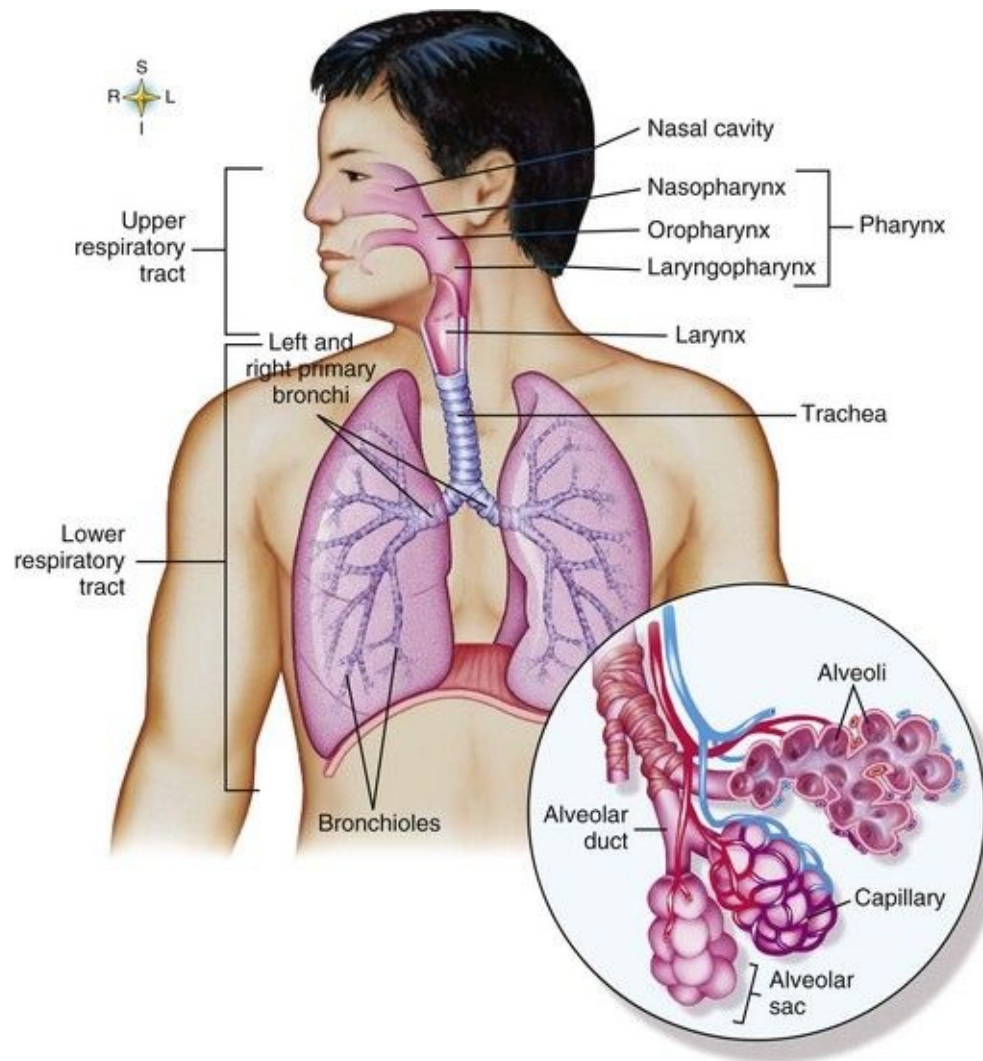


FIGURE 7-1 The respiratory system. The inset shows the alveolar sacs where the interchange of oxygen and carbon dioxide takes place through the walls of the grapelike alveoli. (From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010, Mosby.)

A Upper portion of respiratory system filters, moistens, and warms air during inspiration

1. Nose: lining consists of ciliated mucosa; divided by septum; turbinates (conchae) projected from lateral walls; contains olfactory receptors for smell; aids in phonation
2. Paranasal sinuses drain into nose: frontal, maxillary, sphenoidal, ethmoidal; aid in phonation
3. Pharynx: nasopharynx, oropharynx, and laryngopharynx; composed of muscle with mucous lining; contains tonsils, adenoids, and other lymphoid tissue that help destroy incoming bacteria
4. Larynx: formed by cartilage including thyroid cartilage (Adam's apple), epiglottis (lid cartilage), cricoid (signet ring cartilage), and vocal cords (fibroelastic bands stretched across hollow interior of larynx); paired vocal cords (folds) and posterior arytenoid cartilages form the glottis; voice

production—during expiration, air passing through larynx causes vocal cords to vibrate; short, tense cords produce a high pitch; long, relaxed cords, a low pitch

5. Trachea: smooth muscle walls contain C-shaped rings of cartilage that keep it open at all times; lined with ciliated mucosa; extends from larynx to bronchi; 10 to 12 cm long; furnishes open passageway for air going to and from lungs

B Lower portion of respiratory system consists of lungs, which enable exchange of gases between blood and air to regulate arterial PO_2 , PCO_2 , and pH; left lung has two lobes and right lung has three lobes

1. Bronchi: right and left, formed by branching of trachea; right bronchus slightly larger and more vertical than left; each primary bronchus branches into segmental bronchi in each lung; primary and segmental bronchi contain C-shaped cartilage
2. Bronchioles: small branches off secondary bronchi, distinguished by lack of C-shaped cartilage and a duct diameter of about 1 mm; bronchi further branch into terminal bronchioles, respiratory bronchioles, and then alveolar ducts
3. Alveoli: microscopic sacs composed of a single layer of squamous epithelial cells (type I cell) enveloped by a network of pulmonary capillaries that allow for rapid gas exchange; type II cells produce surfactant to prevent alveolar collapse, and type III cells are macrophages that protect against bacteria by phagocytosis
4. Covering of lung: visceral layer of pleura that joins with parietal pleura lining the thorax and diaphragm; space between these two linings is the pleural space and contains a small amount of fluid to eliminate friction; negative pressure in pleural space relative to atmospheric pressure is essential for breathing

Physiology of Respiration

A Mechanism of breathing

1. Following phrenic nerve stimulation, diaphragm and other respiratory muscles contract
2. Thorax increases in size
3. Intrathoracic and intrapulmonic pressures decrease
4. Air rushes from positive pressure in atmosphere to negative pressure in alveoli
5. Inspiration is completed with stimulation of stretch receptors
6. Expiration occurs passively as a result of recoil of elastic lung tissue

B Control of respiration

1. Alveolar stretch receptors respond to inspiration by sending inhibitory impulses to inspiratory neurons in brainstem that prevent lung overdistention (Hering-Breuer reflex)
2. Central and peripheral chemoreceptors stimulate respirations in response to lowered pH, increased PCO_2 , or decreased PO_2
3. Medulla oblongata and pons control rate and depth of respirations

C Amount of air exchanged in breathing

1. Directly related to gas pressure gradient between atmosphere and alveoli
2. Inversely related to resistance that opposes airflow
3. Positions such as orthopneic and semi- to high-Fowler lower abdominal organs and reduce pressure against diaphragm
4. Influenced by lung volumes and capacities (pulmonary function evaluated with a spirometer: see [Figure 7-2: Lung volumes and capacities](#))

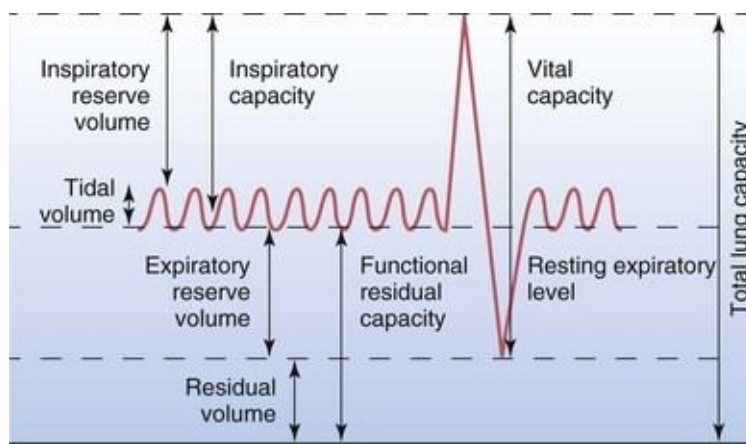


FIGURE 7-2 Lung volumes and capacities (illustrated by spirometry tracing). (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.).

- a. Tidal volume: average amount expired after a regular inspiration; expected volume is approximately 500 mL
- b. Expiratory reserve volume (ERV): largest additional volume of air that can be forcibly expired after a regular inspiration and expiration; expected volume is 1000 to 1200 mL
- c. Inspiratory reserve volume (IRV): largest additional volume of air that can be forcibly inspired after a regular inspiration; expected volume is 3000 mL
- d. Residual volume: air that cannot be forcibly expired voluntarily from lungs; expected volume is 1200 mL; increased in chronic obstructive pulmonary disease (COPD) as lungs lose elasticity and ability to recoil, resulting in air trapping
- e. Vital capacity: amount of air that can be forcibly expired after forcible inspiration; varies with size of thoracic cavity, which is determined by various factors (e.g., size of rib cage, posture, volume of blood and interstitial fluid in lungs, size of heart); expected capacity is about 4600 mL; decreased with COPD, neuromuscular disease, atelectasis
- f. Forced expiratory volume (FEV): volume of air that can be forcibly exhaled within a specific time, usually 1 second; expected volume is decreased with increased airway resistance (e.g., bronchospasm, COPD)
- g. Inspiratory capacity: largest amount of air that can be inspired after a regular exhalation; expected capacity is about 3500 mL
- h. Functional residual capacity: amount of air left in the lungs after a regular exhalation; expected capacity is about 2300 mL; increased with COPD
- i. Total lung capacity: amount of air in lungs after maximum inhalation; equal to sum of tidal volume, residual volume, and inspiratory and expiratory reserve volumes; expected capacity is about 5800 mL; increased with COPD; decreased with atelectasis and pneumonia

D Diffusion of gases between air and blood

1. Occurs across alveolar-capillary membranes (in lungs between air in alveoli and venous blood in lung capillaries); adequate diffusion depends on a balanced ventilation-perfusion (V/Q) ratio
2. Direction of diffusion
 - a. Oxygen: net diffusion toward lower oxygen pressure gradient (from alveolar air to blood)
 - b. Carbon dioxide: net diffusion toward lower carbon dioxide pressure gradient (from blood to alveolar air)
3. V/Q ratios
 - a. Expected: balance between alveolar ventilation and capillary blood flow to facilitate gas

exchange

- b. Low V/Q ratio: alveoli are poorly ventilated, but capillary blood flow is adequate; blood is shunted past alveoli without adequate gas exchange (e.g., atelectasis, pneumonia)
- c. High V/Q ratio: alveolar ventilation is adequate, but capillary blood flow is not; adequate gas exchange does not take place because of dead space (e.g., pulmonary embolism, cardiogenic shock)
- d. Absence of ventilation and perfusion: causes a silent unit with no gas exchange (e.g., pneumothorax)

E Blood transports oxygen as a solute and primarily as oxyhemoglobin; oxygen saturation of hemoglobin (SaO_2) is 95% to 100%

F Blood transports carbon dioxide

- 1. Primarily as a bicarbonate ion (HCO_3^-) formed by ionization of carbonic acid; in lungs the molecule splits in the presence of carbonic anhydrase to form carbon dioxide (CO_2) and water (H_2O); CO_2 diffuses into the alveoli and the majority of water is retained
- 2. As a solute in plasma
- 3. In combination with hemoglobin (carboxyhemoglobin)

G Normal breath sounds (Figure 7-3: Breath sounds in the ill and well client)

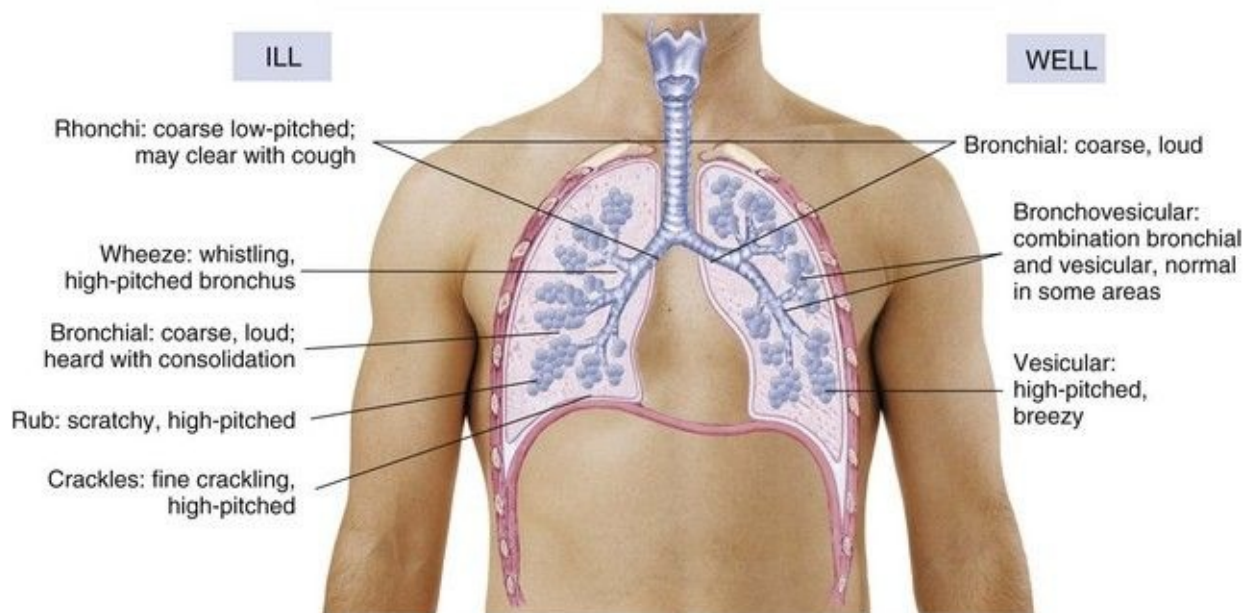


FIGURE 7-3 Breath sounds in the ill and well client. (From Seidel et al: *Mosby's guide to physical examination*, ed 7, St. Louis, 2011, Mosby.)

- 1. Bronchial sounds (over trachea, larynx): result of air passing through larger airways; sounds are loud, harsh, high-pitched; expiration longer than inspiration
- 2. Vesicular sounds (over entire lung field except large airways): result of air moving in and out of alveoli; may reflect sound of air in larger passages that is transmitted through lung tissue; sounds are quiet, low-pitched; inspiration longer than expiration
- 3. Bronchovesicular sounds (near main stem bronchi); result of air moving through smaller air passages; sounds are moderately pitched, breezy; inspiratory and expiratory phases equal

H Adventitious breath sounds (see Figure 7-3)

1. Fine crackles
 - a. Result of sudden opening of small airways and alveoli that contain fluid
 - b. Short, high-pitched bubbling sounds; sounds may be simulated by rubbing a few strands of hair between fingers next to the ear
 - c. Most common during height of inspiration
 - d. Associated with pneumonia and pulmonary edema
2. Coarse crackles
 - a. Rush of air passing through airway intermittently occluded by mucus
 - b. Short, low-pitched bubbling sounds
 - c. Most common on inspiration and at times expiration
 - d. Associated with pneumonia, COPD, and pulmonary edema
3. Wheezes
 - a. Result of air passing through narrowed small airways
 - b. Sounds are high-pitched and musical (sibilant wheezes), or low-pitched and rumbling (sonorous wheezes or rhonchi)
 - c. Most common on expiration
 - d. Associated with asthma and with conditions that cause partial obstruction of airway by mucus, foreign body, or tumor
4. Pleural friction rub
 - a. Result of roughened pleural surfaces rubbing across each other
 - b. Sounds are crackling, grating
 - c. Most common during height of inspiration
 - d. Associated with conditions that cause inflammation of pleura

Review of Microorganisms

A Bacterial pathogens

1. *Bordetella pertussis*: small, gram-negative coccobacillus; causes pertussis or whooping cough
2. *Streptococcus pneumoniae*: gram-positive, encapsulated diplococcus; causes pneumococcal pneumonia; often responsible for sinusitis, otitis media, and meningitis
3. *Haemophilus influenzae*: small, gram-negative, highly pleomorphic bacillus; causes acute meningitis and upper respiratory tract infections
4. *Klebsiella pneumoniae* (Friedländer's bacillus): gram-negative, encapsulated, non-spore-forming bacillus; causes pneumonia and urinary tract infections
5. *Mycobacterium tuberculosis* (tubercle bacillus): acid-fast actinomycete causes tuberculosis (TB)
6. *Pseudomonas aeruginosa*: gram-negative, non-spore-forming bacillus; often cause of facility-acquired infections; respiratory equipment can be source; causes pneumonia, urinary tract infections, and sepsis that complicates severe burns
7. *Staphylococcus aureus*: gram-positive coccus; misuse of antimicrobial agents led to emergence of methicillin-resistant *Staphylococcus aureus* (MRSA)

B Rickettsial pathogen: *Coxiella burnetii*; only *Rickettsia* species not associated with a vector; causes Q fever, an infection clinically similar to primary atypical pneumonia

C Viral pathogens

1. DNA viruses: adenoviruses cause acute respiratory tract disease, adenitis, pharyngitis, and other respiratory tract infections, as well as conjunctivitis

2. RNA viruses

- a. Coronaviruses: frequently associated with a mild upper respiratory tract infection; severe acute respiratory syndrome (SARS) associated coronavirus (SARS-CoV) causes an atypical pneumonia with a high morbidity and mortality
- b. Picornaviruses: cause poliomyelitis, Coxsackie disease, common cold
- c. Retroviruses: invade T lymphocytes and are associated with malignancies, human immunodeficiency virus (HIV), and acquired immunodeficiency syndrome (AIDS)
- d. Orthomyxoviridae (influenza viruses): frequently associated with influenza (flu); a novel strain of influenza A virus (H1N1) was responsible for the 2009 flu pandemic

D Fungal pathogens

1. *Histoplasma capsulatum*: dimorphic fungus producing chlamydospores in infected tissue; causes histoplasmosis
2. *Aspergillus fumigatus*: rapidly proliferating fungus found in soil; inhalation of spores can cause pneumonia
3. *Pneumocystis jiroveci*: unicellular organism thought to be transmitted by airborne droplets; causes pneumonia

Related Pharmacology

Bronchodilators and Antiasthmatics

A Description

1. Reverse bronchoconstriction, thus opening air passages in lungs
2. Stimulate beta-adrenergic sympathetic nervous system receptors, relaxing bronchial smooth muscle, or inhibiting inflammation and reducing edema
3. Available in oral, parenteral (intramuscular [IM], subcutaneous [Sub-Q], IV), rectal, and inhalation preparations

B Examples

1. Beta agonists act at beta-adrenergic receptors in bronchi and bronchioles to relax smooth muscle; this increases respiratory volume and inhibits histamine release from mast cells suppressing reaction to allergens; e.g., albuterol (Proventil); isoproterenol (Isuprel); epiNEPHrine (Adrenalin, Sus-Phrine); metaproterenol (Alupent); terbutaline (Brethine); salmeterol (Serevent), which is long-acting
2. Xanthines act directly on bronchial smooth muscle, decreasing spasm and relaxing smooth muscle of the vasculature; are used less frequently because of side effects and drug interactions; e.g., aminophylline, theophylline (Elixophyllin, Theo-Dur), oxtriphylline (Choledyl), dyphylline (Dilor)
3. Anticholinergics inhibit action of acetylcholine at receptor sites on bronchial smooth muscle and prevent bronchospasm; e.g., ipratropium (Atrovent)
4. Inhaled steroids exert antiinflammatory effect on airways; e.g., fluticasone (Flovent, Flonase); budesonide (Pulmicort Turbuhaler); beclomethasone (Beclovent, Beconase, Vanceril); triamcinolone (Azmecort); combination product—fluticasone and salmeterol (Advair Diskus)
5. Leukotriene receptor antagonists block action of leukotriene to reduce bronchoconstriction and inflammation associated with asthma; e.g., montelukast (Singulair), zafirlukast (Accolate), zileuton (Zyflo)

C Major side effects: dizziness (decrease in blood pressure); central nervous system (CNS)

stimulation (sympathetic stimulation); palpitations and hypertension (beta-adrenergic stimulation); gastric irritation (local effect)

D Nursing care

1. Question if prescribed for clients with hypertension, hyperthyroidism, and cardiovascular dysfunction
2. Question if prescribed concurrently with CNS stimulants (adrenergics) and bronchoconstricting agents (beta blockers)
3. Administer with food during waking hours
4. Assess vital signs, breath sounds, oxygen saturation with pulse oximeter
5. Assess intake and output (I&O)
6. Teach use of metered-dose inhalers (MDIs), spacers, and peak flow meters: rinse mouthpiece, cap, and mouth after each use; oropharyngeal fungal infections are common with inhaled steroids
7. Explain importance of adhering to therapy to decrease need for short-acting beta agonists
8. Explain that stimulants and some over-the-counter medications should be avoided because they may act as antagonists

Mucolytic Agents and Expectorants

A Description

1. Liquefy secretions in respiratory tract, promoting a productive cough
2. Mucolytics act directly to break up mucus plugs in tracheobronchial passages; available in inhalation preparations (oral form of acetylcysteine is used to treat acetaminophen toxicity)
3. Expectorants act indirectly to liquefy mucus by increasing respiratory tract secretions via oral absorption; available in oral preparations

B Examples: mucolytic—acetylcysteine (Mucomyst); expectorants—guaifenesin (Mucinex); potassium iodide (SSKI)

C Major side effects: gastrointestinal (GI) irritation (local effect); skin rash (hypersensitivity); oropharyngeal irritation and bronchospasm with mucolytics

D Nursing care

1. Promote adequate fluid intake
2. Encourage coughing and deep breathing
3. Avoid offering fluids immediately after administering liquid expectorants
4. Assess respiratory status
5. Have suction apparatus available

Antitussives

A Description

1. Suppress cough reflex
2. Inhibit cough reflex either by direct action on medullary cough center or by indirect action peripherally on sensory nerve endings
3. Available in oral preparations

B Examples: opioid—codeine, hydrocodone (Hycodan); dextromethorphan hydrobromide (Robitussin), benzonatate (Tessalon); diphenhydrAMINE (Benadryl) is an antihistamine that may be used for coughs

C Major side effects: drowsiness (CNS depression); nausea (GI irritation); dry mouth

(anticholinergic effect of antihistamine in combination products)

D Nursing care

1. Provide adequate fluid intake
2. Avoid offering fluids immediately after administering liquid preparations
3. Encourage high-Fowler position
4. Question if prescribed postoperatively, concurrently with CNS depressants, or for clients with a head injury or asthma
5. Maintain safety precautions after administration; teach to avoid hazardous activity

Opioid Antagonist

A Description

1. Displace opioids at respiratory receptor sites via competitive antagonism
2. Reverse respiratory depression caused by opioid overdose
3. Available in parenteral (IV, Sub-Q, IM) preparations

B Example: naloxone

C Major side effects: CNS depression (acts on opioid receptors in CNS); nausea, vomiting

D Nursing care

1. Assess vital signs, especially respirations
2. Have oxygen and emergency resuscitative equipment available
3. Continue to monitor after effects of naloxone wear off because opioids have a longer duration of action

Antihistamines

A Description

1. Block action of histamine at H₁ receptor sites via competitive inhibition; exert antiemetic, anticholinergic, and CNS depressant effects
2. Relieve symptoms of the common cold and allergies that are mediated by histamine
3. Available in oral and parenteral (IM, IV) preparations

B Examples: brompheniramine (Dimetane); diphenhydramine (Benadryl); loratadine (Claritin); fexofenadine (Allegra); cetirizine (Zyrtec)

C Major side effects

1. Drowsiness and dizziness particularly for first-generation antihistamines (CNS depression); GI irritation (local effect); dry mouth (anticholinergic effect)
2. Excitement (paradoxical effect)

D Nursing care

1. Question if prescribed concurrently with CNS depressants
2. Teach to avoid engaging in hazardous activities
3. Administer with food or milk to avoid GI irritation
4. Offer gum or hard candy to promote salivation
5. Teach to avoid using antihistamines as a hypnotic, especially older adults

Antituberculars

A Description

1. Treat TB; administered in combination (first-line and second-line drugs) over a prolonged time

period to reduce possibility of mycobacterial drug resistance

2. Available in oral and parenteral (IM) preparations

B Examples

1. First-line drugs

- a. Ethambutol (Myambutol): interferes with mycobacterial RNA synthesis
- b. Isoniazid (INH, Nydrazid): interferes with mycobacterial cell-wall synthesis
- c. Pyrazinamide (PZA): bacteriostatic; mechanism unknown
- d. Rifampin (Rifadin), rifabutin (Mycobutin), rifapentine (Priftin): interfere with mycobacterial RNA synthesis
- e. Streptomycin sulfate: inhibits mycobacterial protein synthesis
- f. Combination drugs: isoniazid (INH)/rifampin (Rifamate); INH/rifampin/PZA (Rifater)

2. Second-line drugs inhibit mycobacterial cell metabolism: capreomycin (Capastat) and cycloserine (Seromycin)

C Major side effects

1. GI irritation (direct tissue irritation)
2. Suppressed absorption of fat and B complex vitamins, especially folic acid and B₁₂; depletion of vitamin B₆ by INH
3. Dizziness (CNS effect)
4. CNS disturbances (direct CNS toxic effect)
5. Hepatotoxicity (direct liver toxic effect)
6. Blood dyscrasias (decreased red blood cells [RBCs], white blood cells [WBCs], platelet synthesis)
7. Streptomycin: ototoxicity (direct auditory [eighth cranial] nerve toxic effect); nephrotoxicity
8. Ethambutol: visual disturbances (direct optic [second cranial] nerve toxic effect)
9. Rifampin: orange-red discoloration of all body fluids; increases metabolism of corticosteroids, opioids, warfarin (Coumadin), oral contraceptives, and hypoglycemics
10. INH: inhibits phenytoin metabolism; peripheral neuritis

D Nursing care

1. Support natural defense mechanisms; encourage intake of foods rich in immune-stimulating nutrients (e.g., vitamins A, C, and E, and the minerals selenium and zinc)
2. Obtain sputum specimens for acid-fast bacillus
3. Monitor blood work during therapy (e.g., liver enzymes)
4. Instruct to take medications as prescribed; reinforce need for medical supervision; when adherence to the therapeutic regimen is an issue, mandated directly observed therapy ensures treatment is ongoing
5. Offer emotional support during long-term therapy
6. Use safety precautions (e.g., supervise ambulation) if CNS effects are manifested
7. Instruct regarding nutritional side effects of medications and encourage foods rich in B complex vitamins
8. Encourage to avoid alcohol during therapy
9. Ethambutol: encourage frequent visual examinations
10. Rifampin: teach that body fluids may appear orange-red; monitor for drug interactions; decreases effectiveness of oral contraceptives
11. Streptomycin: encourage frequent auditory examinations
12. INH: administer pyridoxine as prescribed to prevent neuritis
13. Instruct to avoid exposing others to respiratory droplets from coughing and to dispose of tissues

in a moisture-proof container until no longer contagious (2 to 8 weeks)

14. Evaluate response to medication

Related Procedures

Abdominal Thrust (Heimlich Maneuver)

A Definition: short, abrupt pressure against abdomen, two fingerbreadths above umbilicus, to raise intrathoracic pressure; external compression forces out residual lung volume, which will dislodge the obstruction, such as a bolus of food or a foreign body

B Signs and symptoms of obstruction

1. Partial: noisy respirations, stridor, dyspnea, light-headedness, dizziness, flushing of face, bulging of eyes, repeated coughing
2. Total: universal choking sign (thumb and forefinger encircling throat), cessation of breathing, inability to speak or cough, extension of head, facial cyanosis, bulging of eyes, panic, unconsciousness

C Nursing care

1. Assess no longer than 3 to 5 seconds
 - a. Ask, "Are you choking?"
 - b. Determine whether person can speak or cough
 - c. Observe for universal choking sign
 - d. Assess respirations: observe for rise and fall of chest; listen for escape of air from nose and mouth on expiration; feel for flow of air from nose and mouth
2. Initiate intervention for a partial obstruction
 - a. Allow individual's expulsive cough to dislodge obstruction
 - b. Remove foreign bodies coughed up into the mouth
 - c. Assess for signs of total obstruction
 - d. Activate emergency medical service (EMS) system if person is having difficulty breathing
3. Initiate intervention for a total obstruction
 - a. Standing behind the conscious person, encircle waist and thrust upward and inward against diaphragm with intertwined clenched fists; repeat thrusts until object is expelled or the person becomes unresponsive
 - b. If person becomes unconscious, activate EMS system
 - c. Begin cardiopulmonary resuscitation (CPR)
 - d. Determine patency of airway; remove foreign objects from mouth; attempt rescue breathing
 - e. If an airway cannot be established, an emergency cricothyrotomy may be necessary

Bronchoscopy

A Definition

1. Visualization of tracheobronchial tree via a scope advanced through mouth or nose into bronchi
2. Performed to remove foreign body, remove secretions, or obtain specimens of tissue or mucus for diagnostic study

B Nursing care

1. Obtain informed consent
2. Keep nothing by mouth (NPO) for 6 to 8 hours before procedure

3. Administer prescribed preprocedure medications to produce sedation and decrease anxiety
4. Inform to expect some soreness, dysphagia, and hemoptysis after procedure
5. Advise to avoid coughing or clearing throat
6. Observe for signs of hemorrhage and/or respiratory distress; keep head of bed elevated
7. Monitor vital signs until stable
8. Do not allow fluids until gag reflex returns; protect airway until local anesthetic dissipates

Chest Physiotherapy

A Definition: activities to mobilize respiratory secretions that may lead to atelectasis and/or pneumonia

B Types of interventions

1. Incentive spirometer: mechanical device that promotes maximum inspiration and loosens secretions; measures air inspired, provides visual feedback
2. Percussion (clapping): cupped hands repeatedly strike chest wall over congested areas; loosens secretions
3. Vibration: palmar surface of hands placed on chest over congested area and vibrated as client exhales; loosens secretions
4. Postural drainage: placed in various positions to permit gravity drainage of congested lung segments

C Nursing care

1. Assess baseline breath sounds, oxygen saturation with pulse oximeter (maintain at 90% or more), and ability to tolerate procedure
2. Administer prescribed bronchodilators, mucolytics, analgesics
3. Position client
 - a. Fowler position for incentive spirometry and to drain upper lung segments
 - b. Side-lying and prone positions with head lower than affected segment for postural drainage
4. Teach use of incentive spirometer
 - a. After exhaling, form seal around mouthpiece with lips
 - b. Take slow, continuous deep breath and hold indicator afloat for several seconds before exhaling
 - c. Repeat 10 times per hour or as per protocol
5. Perform percussion and vibration for several minutes over affected areas being managed with postural drainage
6. Encourage coughing and expectoration of secretions; provide tissues and appropriate receptacle
7. Allow rest periods as needed; avoid scheduling near meal times
8. Evaluate color and amount of secretions and quality of breath sounds after procedure
9. Encourage a 2- to 3-L fluid intake daily to liquefy secretions

Chest Tubes

A Definition

1. Placement of tubes and use of suction to return negative pressure to intrapleural space; expands lungs by removing positive pressure from pleural space
2. Placement of tube in second or third intercostal space removes air from intrapleural space
3. Placement of tube at a lower site, usually eighth or ninth intercostal space, drains blood or fluid

from intrapleural space (Figure 7-4: Chest tube placement)

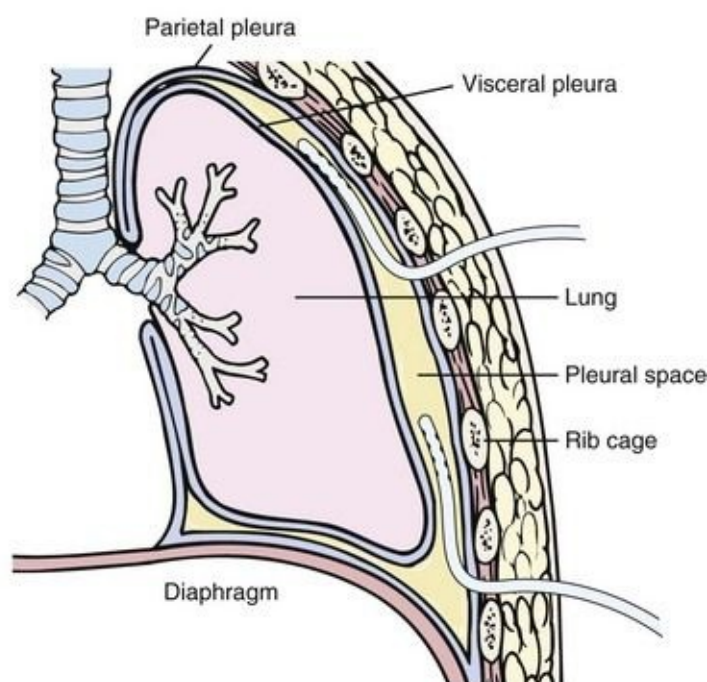


FIGURE 7-4 Chest tube placement. (From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011, Mosby.)

B Commercial drainage systems

1. Wet suction water-seal drainage system (e.g., PleurEvac, Atrium Ocean (Figure 7-5, A and B: Chest drainage systems))

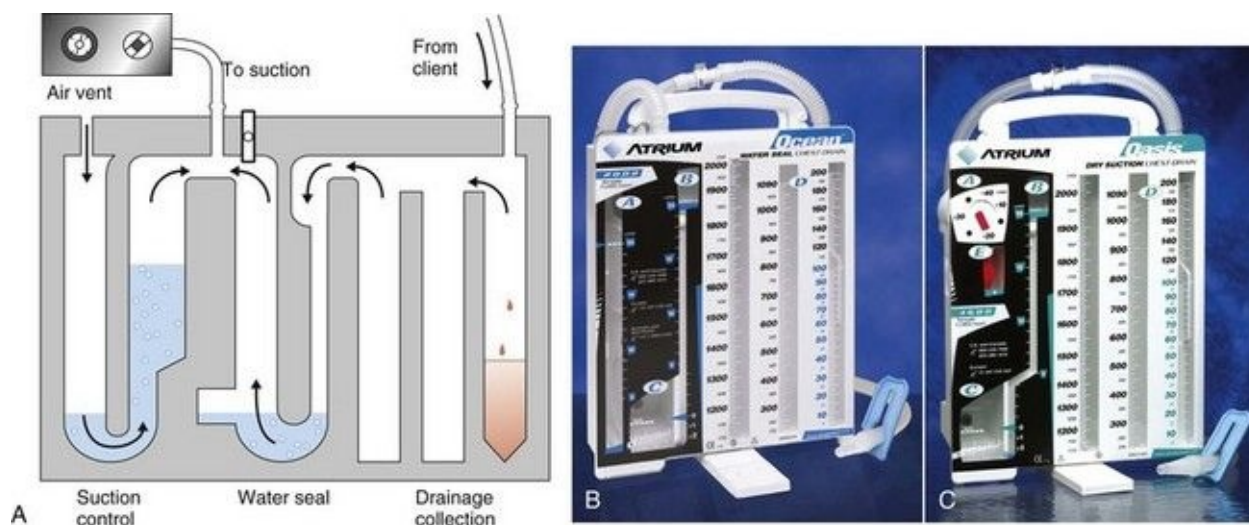


FIGURE 7-5 Chest drainage systems. (A, From Ignatavicius DD, Workman ML: *Medical-surgical nursing: critical thinking for collaborative care*, ed 6, St. Louis, 2010.) (B and C, From Black JM, Hawks JH: *Medical-surgical nursing: clinical management for positive outcomes*, ed 8, St. Louis, 2009, Saunders.)

a. Calibrated collection chamber for drainage

b. Water-seal chamber: prevents atmospheric air from entering pleural space; fluid level fluctuates with respirations until lung is fully expanded; continuous bubbling may indicate air leak; requires instillation of sterile water to 2-cm level when being set up for use

c. Suction control chamber: controls amount of suction, requires instillation of sterile fluid usually to 20 cm level; steady bubbling indicates suction level is maintained

2. Dry suction water-seal drainage system (e.g., Atrium Oasis): has three chambers like water-seal drainage, but does not require fluid in suction control chamber; quieter than traditional water-seal drainage (Figure 7-5, C: Chest drainage systems)
3. One-way valve systems (e.g., Heimlich valve): used to remove air and small amounts of fluid from pleural space; valve prevents air from reentering pleural space

C Nursing care

1. Monitor respiratory status (e.g., respiratory rate, depth, and rhythm; use of accessory muscles; oxygen saturation; breath sounds)
2. Ensure that tubing is not kinked and is positioned on mattress to avoid dependent loops; tape all connections to prevent separation
3. “Milking and stripping” chest tubes is contraindicated because it increases negative intrapleural pressure; it does not significantly affect tube patency
4. Maintain drainage system below level of chest
5. Turn client frequently; ensure that chest tubes are not compressed and are free of restrictions to prevent accidental dislodgement
6. Monitor and mark drainage in system; report drainage on dressing immediately, since this is not expected
7. Observe for fluctuation of fluid in water-seal chamber (tidaling); level will rise on inhalation and fall on exhalation; if there are no fluctuations, either the lung has expanded fully or the chest tube is clogged; length of time for lung expansion depends on etiology
8. Palpate area around chest tube insertion site for crepitus, which indicates that air is leaking into subcutaneous tissue (subcutaneous emphysema)
9. Situate drainage system to avoid being tipped over (e.g., hung from frame of bed, in stand that comes with device, on flat surface)
10. Place two clamps at bedside for use when changing systems or if a leak is suspected; clamps are used judiciously and only in emergency situations because they can cause tension pneumothorax
11. Encourage movement, coughing, and deep breathing every 2 hours, splinting as needed; assess breath sounds; effective pain management improves performance
12. Assess for tracheal deviation, a sign of tension pneumothorax
13. Confirm that chest radiography was done before removal of chest tubes
14. If wall suction is stopped, ensure that system is open to atmosphere so air from the pleural space can escape
15. Instruct to exhale or bear down while holding breath (Valsalva maneuver) as tube is withdrawn; apply a gauze dressing immediately and firmly secure to make an airtight dressing

Mechanical Ventilation

A Definition: mechanical device to maintain ventilation and oxygenation using positive or negative pressure

B Types of ventilators

1. Negative pressure ventilators create a negative pressure chamber around the chest decreasing intrathoracic pressure to allow for passive inhalation; used infrequently (e.g., chest cuirass fitted to the individual [a refinement of the iron lung])
2. Positive pressure ventilators

- a. Pressure-cycled: delivers a volume of gas with positive pressure during inspiration; used for short term
- b. Volume-cycled: delivers a preset tidal volume of inspired gas regardless of pressure; most commonly used
- c. Time-cycled: delivers volume of gas for a predetermined inspiratory time; not generally used for adults

C Modes of ventilation

1. Controlled mandatory ventilation (CMV): specified volume and rate of gas is delivered with no triggering of the machine by the client; medications may be administered to decrease client's respiratory response (e.g., pancuronium bromide [Pavulon], morphine)
2. Assist-control ventilation (ACV): client's inhalations trigger machine to deliver a preset volume; as a result the rate may vary; however, if apnea occurs, the machine will initiate respirations at a preset tidal volume and rate
3. Intermittent mandatory ventilation (IMV): a predetermined tidal volume and number of breaths per minute are delivered; client controls respirations between mechanical ventilations; rate can be gradually reduced as client is weaned from ventilator; rarely used
4. Synchronized intermittent mandatory ventilation (SIMV): same as IMV but ventilator breaths are synchronized with client's breaths; often used for weaning
5. Pressure support ventilation (PSV): client initiates all breaths, which are then supplemented by positive pressure, improving tidal volume and reducing respiratory efforts; may be used alone or with SIMV or continuous positive airway pressure (CPAP)
6. Positive end-expiratory pressure (PEEP): maintains positive pressure at the end of expiration to keep alveoli open, increasing functional residual capacity (FRC)
7. Proportional assist ventilation (PAV): synchronizes with and augments client's inspiratory efforts proportionately; rarely used
8. CPAP: similar to PEEP but exerts positive pressure throughout respiratory cycle; client must be breathing spontaneously; used with intubation during weaning from a ventilator; used without intubation, but with a tight-fitting face or nose mask; used for sleep apnea or heart failure
9. Bi-level positive airway pressure ventilation mode (BiPAP): noninvasive method to deliver air through nose and mouth; inspiratory positive airway pressure (IPAP) and expiratory positive airway pressure (EPAP) are different; will deliver breath if client's rate falls below preset frequency

D Nursing care

1. Maintain ventilator settings and notify respiratory department and health care provider if distress occurs
2. Maintain sealed system between ventilator and client so that volume to be delivered is kept constant and air is not lost around tubing; this is accomplished by inflating the cuff of the endotracheal tube or tracheostomy tube to the minimum occlusive volume
3. Prevent high-pressure alarm: perform suction as needed (humidified oxygen helps liquefy secretions); use bite block if client is biting endotracheal tube; consult with health care provider about need for sedative or neuromuscular blocking agent if client seems to "fight" or "buck" ventilator
4. Prevent low-pressure alarm: secure connections between tubes and ventilator, maintain endotracheal or tracheostomy tube cuff pressure; may need to ventilate manually if caused by ventilator problem

5. Assess for signs of respiratory insufficiency (e.g., adventitious breath sounds, hypoventilation, tachypnea, cyanosis, changes in sensorium)
6. Check pulse oximeter and blood gases to determine effectiveness of ventilation
7. Establish means of communication because client will be unable to speak while on a ventilator
8. Provide oral care, and suction oral cavity as needed
9. Provide tracheostomy care or endotracheal tube care as per agency policy
10. Participate with respiratory therapist to gradually increase spontaneous breathing trials (SBTs) to wean hemodynamically stable client from ventilator; may use CPAP for support; a T-piece can be used to supply supplemental oxygen through the artificial airway during trials

Oxygen Therapy

A Definition: supplemental oxygen to prevent or treat tissue hypoxia

B Methods: depend on client's condition

1. Nasal cannula: 1 to 6 L/min (24% to 43%); least restrictive
2. Simple mask: 5 to 8 L/min (40% to 60%)
3. Partial rebreathing mask: 8 to 11 L/min (50% to 90%)
4. Nonrebreather mask: 12 to 15 L/min (90% to 100%)
5. Venturi mask: delivers precise percentage of oxygen inspired (Figure 7-6: Venturi mask)

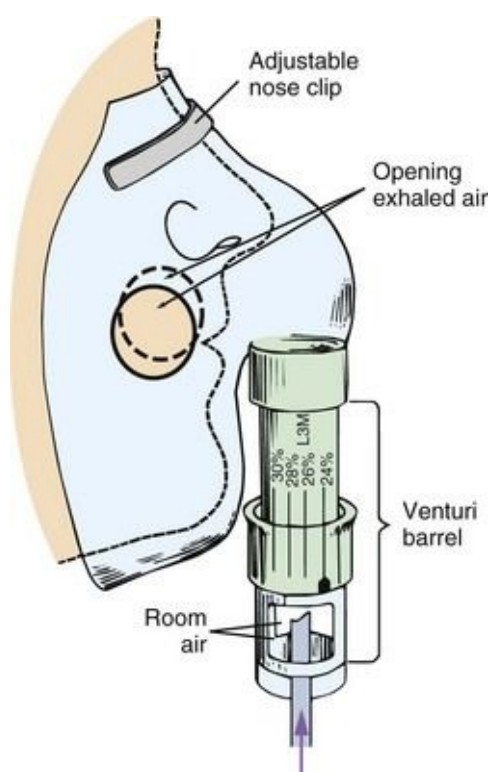


FIGURE 7-6 Venturi mask. (From Potter PA, Perry AG: *Fundamentals of nursing*, ed 7, St. Louis, 2009, Mosby.)

C Nursing care

1. Monitor for signs of hypoxia (e.g., agitation, confusion, lethargy, pallor, diaphoresis, tachycardia, cyanosis [late])
2. Monitor arterial oxygen saturation with pulse oximeter
 - a. Attach sensor, usually to finger or earlobe; avoid extremity with impediment to blood flow
 - b. Check preset alarm for oxygen saturation (SaO_2); if less than 85%, adjustment is needed

3. Maintain safety precautions because oxygen supports combustion (e.g., ensure that all health team members are aware of oxygen in use, examine electrical devices for faulty wiring; be aware of location of fire extinguishers and oxygen turn-off valve)
4. Verify that client does not have COPD before administering a high concentration of oxygen because CO₂ narcosis may develop
5. Ensure that oxygen with a flow rate greater than 4 L/min is humidified to prevent drying of secretions
6. Specific care related to method
 - a. Cannula—care for nares with water-soluble lubricant; ensure that client is not a mouth breather
 - b. Rebreather masks—ensure that bag does not deflate completely
 - c. Venturi mask—set L/min to deliver specified FiO₂; use appropriate adapter or setting on attachment to mix room air with oxygen; ensure ports are not obstructed

Suctioning of Airway

A Definition

1. Mechanical aspiration of mucous secretions from tracheobronchial tree by application of negative pressure
2. Helps to maintain a patent airway, obtain a sputum specimen, or stimulate coughing
3. May be nasotracheal, oropharyngeal, or through an endotracheal or tracheostomy tube

B Nursing care

1. Place in semi-Fowler position
2. Obtain vital signs and auscultate breath sounds for presence of secretions
3. Assess functioning of equipment before and after use
4. Hyperoxygenate before suctioning by increasing flow rate; encourage deep breathing or manually ventilate with 100% oxygen
5. Lubricate sterile suction catheter with sterile saline, water, or water-soluble gel
6. Insert catheter: if tracheal suction is being used, insert to end of tube (approximately 4 inches); if nasotracheal suction is being used, insert until cough reflex is induced or resistance is met; when resistance is met, withdraw catheter 2 cm before initiating suction
7. Do not apply negative pressure while catheter is being inserted
8. Rotate and withdraw catheter while negative pressure is applied; do not exceed 10 to 15 seconds
9. Clear catheter with sterile solution and encourage to breathe deeply
10. Discontinue suctioning and hyperoxygenate for distress or oxygen desaturation; reassess vital signs and breath sounds

Thoracentesis

A Definition

1. Removes fluid or air from pleural space to alleviate respiratory distress or obtain a specimen for diagnostic purposes; needle biopsy of pleura may be performed
2. No more than 1000 mL of fluid should be removed at a time; fluid withdrawn should be sent to laboratory for culture and sensitivity, analysis of glucose and protein levels, and pH determination
3. Complications include pneumothorax from trauma to lung and pulmonary edema resulting from sudden fluid shifts

B Nursing care

1. Obtain informed consent
2. Ensure chest x-ray examination is performed before and after procedure
3. Assess vital signs before, during, and after procedure
4. Inform not to cough during procedure to prevent trauma to lungs
5. Support in the sitting position
6. Identify and record amount, color, and clarity of withdrawn fluid
7. Position on opposite side for 1 hour after the procedure to promote lung expansion if tolerated
8. Observe for coughing, decreased breath sounds, bloody sputum, and rapid pulse rate and report their occurrence immediately
9. Monitor for subcutaneous emphysema (crepitus)

Tracheostomy Care

A Definition: removal of dried secretions in and around tracheal cannula, maintaining a patent airway, preventing infection, and irritation

B Nursing care

1. Perform tracheostomy care at least every 8 hours
2. Suction to remove secretions from lumen of tube (see [Suctioning of Airway under Related Procedures](#))
3. Clean inner cannula if present
 - a. Remove disposable inner cannula and replace with new one using sterile technique
 - b. Care for nondisposable inner cannula using surgical aseptic technique: remove and place in soaking solution; remove secretions within cannula with a sterile brush; rinse with normal saline; drain excess saline before reinserting tube; lock inner cannula in place
4. Clean around stoma with saline, using sterile technique; apply antiseptic ointment if ordered
5. Change tracheostomy ties with commercially available Velcro ties or twill tape cut to size, being careful not to dislodge cannula; request assistance to secure tracheostomy tube; secure twill tape ties with double knot
6. Place tracheostomy dressing or fenestrated 4-by-4-inch (unfilled) dressing below stoma to absorb expelled secretions
7. Humidify inhaled air if ordered because air is bypassing usual humidification process in the nasopharynx

Major Disorders of the Respiratory System

Pulmonary Embolism and Infarction

Data Base

A Etiology and pathophysiology

1. Emboli develop from thrombi in peripheral circulation or right side of heart; peripheral emboli travel and obstruct the pulmonary artery or its branches
2. Pulmonary infarction: when an embolus lodges in the pulmonary artery causing hemorrhage and necrosis of lung tissue
3. Venous thromboembolism (VTE): when a pulmonary embolism is associated with a deep vein thrombosis
4. Associated with venous stasis resulting from immobility, coagulopathy, vascular disease, surgery, aging, oral contraceptives, obesity, trauma, pregnancy, diabetes, and constrictive clothing

B Clinical findings

1. Subjective: sudden onset of severe dyspnea; anxiety; restlessness; sharp pleuritic chest pain (often unilateral)
2. Objective
 - a. Increased temperature, pulse rate, and respirations; violent coughing with hemoptysis; diaphoresis
 - b. Spiral computed tomography (CT) scans of the chest, V/Q scans, and pulmonary angiography identify nonperfused areas of the lung; D-dimer assay to identify end products of fibrin clot degradation in venous blood, a marker for venous clots

C Therapeutic interventions

1. Anticoagulation with IV heparin (based on body weight) and warfarin (Coumadin) until international normalization ratio (INR) is therapeutic; warfarin is used for maintenance therapy
2. Thrombolytic therapy if respiratory status is severely compromised; alteplase (Activase), tissue plasminogen activator (t-PA)
3. Angiography; if condition is severe, an embolectomy may be indicated
4. Vena cava interruption; a filter (Greenfield or umbrella) may be implanted in inferior vena cava, preventing passage of large thrombi
5. Infusion of DOBUTamine (Dobutrex) for hypotension

Nursing Care of Clients with Pulmonary Embolism and Infarction

Assessment/Analysis

1. Possible causative factors, especially surgery of the pelvic floor or lower extremities
2. Presence of clinical findings

Planning/Implementation

1. Place in high-Fowler position, administer oxygen
2. Auscultate breath sounds, monitor oxygen saturation, and electrocardiogram (ECG)
3. Monitor for signs and symptoms of hypoxemia and right heart failure
4. Administer prescribed thrombolytics/anticoagulants; monitor for bleeding

5. Administer analgesics to reduce pain and decrease anxiety
6. Maintain calm environment
7. Educate regarding anticoagulants and prevention of thrombophlebitis

Evaluation/Outcomes

1. Maintains acceptable breathing patterns
2. Maintains adequate tissue perfusion
3. Verbalizes feelings of control over situation

Pulmonary Edema

Data Base

A Etiology and pathophysiology

1. Rapid accumulation of fluid in lung tissue and alveolar spaces, resulting from increased hydrostatic pressure within pulmonary system; an acute emergency
2. Causes: left ventricular failure secondary to myocardial infarction; valvular disease; hypertension; circulatory overload secondary to acute renal failure/chronic kidney disease or syndrome of inappropriate antidiuretic hormone (SIADH)

B Clinical findings

1. Subjective: history of shortness of breath, paroxysmal nocturnal dyspnea, wheezing, and orthopnea; acute anxiety, apprehension, restlessness
2. Objective
 - a. Rapid, thready pulse; tachypnea; pink, frothy sputum; wheezing; crackles; pallor or cyanosis; cold, clammy skin; jugular vein distension (JVD)
 - b. Low PO_2 ; elevated brain natriuretic peptide (BNP), central venous pressure (CVP), and pulmonary artery diastolic and wedge pressures

C Therapeutic interventions

1. Oxygen in high concentrations may require intubation and mechanical ventilation
2. Fowler position
3. Morphine to reduce anxiety and peripheral resistance
4. Medications to reduce preload and afterload: diuretics to reduce fluid volume; nitroglycerin (nitroprusside [Nipride] or nesiritide [Natrecor]) for vasodilation
5. Treatment of underlying causes
6. Hemodynamic monitoring and possible intraaortic balloon pump (IABP)

Nursing Care of Clients with Pulmonary Edema

Assessment/Analysis

1. Presence of clinical findings (e.g., crackles, wheezes, JVD, frothy or blood-tinged sputum, decreased oxygen saturation)
2. Signs and symptoms of hypoxemia
3. Precipitating factors

Planning/Implementation

1. Support in orthopneic, high-Fowler, or semi-Fowler position with legs dependent
2. Monitor and record vital signs, oxygen saturation, ECG, and I&O
3. Maintain a reassuring environment and administer morphine to allay anxiety
4. Administer oxygen; suction secretions as needed to maintain a patent airway
5. Administer and monitor effects of medications that reduce preload and afterload
6. Prevent complications of bed rest (e.g., pressure ulcers, venous stasis, constipation, deconditioning)
7. Educate regarding pharmacologic regimen and prevention of heart failure

Evaluation/Outcomes

1. Demonstrates activity tolerance within level of cardiac function
2. Maintains adequate gas exchange
3. Verbalizes decreased anxiety

Pneumonia

Data Base

A Etiology and pathophysiology

1. Inflammatory disease of lung; may have a collection of pus (empyema), fluid (pleural effusion), or consolidation within pleural space
2. Caused by infectious agent (e.g., bacterial, viral, or fungal) but also may be caused by inhalation of chemicals or aspiration of gastric contents
 - a. Community-acquired pneumonia (CAP): commonly caused by *S. pneumoniae* (pneumococcal), *H. influenzae*, *Legionella pneumophila*, *M. pneumoniae*, *Chlamydia* species (*C. pneumoniae*; *C. psittaci*); viruses
 - b. Hospital-acquired pneumonia (HAP): commonly caused by *S. aureus*, *P. aeruginosa*, *K. pneumoniae*, *Serratia marcescens*, *S. pneumoniae* (pneumococcal), *H. influenzae*; misuse of antimicrobial agents led to emergence of resistant strains such as MRSA
 - c. Aspiration pneumonia: occurs when resident flora of upper respiratory tract, gastric contents, or chemicals are aspirated into lung
 - d. Pneumonias in immunocompromised hosts: commonly associated with *Pneumocystis pneumonia* (PCP) caused by *P. jiroveci* and other fungal pneumonias (e.g., aspergillosis) and *M. tuberculosis*
 - e. Severe acute respiratory syndrome (SARS): atypical pneumonia caused by a coronavirus (SARS-CoV); 1993 outbreak started in Asia and spread globally
3. Risk factors: age (older adult), COPD, alcoholism, smoking, neutropenia, ineffective cough, immobility, HIV infection, endotracheal intubation
4. Pneumonia commonly spread by respiratory droplets

B Clinical findings

1. Subjective: lassitude; dyspnea; chest pain that increases on inspiration
2. Objective
 - a. Elevated temperature, increased WBCs
 - b. Chest x-ray shows pulmonary infiltration
 - c. Cough with sputum production; culture identifies pathogen

- (1) Pneumococcal: purulent, rusty sputum
- (2) Staphylococcal: yellow, blood-streaked sputum
- (3) *Klebsiella* species: red, gelatinous sputum
- (4) Mycoplasmal: nonproductive that advances to mucoid sputum

C Therapeutic interventions

1. Culture and sensitivity tests on blood and sputum to determine appropriate antibiotic; specimen must be obtained before antimicrobial therapy is started
2. Antimicrobial therapy initiated within 6 hours of arrival at hospital: antibiotics, antiviral, or antifungal therapy; *Aspergillus* infection is treated with amphotericin B, azole agents such as itraconazole (Sporanox), or newer echinocandin agents such as caspofungin (Cancidas)
3. Respiratory support including oxygen, intubation, and ventilation as needed
4. Nutritional supplementation and fluid and electrolyte replacement
5. Bronchodilators
6. Chest physiotherapy and suctioning as needed
7. For SARS: no effective vaccine or treatment identified; supportive care
8. Global surveillance plan to limit spread (e.g., influenza, SARS)

Nursing Care of Clients with Pneumonia

Assessment/Analysis

1. Vital signs, breathing patterns, oxygen saturation
2. Color, amount, and consistency of sputum
3. Adventitious sounds on auscultation of lung
4. Mental status changes

Planning/Implementation

1. Encourage coughing and deep breathing after chest physiotherapy, splinting chest as necessary
2. Collect morning sputum specimen for culture and sensitivity tests in sterile container; notify health care provider if organism is resistant to antibiotic prescribed
3. Increase fluid intake to 3 L daily to thin secretions
4. Encourage semi-Fowler position
5. Monitor for signs of respiratory distress (e.g., labored respirations; cool, clammy skin; cyanosis; and change in mental status)
6. Balance rest periods to conserve oxygen with activity to mobilize secretions
7. Instruct to cover nose and mouth when coughing; dispose of tissues in fluid impervious bag
8. Administer prescribed antibiotics
9. Teach preventive measures: role of nutrition and fluids; avoidance of respiratory irritants and people with an active respiratory infection; balance of activity and rest; cessation of smoking; oral hygiene; need for pneumococcal and influenza vaccinations (influenza vaccine recommended for those 50 years or older; pneumococcal vaccine recommended for those 65 years or older)
10. Follow agency policy regarding transmission-based precautions
11. Provide nursing care for client with SARS
 - a. Use contact precautions (e.g., gloves, gowns, and eye protection); airborne precautions (N-95 disposable respirators)

- b. Place in negative-pressure isolation room
- c. Have client wear surgical mask until infection control precautions can be implemented and during transport in hospital or to home
- d. Isolate in home for 10 days after resolution of fever and respiratory symptoms
- e. Teach client and family members transmission-based precautions to be followed in home

Evaluation/Outcomes

- 1. Maintains patent airway
- 2. Maintains adequate oxygen saturation
- 2. Performs activities of daily living (ADLs) without assistance
- 3. Abstains from smoking

Pulmonary Tuberculosis

Data Base

A Etiology and pathophysiology

- 1. Lung infection caused by *M. tuberculosis*, an acid-fast bacterium, commonly transmitted by inhalation of airborne respiratory droplets
- 2. Macrophages surround bacilli and form a fibrous tissue mass around a Ghon tubercle; necrosis and calcification of mass within lungs causes bacilli to be dormant; future compromised immune responses can cause the Ghon tubercle to ulcerate and activate bacilli
- 3. Predisposing factors: substance abuse, diabetes mellitus, antirejection drugs used in organ transplants, HIV infection, cirrhosis, and other debilitating diseases, as well as inadequate nutrition, crowded living conditions, institutions (e.g., prisons, mental health and long-term care facilities), and immigration from countries with high prevalence
- 4. Emergence of drug-resistant TB has complicated management and treatment
- 5. Chronic; progressive; reinfection phase involves progression or reactivation of primary lesions after months or years of latency; more common in adults
- 6. Swallowing infected sputum may lead to laryngeal, oropharyngeal, and intestinal TB; also may involve bone, kidneys, and meninges

B Clinical findings

- 1. Subjective: malaise; pleuritic pain; easy fatigability
- 2. Objective
 - a. Fever; night sweats; weight loss; cough that progressively becomes worse; hemoptysis
 - b. Chest x-ray film may reveal active or calcified lesions, pleural effusion
 - c. Analysis of sputum and gastric contents demonstrates presence of acid-fast bacilli
 - d. Tuberculin skin test (Mantoux) involves an intradermal injection of purified protein derivative (PPD) from tubercle bacillus extract
 - (1) Determines antibody response to TB bacillus; induration of 10 mm or greater 48 to 72 hours after administration indicates a positive finding; induration of 5 mm may also be significant, particularly for immunocompromised clients
 - (2) Positive finding indicates prior exposure to *M. tuberculosis*; may or may not indicate active disease state (a sudden change from negative to positive requires follow-up); the immunization bacille Calmette-Guérin (BCG), an attenuated vaccine of *Mycobacterium*

bovis, may cause a false positive reaction

(3) Immunocompromised clients may not have a positive reaction despite being infected with *M. tuberculosis*

- e. QuantiFERON TB Gold (QFT-G) test detects release of interferon-gamma when blood of a client who has been exposed to TB is incubated with synthetic peptides representing protein present in TB bacillus; results are available in less than 24 hours and more specific than the tuberculin skin test; rarely done because of cost

C Therapeutic interventions

1. Multiple antituberculin drugs for 8 weeks in initial treatment phase, followed by 4- to 7-month continuation phase during which two drugs are continued (see [Antituberculars under Related Pharmacology](#))
2. Bed rest until symptoms abate or therapeutic regimen is established
3. Surgical resection of involved lobe if hemorrhage develops or chemotherapy is unsatisfactory; rarely done
4. Isoniazid (INH) preventive therapy (IPT) for 6 to 12 months to immediate contacts; all cases and follow-up of contacts must be reported to public health agency
5. High-carbohydrate, high-protein, high-vitamin diet with supplemental vitamin B₆ to counter INH side effects

Nursing Care of Clients with Pulmonary Tuberculosis

Assessment/Analysis

1. Detailed history related to exposure, travel, or BCG inoculation
2. Fatigue, anorexia, low-grade fever, and night sweats
3. Sputum for color, amount, and consistency

Planning/Implementation

1. Encourage balance in scheduled periods of rest and activity
2. Teach which foods to include in diet and which are nutritious between-meal supplements
3. Help plan a realistic schedule for taking numerous medications
4. Teach importance of continued follow-up and adherence, without variation, to drug regimen that has been established; monitor adherence
5. Instruct to be alert to early symptoms of adverse drug reactions (e.g., optic and peripheral neuritis, eighth cranial nerve damage, nephrotoxicity, hepatitis, dermatitis) and to contact health care provider immediately if any occur
6. Use standard precautions and airborne precautions with high-efficiency particulate air (HEPA) filter; teach techniques to prevent spread of infection to family members and others (e.g., frequent handwashing, covering mouth when coughing, using and disposing of tissues, cleansing eating utensils, and disposing of food wastes (See [Ch 3, Table 3-1: Precautions to Prevent the Spread of Microorganisms](#)))
7. Encourage coughing and deep breathing
8. Encourage expression of feelings about disease and the many ramifications (e.g., stigma, isolation, fear) it creates

Evaluation/Outcomes

1. Performs ADLs without shortness of breath
2. Maintains adequate body weight
3. Adheres to treatment regimen
4. Attains sputum free of *M. tuberculosis*

Obstructive Airway Diseases

Data Base

A Etiology and pathophysiology

1. Asthma: reversible bronchospasms, mucosal edema, and increased secretions that last an hour or more; severity classified as mild intermittent, mild persistent, moderate persistent, or severe persistent; status asthmaticus is an asthmatic attack that is difficult to control; asthma is no longer grouped with other diseases that comprise the broad classification of COPD, but it is an obstructive airway disease
2. Chronic obstructive pulmonary disease (COPD): progressive airflow limitation associated with an inflammatory response; four stages classified as mild, moderate, severe, and very severe
 - a. Chronic bronchitis: inflammation of bronchial walls with hypertrophy of mucous goblet cells; characterized by a chronic cough
 - b. Emphysema: distended, inelastic, or destroyed alveolar walls that impair diffusion of gases through the alveolar capillary membrane that traps air, making exhalation difficult
3. Traditionally it was believed that clients with COPD become accustomed to an elevated residual carbon dioxide level and did not respond to high carbon dioxide concentrations as the respiratory stimulant; clients responded instead to a drop in oxygen concentration in the blood. Newer theories (e.g., Haldane effect) suggest the adverse effects of administering high concentrations of oxygen are caused by the inability of oxygen-saturated hemoglobin molecules to transport carbon dioxide, leading to increased hypercapnia; this oxygen sensitivity affects a small subset of clients
4. May precipitate pulmonary hypertension, cor pulmonale, right ventricular heart failure, or pneumothorax

B Clinical findings

1. Subjective: anxiety, restlessness, fatigue, weakness, dyspnea, headache, impaired sensorium
2. Objective
 - a. Orthopnea, expiratory wheezing, sonorous breathing, cough
 - b. Decreased forced expiratory volume; increased residual volume
 - c. COPD: barrel chest, cyanosis, clubbing of fingers, use of accessory muscles, pursed lip breathing; increased PCO_2 and decreased PO_2 ; polycythemia
 - d. Right ventricular heart failure: distended neck veins, peripheral edema

C Therapeutic interventions

1. Medications to reduce airway restriction: bronchodilators, antiasthmatics (see [Related Pharmacology](#) in this chapter)
2. Medications to reduce inflammation: adrenocorticoids (see [Related Pharmacology](#) in [Chapter 9](#))
3. Medications to prevent/treat infection: antibiotics, antivirals (see [Related Pharmacology](#) in [Chapter 3](#))
4. Medications to liquefy secretions and promote expectoration: mucolytics, expectorants (see [Related](#)

Pharmacology)

5. Oxygen to maintain at least 90% oxygen saturation
6. Respiratory therapy program: nebulizer therapy, postural drainage, and exercise
7. High-protein soft diet in small, frequent feedings
8. Pneumococcal and influenza vaccines to decrease risk of infection
9. Surgery for end-stage emphysema: lung volume reduction, lung transplant

Nursing Care of Clients with Obstructive Airway Disease

Assessment/Analysis

1. History of increased symptoms: during early morning, in cold weather, when sleeping, and when smoking
2. Breathing patterns: abdominal, paradoxical, pursed lip, asynchronous; breath sounds; orthopnea
3. Frequency of respiratory tract infections
4. Evidence of chronic and acute hypoxia
5. Nutritional status

Planning/Implementation

1. Monitor vital signs, oxygen saturation, breath sounds, and arterial blood gases
2. Emphasize smoking cessation and avoidance of other external irritants (e.g., dust and allergens)
3. Supervise respiratory exercises, such as pursed-lip or diaphragmatic breathing; orthopneic position aids in exhalation
4. Encourage participation in physical conditioning program
5. Encourage fluids to maintain hydration
6. Teach use of inhalers and other special equipment (e.g., spacer, peak expiratory flow meter)
7. Monitor for signs and symptoms of hypoxia and CO₂ intoxication (CO₂ narcosis) such as restlessness, mental confusion
8. Teach to adjust activities to avoid overexertion and exposure to cold
9. Teach to avoid crowds and people with respiratory tract infections
10. Teach to avoid sedatives or hypnotics, which may compromise respirations
11. Teach to maintain highest resistance possible by attaining adequate rest, eating nutritious food, dressing appropriately for weather conditions, maintaining fluid intake, receiving pneumococcal and influenza vaccinations
12. Teach to identify early symptoms of infection, hypoxia, hypercapnia, or adverse response to medications including glucocorticoids
13. Encourage to continue with health care supervision
14. Encourage to express feelings about disease and therapy
15. Assist to cope with lifelong activity restrictions
16. Teach how to prevent complications of immobility when activity is severely restricted or bed rest becomes necessary
17. Encourage client and family to take an active role in planning therapy

Evaluation/Outcomes

1. Demonstrates pursed-lip breathing and diaphragmatic breathing

2. Adheres to treatment regimen
3. States methods for reducing/controlling feelings of anxiety/fear

Pneumothorax/Chest Injury

Data Base

A Etiology and pathophysiology

1. Collapse of a lung resulting from disruption of negative pressure within the intrapleural space caused by presence of atmospheric air in the pleural cavity
2. Surface area for gaseous exchange is reduced, which leads to hypoxia and retention of carbon dioxide (hypercapnia)
3. Types
 - a. Spontaneous or simple: occurs when a weakened area of lung (bleb) ruptures; air moves from lung to intrapleural space, causing collapse; highest incidence is in men 20 to 40 years of age
 - b. Traumatic: disruption of pleural space by invasive chest procedures, laceration (e.g., a stab wound) through chest wall into intrapleural space, or penetration by a fractured rib
 - c. Hemothorax: collection of blood within pleural cavity often accompanies traumatic pneumothorax; blood disrupts negative pressure of pleural space
 - d. Tension: buildup of pressure as air accumulates within pleural space; pressure increases causing lung to collapse; pressure displaces trachea, esophagus, heart, and great vessels toward unaffected side (mediastinal shift), causing increased thoracic pressure, reduced venous return, and decreased cardiac output ([Figure 7-7: Tension pneumothorax](#))

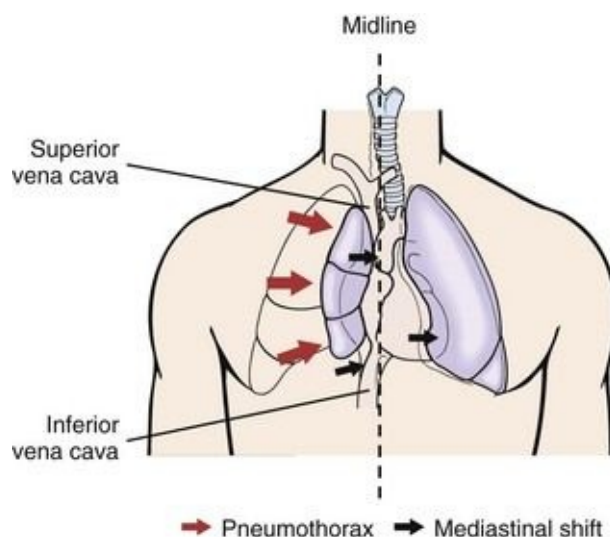


FIGURE 7-7 Tension pneumothorax. As pleural pressure on the affected side increases, mediastinal displacement ensues, with resultant respiratory and cardiovascular compromise. (From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011, Mosby.)

4. Flail chest: instability of chest, usually when three or more adjacent ribs are fractured or detached from sternum; caused by blunt trauma (e.g., steering wheel of car)

B Clinical findings

1. Subjective: sudden unilateral pleuritic chest pain, may be mild discomfort or sharp, that increases on exertion; dyspnea; anxiety; drowsiness
2. Objective

- a. Tachycardia; hypotension; rapid, shallow respirations (asymmetric); diaphoresis; progressive cyanosis
- b. Flail chest: loose chest segment moves inward during inspiration and outward during expiration (paradoxical respiration)
- c. Breath sounds on affected side are diminished or absent
- d. Chest x-ray examination reveals extent of pneumothorax
- e. Increased PCO_2 ; decreased PO_2

C Therapeutic interventions

1. Bed rest initially
2. Medications: analgesics, antibiotics
3. Return of negative pressure in intrapleural space by insertion of chest tubes attached to suction
4. Restoration of blood volume loss as a result of trauma

Nursing Care of Clients with Pneumothorax

Assessment/Analysis

1. Auscultation of lung fields for diminished or absent breath sounds
2. Chest percussion for hyperresonance and palpation for tracheal deviation toward unaffected side in tension pneumothorax
3. Chest motion during inhalation/exhalation
4. Vital signs, oxygen saturation
5. Skin for changes in color

Planning/Implementation

1. Maintain constant supervision until stable
2. Maintain patency of chest tubes (see [Chest Tubes under Related Procedures](#))
3. Place in high-Fowler position
4. Manage pain as prescribed
5. Offer fluids frequently
6. Monitor vital signs, particularly respirations; breath sounds; and oxygen saturation

Evaluation/Outcomes

1. Maintains adequate gas exchange
2. Verifies reduction or absence of chest pain

Malignant Lung Tumors

Data Base

A Etiology and pathophysiology

1. Carcinoma of lungs may be primary or metastatic; leading type of cancer that causes death
2. Incidence highest in men older than 60 years; incidence in women is increasing
3. Risk factor: smoking is most significant; inhalation of carcinogens responsible for 80% to 90% of cases
4. Classification and incidence of lung cancers: adenocarcinoma, 30% to 40%; epidermoid

(squamous cell), 30%; small cell (oat cell carcinoma), 20% to 25%; large cell (undifferentiated), 10% to 15%

5. Symptoms may first occur after metastasis to other organs such as lymph nodes, bone, liver, adrenal glands, mediastinal organs, kidneys, and brain
6. Staging based on tumor size, node involvement, and presence of metastasis

B Clinical findings

1. Subjective: dyspnea; chills; fatigue; chest pain
2. Objective
 - a. Persistent cough; change in voice quality; hemoptysis; unilateral wheeze; weight loss; clubbing of fingers
 - b. Chest x-ray film reveals pleural effusion and “coin” lesions; CT scans and magnetic resonance imaging (MRI) detect metastasis; bronchial washings and brushings from bronchoscopy, CT-guided needle biopsy, and cytologic test of sputum positive for cancer cells

C Therapeutic interventions

1. Surgical
 - a. Lobectomy: removal of one lobe when lesion is limited to one lobe
 - b. Wedge resection: removal of a segment when lesion is limited to one segment; may also be done for biopsy
 - c. Pneumonectomy: removal of an entire lung
 - d. Thoracentesis for pleural effusion (see [Thoracentesis under Related Procedures](#))
2. Radiation therapy may be an adjunct therapy to alleviate symptoms of pain, dyspnea, and hemoptysis
3. Chemotherapy (see Neoplastic Disorders, Related Pharmacology in [Chapter 3](#))

Nursing Care of Clients with Malignant Lung Tumors

Assessment/Analysis

1. Sputum quantity and characteristics
2. Lung auscultation for breath sounds
3. Chest percussion for dullness over tumors
4. Respirations for shallowness, stridor, and use of accessory muscles
5. Persistent cough

Planning/Implementation

1. Monitor vital signs, breath sounds, oxygen saturation
2. Encourage coughing and deep breathing
3. Change position frequently; semi-Fowler or high-Fowler promotes greater lung expansion
4. Encourage high-protein, high-calorie diet and supplements
5. Manage pain: analgesics, distraction, relaxation, imagery
6. After pneumonectomy: position on operative side to promote expansion of remaining lung; monitor for signs of mediastinal shift (e.g., displacement of trachea toward operative side)
7. Provide specific care based on therapy: care of client with chest tubes (see [Chest Tubes under Related Procedures](#)), radiation therapy and chemotherapy (see Neoplastic Disorders, General Nursing Care of Clients with Neoplastic Disorders in [Chapter 3](#))

Evaluation/Outcomes

1. Verbalizes reduction of pain
2. Maintains adequate oxygen saturation
3. Breathes with minimal effort

Cancer of the Larynx

Data Base

A Etiology and pathophysiology

1. Carcinoma of the larynx (vocal cords, epiglottis, and laryngeal cartilages); most are squamous cell carcinoma
2. Risk factors: cigarette smoking, secondhand smoke, air pollution, asbestos, chronic respiratory tract infections, heavy alcohol consumption, and voice strain
3. Incidence higher in men 50 to 70 years of age

B Clinical findings

1. Subjective: sore throat; dyspnea; dysphagia; weakness
2. Objective: increasing hoarseness; weight loss; enlarged cervical lymph nodes; foul breath; dysphagia

C Therapeutic interventions

1. Radiation therapy
2. Chemotherapy: not curative; preoperatively—decreases tumor size; postoperatively—decreases metastasis
3. Surgical intervention
 - a. Partial laryngectomy: one vocal cord and part of larynx removed with tumor; performed in early stages
 - b. Total laryngectomy: removal of total larynx with construction of a permanent tracheal stoma
 - c. Radical neck dissection: removal of larynx, surrounding tissue and muscle, lymph nodes, and glands with a permanent tracheal stoma; performed when tumor has metastasized into surrounding tissue and lymph nodes; chest tubes may be needed if thoracic duct leakage occurs; total parenteral nutrition (TPN) may be needed for nutritional support
 - d. Laser: eradicates small tumors or vocal cord tumors; used in conjunction with chemotherapy

Nursing Care of Clients with Cancer of the Larynx/Laryngectomy

Assessment/Analysis

1. Voice for hoarseness
2. Oropharyngeal inspection for masses
3. Neck palpation for masses and nodal enlargement

Planning/Implementation

1. Provide time to discuss diagnosis and ramifications of surgery
2. Encourage client to express feelings; involve client and family in preoperative planning
3. Establish methods of communication that will be used after surgery (e.g., slate board and chalk, pencil and paper, sign language, electronic voice, computer)

4. Observe for obstruction of airway by mucus plugs, edema, or blood (e.g., air hunger, dyspnea, cyanosis, gurgling); keep head elevated
5. Observe for signs of hemorrhage (e.g., increased pulse rate, drop in blood pressure, cold clammy skin, blood on dressing, frequent swallowing)
6. Encourage fluids and use of a humidifier to keep secretions loose
7. Provide specific nursing care for a client with a laryngectomy
 - a. Have suction apparatus and additional laryngectomy tube and surgical instrument set with additional hemostats immediately available in case tube becomes dislodged or blocked
 - b. Suction laryngectomy tube as necessary (see [Suctioning of Airway under Related Procedures](#))
 - c. Expect and accept a period of mourning, but prevent withdrawal from reality by involving in laryngectomy care, keeping channels of communication open, supporting strengths, encouraging return to ADLs
 - d. Provide hydration and humidity to compensate for loss of humidification of air in nasopharynx
 - e. Teach skills necessary to manage altered body functioning: tracheobronchial suctioning; changing, cleaning, and securing laryngectomy tube; caring for skin around stoma; providing humidified air for inspiration to prevent drying of secretions, which can be achieved with a moist dressing or cloth bib
 - f. Arrange for individuals with laryngectomies to visit the client and discuss the rehabilitative process
 - g. Encourage to become involved in speech therapy (e.g., esophageal, electric larynx, tracheoesophageal fistula)
 - h. Teach to avoid activities that may permit water or irritating substances to enter trachea: showers unless wearing a protective cover, swimming, dust, high winds, hair spray, and other volatile substances
 - i. Teach to avoid wearing clothes with constricting collars or necklines
 - j. Teach that certain activities will be impossible (e.g., sipping through a straw, whistling, blowing nose)

Evaluation/Outcomes

1. Maintains patent airway
2. Communicates effectively
3. States acceptance of body image

Acute Respiratory Distress Syndrome (ARDS)

Data Base

A Etiology and pathophysiology

1. Acute lung injury precipitated by trauma, aspiration, prolonged mechanical ventilation, severe infection, prolonged cardiopulmonary bypass, fat or air emboli, shock, smoke inhalation, coagulopathy
2. Involves
 - a. Alveolar capillary damage with loss of fluid and pulmonary edema
 - b. Impaired alveolar gas exchange causing V/Q mismatch and shunting; tissue hypoxia results
 - c. Alteration in surfactant production; decreased lung compliance
 - d. Atelectasis, resulting in labored and inefficient respiration

B Clinical findings

1. Subjective: restlessness; anxiety; dyspnea
2. Objective
 - a. Tachycardia; grunting respirations; intercostal retractions; cyanosis
 - b. PCO_2 initially decreased and later increased; decreased PO_2 ; chest x-ray study shows pulmonary edema

C Therapeutic interventions

1. Treatment of underlying cause
2. Supplemental oxygen
3. Mechanical ventilation with positive end-expiratory pressure (PEEP): PEEP maintains positive pressure within lungs at end of expiration; increases residual capacity, reducing hypoxia; sedative or neuromuscular blocking agents may be needed to facilitate mechanical ventilation
4. Surfactant replacement therapy may be necessary
5. Maintenance of fluid volume and nutrition

Nursing Care of Clients with Acute Respiratory Distress Syndrome

Assessment/Analysis

1. Vital signs, especially characteristics of respirations
2. Breath sounds, oxygen saturation, ECG
3. Pain that increases on inspiration

Planning/Implementation

1. Maintain a patent airway
2. Monitor oxygen saturation and arterial blood gases per protocol
3. Observe behavioral changes and obtain vital signs because confusion and hypertension may indicate cerebral hypoxia
4. Change position frequently; prone position has demonstrated increased oxygenation thought to be due in part to changes in gravitational forces that redistribute perfusion (e.g., lack of compression of beating heart, modified hydrostatic pressures redistribute intrapulmonary gases)
5. Schedule frequent rest periods between therapeutic interventions
6. Establish system for communication when intubated
7. Provide tranquil, supportive environment; sedation is contraindicated because of its depressant effect on respirations unless receiving mechanical ventilation
8. Provide care for client receiving mechanical ventilation (see [Mechanical Ventilation under Related Procedures](#))
9. Auscultate lungs for absent breath sounds that indicates pneumothorax (when on PEEP frail lung tissue may not withstand increased intrathoracic pressure and a pneumothorax results)

Evaluation/Outcomes

1. Maintains adequate gas exchange
2. Communicates reduction in anxiety
3. Performs activities without respiratory distress or fatigue

Carbon Monoxide Poisoning

Data Base

A Etiology and pathophysiology

1. Carbon monoxide combines with hemoglobin more readily than does oxygen, resulting in tissue anoxia
2. Caused by inadequately vented combustion devices

B Clinical findings

1. Subjective: headache; dizziness; confusion; palpitations; weakness
2. Objective
 - a. Skin color usually is cherry pink but may be normal, cyanotic, or flushed; paralysis; loss of consciousness
 - b. ECG changes; elevated carboxyhemoglobin levels (expected level less than 3%; 50% to 70% results in death)

C Therapeutic interventions

1. Mechanical ventilation with 100% oxygen until carboxyhemoglobin is reduced to less than 5% and respirations are within expected limits
2. Hyperbaric pressure chamber to increase oxygen concentration and accelerate formation of carbon dioxide, which can be exhaled

Nursing Care of Clients with Carbon Monoxide Poisoning

Assessment/Analysis

1. History to determine extent of exposure
2. Color of skin
3. Level of consciousness

Planning/Implementation

1. Remove from immediate area of poisoning
2. Maintain respirations; institute cardiopulmonary resuscitation if necessary and continue until help arrives
3. Monitor vital signs, with special concern for respirations and breath sounds
4. Monitor cardiopulmonary and neurologic function
5. Administer oxygen as prescribed
6. Monitor carboxyhemoglobin levels
7. Provide care for client receiving mechanical ventilation (see [Mechanical Ventilation under Related Procedures](#))
8. Determine whether accidental or intentional; obtain a psychiatric referral if cause was intentional

Evaluation/Outcomes

1. Maintains adequate oxygen levels
2. Remains conscious and alert



CHAPTER 8

Nursing Care of Clients with Gastrointestinal System Disorders

Overview

Review of Anatomy and Physiology

Functions of the Gastrointestinal System

Digestion

A Changes to food in alimentary canal occur so it can be absorbed and metabolized

B Types

1. Mechanical digestion: movements of alimentary tract that
 - a. Change physical state of foods
 - b. Propel food along alimentary tract
 - (1) Deglutition: swallowing
 - (2) Peristalsis: wavelike movements that squeeze food downward in the tract
 - (3) Sequential contractions: movements that mix gastric and intestinal contents with digestive juices
2. Chemical digestion: series of hydrolytic processes dependent on specific enzymes and chemicals; an additional substance may be necessary to act as a catalyst to facilitate the process

Absorption

A Passage of small molecules from food sources through intestinal mucosa into blood or lymph

B Accomplished mainly through movement of molecules against a concentration gradient because of energy (adenosine triphosphate [ATP]) expenditure (active transport) by intestinal cells; makes it possible for water and solutes to move through intestinal mucosa in a direction opposite that expected with osmosis and diffusion

C Majority occurs in small intestine; most water is absorbed from large intestine

Metabolism

A Definition: sum of all chemical reactions engaged in energy production and expenditure

B Anabolism: synthesis of various compounds from simpler compounds

C Catabolism: metabolic process in which complex substances are broken down into simple compounds; energy is liberated for use in movement, energy storage, and heat production

D Metabolism of carbohydrates

1. Glucose transport through cell membranes and phosphorylation
 - a. Insulin promotes transport of glucose and amino acids through cell membranes
 - b. Glucose phosphorylation: conversion of glucose to glucose 6-phosphate; insulin increases activity of glucokinase and promotes glucose phosphorylation, which is essential before glycogenesis and glucose catabolism
2. Glycogenesis: conversion of glucose to glycogen for storage in liver and muscle cells
3. Glycogenolysis
 - a. Glycogen is catabolized to glucose 6-phosphate in muscle cells
 - b. Glycogen is converted to glucose in muscle cells; glucagon and epinephrine accelerate liver glycogenolysis
4. Glucose catabolism

- a. Glycolysis: breakdown of one glucose molecule into two pyruvic acid molecules, with conversion of about 5% of energy stored in glucose to heat and ATP molecules
 - b. Krebs citric acid cycle with the electron transport chain: breakdown of two pyruvic acid molecules into six carbon dioxide and six water molecules; Krebs cycle releases about 95% of energy stored in glucose
5. Gluconeogenesis: chemical reaction that converts protein or fat compounds into glucose; occurs in liver cells
6. Principles of carbohydrate metabolism
- a. Preferred energy fuel: most cells catabolize glucose first, sparing fats and proteins; when glucose supply becomes inadequate, most cells catabolize fats next; nerve cells require glucose, thus causing proteins to be sacrificed to provide amino acids needed to produce more glucose (gluconeogenesis); small amounts of glucose can be produced from glycerol portion of fats
 - b. Glycogenesis: glucose in excess of 120 to 140 mg per 100 mL of blood brought to liver cells undergoes glycogenesis and is stored as glycogen
 - c. Glycogenolysis: when blood glucose concentration decreases below midpoint of expected level, liver glycogenolysis accelerates and tends to raise blood glucose concentration back toward midpoint of expected level
 - d. Gluconeogenesis: when blood glucose concentration decreases below expected level or when amount of glucose entering cells is inadequate, liver gluconeogenesis accelerates and raises blood glucose levels
 - e. Glucose storage as fat: when blood insulin content is adequate, glucose in excess of amount used for catabolism and glycogenesis is converted to fat

Structures of the Gastrointestinal System

(Figure 8-1: Structures of the digestive system)

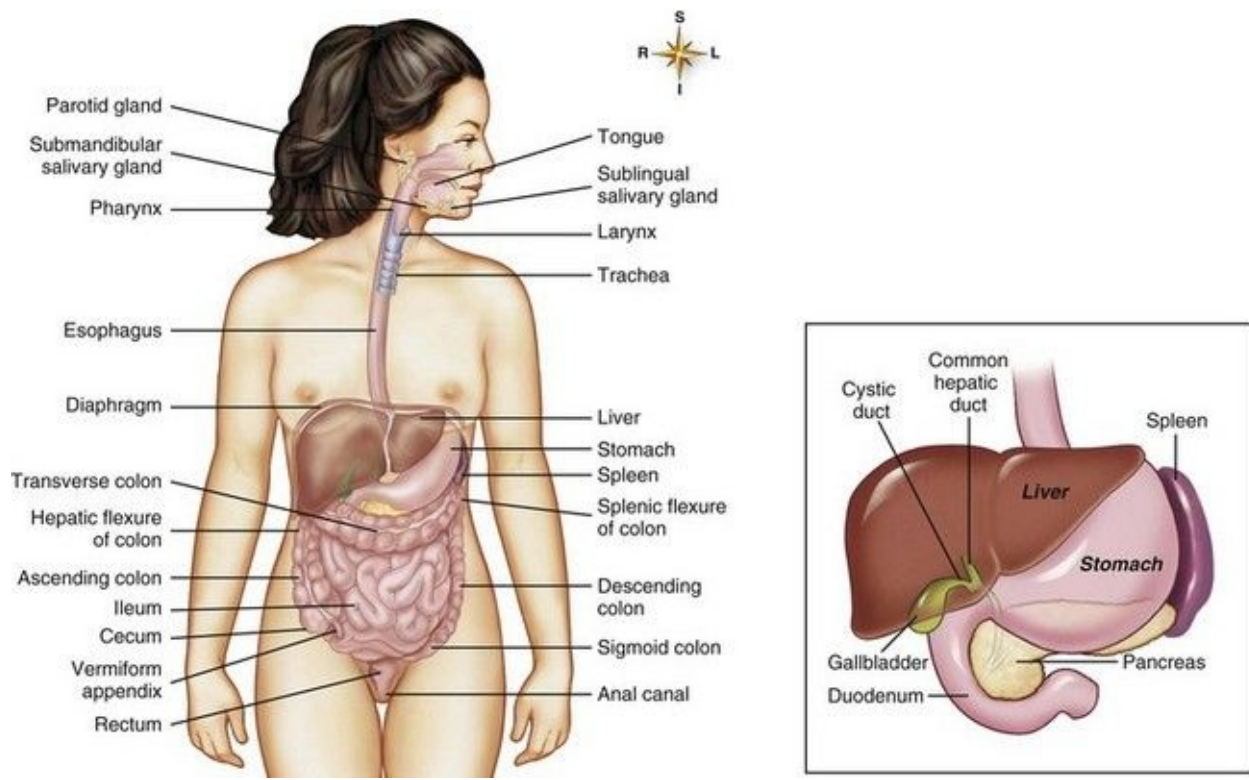


FIGURE 8-1 Structures of the digestive system. (From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010, Mosby.)

Mouth (Buccal Cavity)

- A Lips and cheeks
- B Hard palate; soft palate
- C Gums (gingivae); teeth
- D Tongue
 - 1. Papillae: rough elevations on surface
 - 2. Taste buds: receptors of cranial nerves VII (facial) and IX (glossopharyngeal); located in papillae
- E Tonsils: lymphatic tissue that produces lymphocytes; defense against infection
- F Salivary glands
 - 1. Parotid, submandibular, and sublingual
 - 2. Produce saliva, mixture of water, mucin, salts, and enzyme salivary amylase (ptyalin)

Esophagus

- A Posterior to trachea; anterior to vertebral column
- B Extends from pharynx through an opening in diaphragm (hiatus) to stomach
- C Collapsible muscular tube; about 25 cm (10 inches) long
- D Secretes mucus; facilitates movement of food

Stomach

- A Size varies in people and according to degree of distention
- B Elongated pouch, with greater curve forming lower left border
- C In epigastric and left hypochondriac portions of abdominal cavity
- D Divisions

1. Fundus: uppermost portion; bulge adjacent to and extending above esophageal opening
 2. Body: central portion
 3. Pylorus: constricted lower portion
- E Sphincters
1. Cardiac: opening of esophagus into stomach
 2. Pyloric: opening of pylorus into duodenum
- F Secretes gastric juice
1. Stomach wall cells secrete gastrin that stimulates flow of gastric juices
 2. Chief cells secrete pepsin
 3. Parietal cells secrete hydrochloric acid and intrinsic factor
 4. Goblet cells secrete mucin
- G Functions: food storage and liquefaction (chyme)

Small Intestine

- A Size: approximately 2.5 cm (1 inch) in diameter; 6.1 m (29 feet) in length when relaxed
- B Divisions
1. Duodenum: joins pylorus of stomach; C-shaped
 2. Jejunum: middle section
 3. Ileum: lower section; no clear boundary between jejunum and ileum
- C Functions: digestion and absorption; enzymes include sucrase, lactase, and maltase; cholecystokinin stimulates release of bile from gallbladder
- D Processes: mixing movements; peristalsis; secretion of water, ions, and mucus; receives secretions from the liver, gallbladder, and pancreas

Large Intestine

- A Size: approximately 6.3 cm (2.5 inches) in diameter; 1.5 m (5 to 6 feet) long when relaxed
- B Divisions
1. Cecum: first 2 to 3 inches
 2. Colon: consists of ascending, transverse, descending, and sigmoid colon
 3. Rectum: last 7 to 8 inches
 4. Anus: terminal opening of alimentary canal
- C Functions: water and sodium ion absorption; temporary storage of fecal matter; defecation
- D Processes: weak mixing movements, peristalsis, and mass movements

Vermiform Appendix

- A Blind-end tube of cecum just beyond ileocecal valve
- B Function: part of immune system

Liver

- A Occupies most of right hypochondrium and part of epigastrium
- B Divided into thousands of lobules
- C Ducts
1. Hepatic duct: from liver
 2. Cystic duct: from gallbladder

3. Common bile duct: formed by union of hepatic and cystic ducts; drains bile into duodenum at sphincter of Oddi

D Functions

1. Carbohydrate metabolism: converts glucose to glycogen by glycogenesis, converts glycogen to glucose by glycogenolysis, and forms glucose from proteins and fats by gluconeogenesis
2. Fat metabolism
 - a. Ketogenesis: fatty acids are broken down into molecules of acetyl coenzyme A (acetyl-CoA) (beta oxygenation), which form ketone bodies (acetoacetic acid, acetone, beta-hydroxybutyric acid)
 - b. Fat storage
 - c. Synthesis of triglycerides, phospholipids, cholesterol, and B complex factor choline
3. Protein metabolism
 - a. Anabolism: synthesis of various blood proteins (e.g., prothrombin, fibrinogen, albumins, alpha and beta globulins, and clotting factors V, VII, IX, and X)
 - b. Deamination: chemical reaction by which amino group splits off from amino acid to form ammonia and a keto acid
 - c. Urea formation: liver converts most of ammonia formed by deamination to urea
4. Secretes bile, substance important for emulsifying fats before digestion and as a vehicle for excretion of cholesterol and bile pigments
5. Detoxifies various substances (e.g., drugs, hormones)
6. Vitamin metabolism: stores vitamins A, D, K, and B₁₂; bile salts needed to absorb fat-soluble vitamins A, D, E, and K
7. Chief source is synthesized by bacteria in large intestine; vitamin K is a fat soluble vitamin that requires bile for its absorption

Gallbladder

A Lies on undersurface of liver

B Sac made of smooth muscle, lined with mucosa arranged in rugae

C Functions: concentrates and stores bile

Pancreas

A Structure

1. Fish-shaped, with body, head, and tail; extends from duodenal curve to spleen
2. Duct and ductless gland
 - a. Pancreatic cells: secrete pancreatic juice via duct to duodenum; enzymes include trypsin, lipase, and amylase; stimulated by duodenal hormones secretin and pancreaticozym and by parasympathetic impulses
 - b. Islets of Langerhans: clusters of cells not connected with pancreatic ducts; composed of alpha and beta cells

B Functions

1. Pancreatic juice composed of enzymes that help digest carbohydrates, proteins, and fats
2. Islet cells constitute endocrine gland
 - a. Alpha cells secrete the hormone glucagon, which accelerates liver glycogenolysis and initiates gluconeogenesis; tends to increase blood glucose level

- b. Beta cells secrete insulin, which exerts profound influence on metabolism of carbohydrates, proteins, and fats
- (1) Accelerates active transport of glucose, along with potassium and phosphate ions, through cell membranes; decreases blood glucose level and increases glucose utilization by cells for either catabolism or anabolism
 - (2) Stimulates production of liver cell glucokinase; promotes liver glycogenesis, which lowers blood glucose concentration
 - (3) Inhibits liver cell phosphatase and therefore inhibits liver glycogenolysis
 - (4) Accelerates rate of amino acid transfer into cells, promoting anabolism of proteins within cells
 - (5) Accelerates rate of fatty acid transfer into cells, promotes fat anabolism (lipogenesis); inhibits fat catabolism

Review of Nutrients

Sources of Energy

A Carbohydrates (4 calories per 1 g): sugars (simple) and starches (complex); help provide basic fuel for energy (see Metabolism of Carbohydrates under Functions of the Gastrointestinal System); *food sources*: sugars, honey, fruit, milk, syrups, potatoes, rice, legumes, and products made with flour from grain (e.g., bread, cereal, pasta, crackers, cake, and cookies)

B Proteins (4 calories per g): basically composed of amino acids; necessary for body growth, development, and healthy functioning; maintains nitrogen balance; *food sources*: meat, fish, poultry, dry beans, eggs, nuts, milk, and cheese

C Fats (9 calories per 1 g): include neutral fats, oils, fatty acids, cholesterol, and phospholipids; contribute to cellular transport; dietary source of fuel and fuel reserve; vitamin absorption and transport; insulation and protection afforded by adipose tissue; *food sources*: animal fat, coconut and palm oil, dairy products, whole milk, vegetable oils, butter, margarine, mayonnaise, salad dressings, and baked goods and snacks that contain significant fat

Vitamins

A Organic compounds needed to catalyze metabolic processes; essential for growth, development, and maintenance of body processes

B Types

1. Vitamin A: fat-soluble vitamin needed for night vision, healthy epithelium, skeletal and tooth development, and energy regulation
 - a. Sources: carrots, cantaloupe, sweet potatoes, apricots, squash, broccoli, cabbage, spinach and collards, fortified milk products, egg yolk, liver, and kidney
 - b. Deficiency: slow accommodation to dim light, sinus problems, sore throat, epithelial thickening of tissue over the eye
 - c. Excess: yellow discoloration of skin (carotenemia)
2. Vitamin D: fat-soluble vitamin that enhances bone mineralization promoting absorption of calcium, muscle contraction
 - a. Sources: sunlight, cod liver oil, fortified milk, most dairy products
 - b. Deficiency: rickets (soft, fragile bones; skeletal deformities), osteomalacia (softening of bone,

causing flexible, brittle bones; skeletal deformities), tetany resulting from low serum calcium level (vitamin D necessary for calcium absorption)

3. Vitamin E: fat-soluble vitamin that is an antioxidant
 - a. Sources: vegetable and peanut oils, whole grains, wheat germ, milk, eggs, meats, fish, and leafy vegetables
 - b. Deficiency: muscle weakness, anemia; rarely occurs
4. Vitamin K: fat-soluble vitamin associated with blood clotting and bone metabolism; majority is produced by intestinal bacteria
 - a. Sources: liver; green, leafy vegetables (e.g., lettuce, spinach, cabbage, kale, broccoli, Brussels sprouts), cauliflower, asparagus
 - b. Deficiency: prolonged antibiotic therapy and fat absorption problems, which contribute to prolonged blood clotting time
5. Vitamin C: water-soluble vitamin; antioxidant; associated with wound and fracture healing, adrenal gland function, iron absorption, and folic acid conversion
 - a. Sources: citrus fruits, tomatoes, green and red peppers, white potatoes, cabbage, broccoli, kale, asparagus, chard, turnip greens, berries, melons, pineapple, and guavas
 - b. Deficiency (scurvy): tender, sore, bleeding gums; loose teeth; small skin hemorrhages and bleeding around joints, stomach, and heart; ends of long bones soften; delayed wound healing
6. B-complex vitamins: B₁ (thiamine), B₂ (riboflavin), B₃ (niacin), B₆ (pyridoxine), folic acid, B₁₂ (cyanocobalamin), B₅ (pantothenic acid), and biotin; function as coenzymes
 - a. Sources: enriched grains; each has its own source (e.g., B₁—pork, wheat germ; B₂—milk; B₃—legumes; B₆—organ meats; folic acid—orange juice, green leafy vegetables; biotin—egg yolks, liver)
 - b. Deficiency: each has its own clinical findings; often seen in clients who drink an excessive amount of alcohol, experience weight loss, consume excessive sugar; may turn urine bright yellow

Minerals

A Inorganic substances that regulate body functions; help build body tissues; most important minerals: calcium, sodium, potassium, iron, iodine, and fluorine (see [Table 3-4: Fluid/Electrolyte Imbalances: Etiology, Assessments, and Treatments](#))

B Types

1. Calcium
 - a. Needed for bone and tooth growth, coagulation, nerve conduction, and muscle contraction
 - b. Sources: milk and dairy products, leafy green vegetables, whole grains, nuts, legumes, and seafood
2. Sodium
 - a. Major role in fluid balance, transmission of electrochemical impulses along nerve and muscle membrane
 - b. Sources: table salt, processed foods, milk and milk products (for additional foods, see [Low Sodium Diet under Review of Diets](#))
3. Potassium
 - a. Regulates fluid balance, conduction of nerve impulses, and muscle contraction, especially the heart

- b. Sources: oranges, bananas, dried apricots or peaches, cantaloupe, prune juice, baked potato with skins, sweet potato, raisins, pinto beans, winter squash, lima beans, broccoli

4. Iron

- a. Essential to hemoglobin and myoglobin formation, constituent of enzyme systems
- b. Sources: liver, lean meat, eggs, spinach, fortified cereals, dried beans

5. Iodine

- a. Component of thyroid hormones, which help regulate metabolism, cell function and growth
- b. Sources: saltwater fish, shellfish and seaweed, table salt fortified with iodine

6. Fluoride (ionized form of fluorine)

- a. Maintains bone structure and strengthens tooth enamel
- b. Sources: added to water, toothpaste, mouthwashes, and provided with supplements

Review of Diets

A MyPlate dietary guidelines: recommended by the U.S. Department of Agriculture, Center for Nutrition Policy and Promotion ([Figure 8-2: MyPlate](#)); includes food groups appropriate for a healthy diet



FIGURE 8-2 MyPlate advocates building a healthy plate by making half of your plate fruits and vegetables and the other half grains and protein. Avoiding oversized portions, making half your grains whole grains, and drinking fat-free or low-fat (1%) milk are additional recommendations for a healthy diet. (From U.S. Department of Agriculture, Center for Nutrition Policy and Promotion; available at www.choosemyplate.gov.)

B Clear liquid diet

1. Minimizes stimulation of gastrointestinal (GI) tract; for clients with nausea and vomiting
2. Permitted: clear broth, bouillon, clear juices, plain gelatin, fruit-flavored water, ices, ginger ale, black coffee, tea

C Full liquid diet

1. For client with GI disturbance or inability to tolerate solid or semisolid food; may follow clear

liquid diet postoperatively

2. Permitted: all foods on clear liquid diet plus milk and items made with milk, such as cream soups, milk drinks, sherbet, ice cream, puddings, custard, yogurt

D Soft diet

1. For clients who have difficulty chewing or swallowing
2. Permitted: all foods on clear and full liquid diets plus soft, refined cereals, pasta, rice, white bread and crackers, eggs, cheese, shredded or chopped meat, potatoes, cooked vegetables, soft cake, bread pudding, cooked fruits, and a few soft, ripe, plain fruits without membranes or skins

E Regular diet: full, well-balanced diet of all foods as desired and tolerated; generally 2000 calories or as ordered by health care provider

F Low-residue diet

1. Minimizes fecal volume and residue; used for severe diarrhea, partial bowel obstruction, and during acute episode of inflammation of bowel; can be used in progression to regular diet
2. Excluded: milk and milk products, food with seeds, nuts, grains, and raw or dried vegetables and fruits

G High-fiber diet

1. Foods high in fiber resist digestion, causing bulky stool that increases peristalsis; increases water content of stool
2. Sources: whole grain foods, bran, root vegetables and their skins, prunes, nuts, fruits, beans

H Restrictive diets: individually designed to meet specific needs of client

1. Low-sodium diet (e.g., 2 g sodium)
 - a. Limits sodium/salt intake
 - b. Permitted: fresh fish, meat and poultry, fresh or frozen vegetables, pasta, unsalted butter, cooking oil, coffee, tea, lemonade, unflavored gelatin, jam, jelly, honey and maple syrup, unsalted nuts and popcorn, unsalted canned foods
 - c. Excluded: salt, monosodium glutamate, soy sauce, milk, cheese, processed luncheon meats and bacon, snack foods (e.g., chips, pretzels, etc.), baked goods containing salt, bouillon, canned or packaged soup, rice/noodles, pickles, olives, sauerkraut, tomato juice, mustard, most bottled and canned drinks, canned vegetables unless low-sodium type, salad dressings, smoked or salted meat or fish, corned beef, powdered milk drinks, buttermilk, highly processed convenience foods, meat extracts, meat tenderizers, sugar substitutes containing sodium, and sauces such as catsup, tartar, horseradish, Worcestershire, and teriyaki
2. Low-fat diet
 - a. To reduce saturated fat, reduce cholesterol, and prevent coronary heart disease
 - b. Excluded: candy, ice cream, cake, cookies, and fried foods
 - c. Strategies to reduce dietary fat: grill, bake, broil, or microwave food; eat less meat; eat leaner cuts of meat; remove fat from meat and skin/fat from poultry before cooking; use skim milk; use less butter or margarine; eat more fish, lima beans, and navy beans for protein
3. Calorie restriction: calories are restricted to reduce weight
4. Renal diet: low sodium, potassium, protein, and possibly fluid restriction; specific restrictions indicated by health care provider
5. Nonallergic diet: food causing the allergic response is eliminated from diet
6. Diabetic diet: recommended by the American Diabetic Association to control weight and nutritional intake; balances proteins, carbohydrates, and fats

I Consistency modifications (e.g., mechanical soft): foods may be cut up, chopped, or pureed to make

them easier for client to ingest

Review of Physical Principles

Law of Motion

Greater the force of contraction of intestinal wall and more frequent the contractions, the more rapid the propulsion of food and fecal matter through the digestive tract

Light

A Refraction: total internal reflection in fiberoptics permits viewing of interior walls of stomach (gastroscopy) and intestines (colonoscopy)

B X-rays: GI series and barium enemas allow visualization of soft tissues of upper and lower GI tract; barium salts coat inner walls of tract and absorb x-rays, outlining organ surfaces

Review of Chemical Principles

Oxidation and Reduction

A Uniting oxygen with a substance results in oxidation

B Uniting hydrogen with a substance results in reduction

C Oxidation of nutrients such as glucose results in formation of high-energy ATP molecules and heat

D Some forms of life (anaerobes) can use substances other than oxygen for cellular oxidation (e.g., *Clostridium perfringens* found in gangrenous tissue)

Types of Compounds

Organic Acids

A Lactic acid: end product of anaerobic muscle metabolism

B Citric acid: one intermediate in Krebs citric acid cycle

Amino Acids

A Able to act as acid and base (amphoteric character)

B Essential amino acids cannot be synthesized well enough in body to maintain health and growth and must be supplied in food

Carbohydrates

A Include simple sugars, starches, celluloses, gums, and resins; contain carbon, hydrogen, and oxygen

B Classification

1. Monosaccharide: a simple sugar (e.g., glucose, fructose)

2. Disaccharide (e.g., sucrose, lactose, maltose)

3. Polysaccharide (e.g., starch, glycogen)

Lipids

A Fatty acids are important constituents of all lipids except sterols

1. Usually straight-chain carboxylic acids; three fatty acids and one glycerol molecule form a triglyceride
2. Saturated fatty acids: solid at room temperature; mainly animal fats
3. Unsaturated fatty acids: liquid at room temperature
4. Essential fatty acids: cannot be synthesized by body; must be taken in by diet

B Cholesterol: sterol found in human and animal tissue; important component of cellular membranes; found in blood at 150 to 200 mg/mL; high cholesterol associated with increased intake of saturated fats and arterial atherosclerosis

Proteins

A Simple proteins

1. Albumins: necessary for plasma colloid osmotic pressure (oncotic pressure), which helps control (through osmosis) flow of water between plasma and interstitial fluid; with starvation, decreased serum albumin level causes a decrease in plasma colloid osmotic pressure; results in edema as less fluid is drawn by osmosis into capillaries from interstitial spaces
2. Globulins: necessary to form antibodies (e.g., serum gamma globulin)

B Compound proteins

1. Lipoproteins: simple proteins combined with lipid substances
 - a. Low-density lipoprotein cholesterol (LDL)
 - (1) Chief carriers of cholesterol; low in triglycerides
 - (2) Contribute to atherosclerotic plaque formation
 - b. High-density lipoprotein cholesterol (HDL)
 - (1) Consist of 50% protein and 20% cholesterol
 - (2) Inversely associated with coronary heart disease
2. Nucleoproteins: proteins complexed with nucleic acids; chromosomes are sometimes referred to as nucleoprotein structures
 - a. Ribonucleic acid (RNA) and deoxyribonucleic acid (DNA) are nucleic acids
 - b. RNA and DNA store and transmit genetic information from one generation to another
3. Metalloproteins: proteins containing metal ions (e.g., ferritin, the iron-transporting compound of plasma)

Review of Microorganisms

A Bacterial pathogens

1. *Escherichia coli*: small, gram-negative bacilli; part of normal flora of large intestine; certain strains cause urinary tract infections and diarrhea
2. *Clostridium difficile*: anaerobic, spore-forming bacterial pathogen; produces toxins that affect bowel mucosa; major cause of agency acquired diarrhea
3. *Salmonella*: genus of gram-negative, rod-shaped bacteria; origin: raw foods of animal origin (e.g., poultry, eggs, dairy products, beef); also vegetables and fruit when irrigated or washed with contaminated water or packed with contaminated ice for transport
4. *Shigella*: gram-negative bacilli, similar to *Salmonella*; *Shigella dysenteriae* causes bacillary dysentery or shigellosis

B Protozoal pathogens

1. *Balantidium coli*: ciliated protozoan; causes enteritis
2. *Entamoeba histolytica*: an amoeba; causes amebiasis (amoebic dysentery)
3. *Giardia lamblia*: flagellated protozoan; causes enteritis

C Parasitic pathogens

1. Nematodes (roundworms): include *Necator americanus* (hookworm), *Ascaris lumbricoides*, *Enterobius vermicularis* (pinworm), *Trichuris trichiura* (whipworm), all may be found in intestine
2. Cestodes (tapeworm): may be found in adult form in intestine; larval stage (hydatid) of some forms may develop and form cysts in liver, lungs, and kidneys
3. Trematodes (flukes): may be found in lungs, liver, and abdominal cavity

Related Pharmacology

Antiemetics

A Description

1. Diminish sensitivity of chemoreceptor trigger zone (CTZ) to irritants or decrease labyrinthine excitability
2. Alleviate nausea and vomiting
3. Prevent and control emesis and motion sickness
4. Available in oral, parenteral (intramuscular [IM], IV), rectal, and transdermal preparations

B Examples

1. Centrally acting agents: ondansetron (Zofran); prochlorperazine (Compazine)
2. Agents for motion sickness control: dimenhydrinate (Dramamine); meclizine (Antivert, Bonine); promethazine (Phenergan)
3. Agents that promote gastric emptying: metoclopramide (Reglan)

C Major side effects: drowsiness (central nervous system [CNS] depression); hypotension (vasodilation via central mechanism); dry mouth (decreased salivation from anticholinergic effect); blurred vision (pupillary dilation from anticholinergic effect); incoordination (extrapyramidal symptom resulting from dopamine antagonism)

D Nursing care

1. Observe incidences and characteristics of vomitus, provide oral hygiene
2. Eliminate noxious substances from diet and environment
3. Administer before chemotherapy to limit nausea and vomiting
4. Offer sugar-free chewing gum or hard candy to promote salivation
5. Offer soothing fluids or ice chips in small amounts
6. Instruct to change positions slowly
7. Caution to avoid engaging in hazardous activities

Anorexiant

A Description

1. Suppress desire for food at hypothalamic appetite centers; generally produce CNS stimulation
2. Available in oral preparations

B Examples: amphetamine sulfate; dextroamphetamine sulfate (Dexedrine); phentermine (Adipex); diethylpropion (Tenuate); phendimetrazine

C Major side effects: nausea, vomiting (irritation of gastric mucosa); constipation (delayed passage

of stool in GI tract); tachycardia (sympathetic stimulation); CNS stimulation (sympathetic activation)

D Nursing care

1. Educate regarding
 - a. Drug misuse (controlled substances)
 - b. Concurrent exercise and diet therapy
 - c. Need for medical supervision during therapy
 - d. Possibility of affecting ability to engage in hazardous activities
2. Monitor weight

Antacids

A Description

1. Provide protective coating on stomach lining and lower gastric acid pH; allow more rapid movement of stomach contents into duodenum
2. Neutralize gastric acid; effective in treatment of ulcers
3. Available in oral preparations

B Examples: aluminum hydroxide gel (Amphojel); aluminum and magnesium hydroxides (Maalox); famotidine (Pepcid); famotidine plus calcium carbonate and magnesium hydroxide (Pepcid Complete); ranitidine (Zantac, Peptic Relief)

C Major side effects

1. Constipation (aluminum compounds: aluminum delays passage of stool in GI tract)
2. Diarrhea (magnesium compounds: magnesium stimulates peristalsis in GI tract)
3. Alkalosis (systemic antacids: absorption of alkaline compound into circulation)
4. Reduced absorption of calcium, iron, and most medications (increase in gastric pH)

D Nursing care

1. Instruct regarding
 - a. Prevention of overuse of antacids, which can result in rebound hyperacidity
 - b. Need for continued supervision
 - c. Dietary restrictions related to gastric distress
 - d. Foods high in calcium and iron
 - e. Need to take 1 hour before or 2 hours after other oral medications
 - f. Caution client on sodium-restricted diet because many antacids contain sodium
2. Shake oral suspensions well before administration
3. Administer with small amount of water to ensure passage to stomach

Anticholinergics

A Description

1. Inhibit smooth muscle contraction in GI tract
2. Alleviate pain associated with peptic ulcer
3. Available in oral and parenteral (IM, IV) preparations

B Examples: atropine sulfate; dicyclomine (Bentyl); glycopyrrolate (Robinul)

C Major side effects (all related to decreased parasympathetic stimulation)

1. Abdominal distention and constipation (decreased peristalsis)
2. Dry mouth (decreased salivation)
3. Urinary retention (decreased parasympathetic stimulation)

4. CNS disturbances: e.g., blurred vision, dizziness (direct CNS toxic effect)

D Nursing care

1. Provide oral care
2. Monitor for urinary retention

Antisecretory Agents

A Description

1. Inhibit gastric acid secretion
2. Act at H₂ receptors of stomach's parietal cells to limit gastric secretion (H₂ antagonists)
3. Inhibit hydrogen/potassium ATPase enzyme system to block acid production (proton pump inhibitors); used in conjunction with antibiotics to treat *Helicobacter pylori* infection
4. Available in oral and parenteral (IM, IV) preparations

B Examples

1. H₂ antagonists: famotidine (Pepcid); ranitidine (Zantac); cimetidine (Tagamet)
2. Proton pump inhibitors: omeprazole (Prilosec); lansoprazole (Prevacid); esomeprazole (Nexium)

C Major side effects

1. CNS disturbances (decreased metabolism of drug because of liver or kidney impairment)
2. Blood dyscrasias (decreased red blood cells [RBCs], white blood cells [WBCs], platelet synthesis)
3. Skin rash (hypersensitivity)
4. Decrease in bone density with long-term use of acid suppression medications; esomeprazole magnesium (Nexium), lansoprazole (Prevacid), and omeprazole (Prilosec); similar but less risk with cimetidine (Tagamet) and famotidine (Pepcid)

D Nursing care

1. Do not administer at same time as antacids; allow 1 hour before or 2 hours after other oral drugs
2. Administer oral preparations with meals
3. Assess for potentiation of oral anticoagulant effect
4. Instruct to follow prescription exactly
5. Do not administer for more than 8 weeks without medical supervision

Antidiarrheals

A Description

1. Slow passage of stool through intestines
2. Promote formation of formed stools; alleviate diarrhea
3. Available in oral and parenteral (IM) preparations

B Examples

1. Fluid adsorbents: decrease fluid content of stool: bismuth subsalicylate (Kaopectate, Pepto-Bismol)
2. Enteric bacteria replacements: enhance production of lactic acid from carbohydrates in intestinal lumen; acidity suppresses pathogenic bacterial overgrowth; *Lactobacillus acidophilus* (Bacid) and *Lactobacillus bulgaricus* (Lactinex)
3. Motility suppressants: decrease GI tract motility so more water is absorbed from large intestine; diphenoxylate/atropine (Lomotil); loperamide (Imodium)

C Major side effects

1. Fluid adsorbents: GI disturbances (local effect); CNS disturbances (direct CNS toxic effect)
2. Enteric bacteria replacements: excessive flatulence (increased microbial gas production);

abdominal cramps (increased microbial gas production)

3. Motility suppressants: constipation; urinary retention (decreased parasympathetic stimulation); tachycardia (vagolytic effect on cardiac conduction); dry mouth (decreased salivation from anticholinergic effect); sedation (CNS depression); paralytic ileus (decreased peristalsis); respiratory depression (depression of medullary respiratory center)

D Nursing care

1. Monitor bowel movements for color, characteristics, and frequency
2. Assess for fluid/electrolyte imbalance
3. Assess and eliminate cause of diarrhea
4. Motility suppressants
 - a. Offer sugar-free chewing gum and hard candy to promote salivation
 - b. Warn about interference with ability to perform hazardous activities and risk of physical dependence with long-term use

Cathartics/Laxatives

A Description

1. Alleviate or prevent constipation and promote evacuation of stool
2. Available in oral and rectal preparations

B Examples

1. Intestinal lubricants: decrease dehydration of feces; lubricate intestinal tract; mineral oil, olive oil
2. Fecal softeners: lower surface tension of feces, allowing water and fats to penetrate; docusate calcium (Surfak), docusate sodium (Colace)
3. Bulk-forming laxatives: increase bulk in intestinal lumen, which stimulates propulsive movements by pressure on mucosal lining; methylcellulose (Citrucel), psyllium (Metamucil)
4. Colon irritants: stimulate peristalsis by reflexive response to irritation of intestinal lumen; bisacodyl (Dulcolax), senna (Senokot)
5. Saline cathartics: increase osmotic pressure within intestine, drawing fluid from blood and bowel wall, thus increasing bulk and stimulating peristalsis; effervescent sodium phosphate (Fleet Phospho-Soda), magnesium hydroxide (Milk of Magnesia), polyethylene glycol (MiraLax)

C Major side effects

1. Laxative dependence with long-term use (loss of normal defecation mechanism)
2. GI disturbances (local effect)
3. Intestinal lubricants: inhibit absorption of fat-soluble vitamins A, D, E, K; may cause anal leaking of oil (accumulation of lubricant near rectal sphincter)
4. Saline cathartics: dehydration (fluid volume depletion resulting from hypertonic state in GI tract); hypernatremia (increased sodium absorption into circulation; shift of fluid from vasculature to intestinal lumen)

D Nursing care

1. Instruct regarding overuse of cathartics and intestinal lubricants, increasing intake of fluids and dietary fiber, increasing activity level, and adhering to bowel-retraining program
2. Monitor bowel movements for consistency and frequency of stool
3. Administer at bedtime to promote defecation in morning
4. Encourage to develop healthy bowel habits
5. Intestinal lubricants: use peripad to protect clothing
6. Bulk-forming laxatives: mix thoroughly in 8 oz of fluid and follow with another 8 oz of fluid to

prevent obstruction

Intestinal Antibiotics

(See Infection, [Related Pharmacology](#), Antibiotics in [Chapter 3](#))

Pancreatic Enzymes

A Description

1. Replace natural endogenous pancreatic enzymes (e.g., protease, lipase, amylase); promote digestion of proteins, fats, and carbohydrates
2. Available in oral preparations

B Examples: pancrelipase (Pancreaze); pancreatin (Creon)

C Major side effects: nausea, glossitis, diarrhea, bloating, abdominal discomfort (GI irritation)

D Nursing care

1. Administer with meals or snacks
2. Avoid crushing enteric-coated preparations
3. Provide balanced diet to prevent indigestion
4. Administer after histamine 2 blockers

Related Procedures

Colostomy Irrigation

A Definition

1. Instillation of fluid into lower colon via stoma on abdominal wall to stimulate peristalsis and facilitate expulsion of feces
2. Cleansing colostomy stoma and collection of feces (stool consistency will depend on location of ostomy; colostomy of sigmoid colon will produce formed stools; transverse or ascending colostomy will produce less-formed stools)

B Nursing care

1. Irrigate stoma at same time each day to approximate usual bowel habits; provide for uninterrupted bathroom use
2. Insert well-lubricated catheter tip (use a cone) into stoma approximately 7 to 8 cm in direction of remaining bowel
3. Hold irrigating container 12 to 18 inches above colostomy; temperature of irrigating solution should be 105° F (40.5° C)
4. Stop flow of fluid temporarily if cramping occurs
5. Provide privacy while waiting for fecal returns or encourage client to ambulate with collection bag in place to further stimulate peristalsis
6. Cleanse peristomal area with soap and water; apply a protective skin barrier
7. Apply colostomy bag with opening $\frac{1}{8}$ inch away from stoma; use gauze dressing if colostomy is well regulated
8. Teach to control odor when necessary by placing commercially available deodorizer in colostomy bag

Endoscopy

A Definition: visualization of internal organs using hollow tube with lighted end: gastroscopy, stomach; esophagoscopy, esophagus; colonoscopy, entire large colon; sigmoidoscopy, sigmoid colon; proctoscopy, rectum; endoscopic retrograde cholangiopancreatography (ERCP), common bile and pancreatic ducts; capsule endoscopy, swallowed; virtual colonoscopy, series of computed tomography images of the intestine

B Nursing care

1. Obtain informed consent for procedure
2. Teach ordered preprocedure protocol: length of time to limit/eliminate food/fluids, laxatives, enemas
3. If rectal examination is indicated, administer cleansing enemas before test
4. Place in knee-chest position for sigmoidoscopy/proctoscopy; left side-lying for colonoscopy
5. After procedure, observe for bleeding, changes in vital signs, or nausea
6. If throat is anesthetized (as for gastroscopy or esophagoscopy), check for return of gag reflex before offering oral fluids
7. Assess for bleeding
8. Care before capsule endoscopy: instruct to fast for 12 hours before test; apply antenna patch and belt holding battery and data recorder; instruct to hold capsule under tongue for 1 minute as unit verifies that light source is functioning and then swallow capsule with 8 ounces of water
9. Care after ingestion of capsule endoscopic device: teach to notify health care provider immediately if experiencing dysphagia, abdominal or chest pain, nausea/vomiting, or fever (risk for obstruction); avoid strong electromagnetic field source until capsule is defecated; avoid strenuous activity, bending, or stooping during test; check that recorder is working every 15 minutes; return the device after capsule is expelled

Enemas

A Definitions

1. Tap-water: introduction of water into colon to stimulate evacuation
2. Soapsuds: introduction of soapy water into colon to stimulate peristalsis by bowel irritation; contraindicated as preparation for endoscopic procedure because it may alter appearance of mucosa
3. Hypertonic: commercially prepared small-volume enema that works on principle of osmosis
4. Return flow (Harris flush or drip): repeated alternate introduction of water into colon and drainage of that water from colon through same tubing to facilitate exit of flatus
5. Instillation/retention: introduction of a liquid (usually mineral oil) into colon to facilitate fecal activity through lubricating effect

B Nursing care

1. Provide privacy, place in left side-lying or Sims position
2. Obtain correct solution for the enema ordered
3. Lubricate tip of rectal catheter with water-soluble jelly
4. Insert catheter 3 to 4 inches into rectum
5. Allow solution to enter slowly; keep it no more than 12 inches above rectum; solution may be raised 15 to 18 inches for high cleansing enema; temporarily interrupt flow if cramping occurs
6. Allow ample time for expulsion of enema; encourage prolonged retention of instillation/retention enema
7. Observe and record amount and consistency of returns

Gastrointestinal Series

A Definition: introduction of barium, an opaque medium, into upper GI tract via mouth (upper GI series) or into lower GI tract via rectum for purpose of x-ray visualization for pathologic changes

B Nursing care

1. Prepare client for procedure
 - a. Maintain nothing by mouth (NPO) for 8 to 10 hours before test
 - b. Administer cathartics and/or enemas as ordered to evacuate bowel
2. Inspect stool after procedure for presence of barium
3. Administer enemas and/or cathartics as prescribed if stool does not return as expected
4. Encourage fluid intake after procedure

Gavage (Tube Feeding)

A Definitions

1. Nasogastric tube (NGT): tube placed through nose into stomach; has highest risk of aspiration of all types of feeding tubes
2. Intestinal tube: tube placed through nose into small intestine
3. Surgically placed feeding tubes
 - a. Cervical esophagostomy: tube sutured directly into esophagus for clients who have had head and neck surgery
 - b. Gastrostomy (GT): tube placed directly into stomach through abdominal wall and sutured in place; for clients who require tube feeding on long-term basis
 - c. Jejunostomy: tube inserted directly into jejunum for clients with pathologic conditions of upper GI tract
4. Percutaneous endoscopic gastrostomy (PEG) and low-profile gastrostomy device (G-Button)
 - a. Stomach is punctured during endoscopy procedure
 - b. Associated with reduced risks, but accidental removal may occur; low risk with button

B Nursing care

1. Verify placement of tube before feeding
 - a. Confirm by radiography before initiating tube feedings; test aspirate for acid pH (pH of 1 to 4 confirms gastric placement although the pH can be as high as 6 if client is receiving drugs to reduce gastric acid); inject small amount of air into tube and, with stethoscope placed over epigastric area, listen for passage of air into stomach (less reliable than testing for gastric pH)
 - b. Small-bore tube placement must be verified by radiographic examination
2. Aspirate contents of stomach before feeding to determine residual; follow health care provider's orders or agency policy regarding holding feeding based on residual amounts; *general guidelines*: reinsert 300 mL to avoid electrolyte imbalance and call health care provider for orders; if residual is greater than half of last feeding, call health care provider for orders or follow agency policy; some agencies delay tube feedings for 1 hour if residual amount specified is aspirated when volume is assessed
3. Intermittent feeding
 - a. Position so that head of bed is elevated during feeding
 - b. Verify placement of tube
 - c. Introduce 30 mL of water to verify the patency of tube; tube should not be allowed to empty during feeding

- d. Slowly administer feeding to prevent regurgitation; administer at room or body temperature; observe and question client to determine tolerance
- e. Administer 30 mL of water to clear tube at completion of feeding
- f. Clamp tubing and clean equipment
- g. Place in sitting position for 1 hour after feeding; place infant in right side-lying position

4. Continuous feeding

- a. Place prescribed feeding in gavage bag and prime tubing to prevent excess air from entering stomach
- b. Check for residual as per agency policy to verify peristalsis
- c. Set rate of flow; rate of flow can be manually regulated by setting drops per minute or mechanically regulated by using infusion pump
- d. Keep head of bed elevated throughout feeding
- e. Verify placement of tube every 4 hours; generally done when adding additional fluid to feeding
- f. Flush tube intermittently with water to prevent occlusion of tube with feeding; change tubing per protocol
- g. Monitor for gastric distention and aspiration; gastric distention and subsequent aspiration are less frequent because smaller amounts of feeding are administered within a given period
- h. Discard unused fluid that has been in gavage administration bag at room temperature for longer than 4 hours

5. Care common for all clients receiving tube feedings

- a. Elevate head of bed; helps prevent aspiration; facilitates gastric emptying; promotes peristalsis
- b. Monitor for abdominal distention; changes in bowel sounds; assess for diarrhea caused by high osmolarity of feeding; stop tube feeding if nausea and/or vomiting occur or if bowel sounds are not audible; notify health care provider if client is not tolerating feedings
- c. Provide oral hygiene
- d. When appropriate, encourage client to chew foods that will stimulate gastric secretions while providing psychologic comfort; chewed food may or may not be swallowed
- e. Provide special skin care; if client has gastrostomy tube sutured in place, skin may become irritated from gastrointestinal enzymes; if client has a nasogastric tube, skin may become excoriated at point of entry because of irritation
- f. Provide supplemental water to balance hypertonic formula if ordered by health care provider
- g. Care for site of tube entry; cleanse and use water-soluble jelly on nares for NGT; change dressing daily and clean with sterile saline if exudate is present for surgically implanted tubes and PEG tube

Parenteral Replacement Therapy

A Definitions

1. Peripheral parenteral nutrition (PPN): short-term use

- a. Administration of isotonic lipid and amino acid solutions through peripheral vein
- b. Amino acid content should not exceed 4%; dextrose content should not be greater than 10%; helps maintain positive nitrogen balance
- c. Therapy usually limited to 2 weeks

2. Total parenteral nutrition (TPN): long-term use

- a. Administration of carbohydrates, amino acids, vitamins, and minerals via central vein because

of high osmolality of solution

- b. High-osmolality solutions (25% dextrose) are administered in conjunction with 5% to 10% amino acids, electrolytes, minerals, and vitamins; helps maintain positive nitrogen balance
- c. Long-term home nutritional therapy may be delivered by atrial catheters (Hickman/Broviac or Groshong) that are surgically inserted

3. Intralipid therapy

- a. Infusion of 10% to 20% fat emulsion that provides essential fatty acids
- b. Provides increased caloric intake to maintain positive nitrogen balance

4. Total nutrient admixture (TNA or 3 in 1)

- a. Combination of dextrose, amino acids, and lipids in one container; vitamins and minerals may be used
- b. Administered through a central line over 24 hours

B Nursing care

1. Ensure placement of catheter by chest x-ray examination after insertion; assess for clinical manifestations of accidental pneumothorax, which can occur during insertion (e.g., shortness of breath, unilateral chest pain)
2. Regulate fluid infusion rate; intravenous pump should be used
 - a. Rapid infusion may cause movement of fluid into intravascular compartment, causing dehydration, circulatory overload, and hyperglycemia
 - b. Slow infusion may cause hypoglycemia because body adapts to the high osmolality by secreting more insulin; therefore, therapy is never terminated abruptly but is gradually discontinued; health care provider may order 10% glucose solution to maintain blood glucose level
3. Use filter for TPN; filters not used for lipids
4. Use surgical aseptic technique when changing tubing and applying new dressing
5. Record daily weights and monitor blood glucose levels frequently
6. Check laboratory reports daily, especially glucose, creatinine, blood urea nitrogen (BUN), and electrolytes; check serum lipids and liver function studies if lipids are administered
7. Monitor temperature every 4 hours (infection is most common complication of TPN); if a fever occurs, obtain cultures of blood, urine, and sputum to rule out other sources of infection

Paracentesis

A Definition: removal of fluid from peritoneum to reduce intraabdominal tension or obtain fluid for culture

B Nursing care

1. Obtain informed consent
2. Have client void before procedure
3. Position upright at edge of bed
4. Monitor vital signs after procedure; assess for clinical findings of hypovolemia (e.g., pallor, oliguria, dyspnea, tachycardia); maintain pressure dressing over needle insertion site

Major Disorders of the Gastrointestinal System

Eating Disorders

See [Obesity](#) in this chapter. For Anorexia Nervosa and Bulimia Nervosa, see [Chapter 20, Eating Disorders](#), General Nursing Care of Clients with Eating Disorders.

Obesity

Data Base

A Etiology and pathophysiology

1. Caloric intake exceeds metabolic needs
2. Complex illness involving metabolic, genetic, and psychologic factors; 30% of African-American and Hispanic-American adults are obese; 25% of European-American adults are obese
3. Research indicates that a stomach hormone, ghrelin, triggers hunger and may be a significant factor in managing weight for a small number of obese clients
4. Major risk factor in coronary heart disease (CHD), brain attack, hypertension, diabetes, arthritis, asthma, bronchitis, and decreased respiratory function; also may increase risk of endometrial, breast, colon, kidney, and gallbladder cancer and degenerative joint disease
5. Research shows that obese individuals are leptin resistant; leptin is thought to communicate to brain when stored fat is sufficient and food intake should cease

B Clinical findings

1. Subjective: undesirable eating patterns; fatigue; feelings of low self-esteem, depression, and disturbed body image
2. Objective
 - a. Obesity—20% or more over ideal body weight
 - b. Morbid obesity—100 lb or more over ideal body weight
 - c. Triceps skinfold greater than 15 mm in men and greater than 25 mm in women
 - d. Observed dysfunctional eating habits
 - e. Behaviors that indicate low self-esteem, depression, and/or disturbed body image

C Therapeutic interventions

1. Weight reduction diet; exercise program; behavior modification
2. Pharmacologic management: appetite suppressants (sibutramine [Meridia]); multivitamins; antidepressants; lipase inhibitors (orlistat [Xenical, Alli])
3. Bariatric surgery for morbid obesity
 - a. Gastric bypass: stomach capacity reduced to less than 50 mL; proximal jejunum is transected and distal end anastomosed to newly created stomach; proximal segment is anastomosed to jejunum
 - b. Laparoscopic adjustable-banded gastroplasty (LAGB): an adjustable band placed around stomach to create a small proximal stomach pouch; adjusted externally; reversible
 - c. Body contouring surgery after weight loss: lipoplasty to remove fat deposits; panniculectomy to remove excess abdominal skinfolds. Women of childbearing age should not become pregnant before surgery and for at least 1 to 2 years postoperatively

Nursing Care of Clients with Obesity

Assessment/Analysis

1. Diet (e.g., 24-hour recall, food frequency, and food diary), weight, and exercise history
2. Family history of obesity
3. Emotions just before eating
4. Concurrent health problems and complications of obesity (Figure 8-3: Health risks associated with obesity)

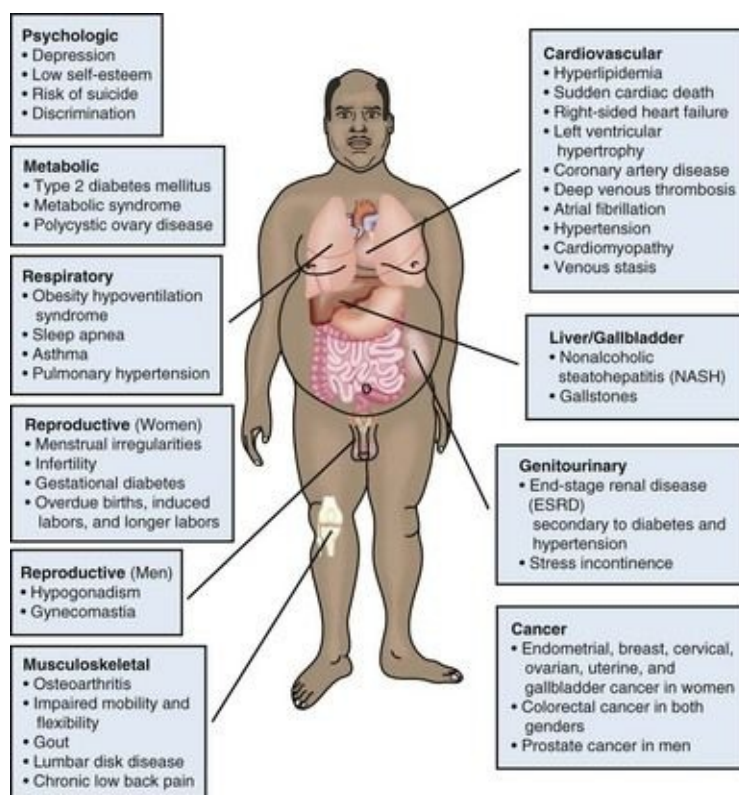


FIGURE 8-3 Health risks associated with obesity. (From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011.)

5. Adherence to weight reduction program
6. Medication history for contributing factors (e.g., steroids contribute to weight gain)

Planning/Implementation

1. Review diet and eating patterns to increase awareness of amount and type of foods consumed, and emotions that affect intake
2. Review high- and low-calorie foods, snacks, and beverages; determine how to achieve daily caloric intake
3. Teach behavior modification techniques (e.g., small plates, preparation of small portions, eating slowly, and chewing thoroughly)
4. Encourage daily walking program and supervised exercise program
5. Suggest opportunities to increase activity in daily life
6. Support emotional needs
7. Encourage counseling and participation in self-help group
8. Teach about modifiable risk factors for CHD and diabetes mellitus and strategies to minimize complications of diabetes

9. Teach about medications (e.g., lipase inhibitors can cause flatus with discharge, fecal urgency, oily evacuation)
10. Provide postoperative care after bariatric surgery (see Perioperative Care, General Nursing Care of Clients during the Postoperative Period in [Chapter 3](#); also see [Nursing Care under Peptic Ulcer Disease](#))
 - a. Assess for wound dehiscence and slow wound healing associated with insufficient blood supply to adipose tissue and excessive skinfolds
 - b. Instruct regarding use of abdominal binder (ability to slip one finger beneath binder easily, remove binder every 4 hours to assess skin for irritation)
 - c. Assess for obesity hypoventilation syndrome
 - d. Use devices to provide for safety and comfort (e.g., large gowns; large bed that converts to chair; extra-wide, heavy-duty wheelchair, walker, and transfer board); ensure accuracy of assessments (e.g., correct size blood pressure cuff)
 - e. Position in semi-Fowler position; use continuous positive airway pressure ventilation at night if experiencing obstructive sleep apnea when ordered
 - f. Provide medication in liquid form
 - g. Encourage six small feedings (usually 600 to 800 calories daily) and fluid intake to prevent dehydration
 - h. Encourage high-protein foods and avoidance of alcohol, sugar, fat, and sweetened beverages
 - i. Teach clinical findings of infection, deep venous thrombosis (DVT), dehydration, and obstruction and need to immediately report these to health care provider
 - j. Encourage to seek help with psychologic issues
 - k. Bypass surgery: teach regarding risk for anemia and calcium and vitamin B₁₂ deficiencies; may require lifelong nutritional supplementation

Evaluation/Outcomes

1. Achieves and maintains ideal body weight
2. Verbalizes acceptance of self
3. Remains free of injury
4. Maintains skin integrity
5. Demonstrates adequate depth of respirations

Fracture of the Jaw

Data Base

A Etiology and pathophysiology

1. Generally result of trauma such as automobile collisions or physical combat
2. Blowout fractures of orbit may accompany fractured jaw; stabilized surgically with wires, plates, and screws

B Clinical findings

1. Subjective: history of trauma to face; pain in face and jaw; double vision
2. Objective: bloody discharge from mouth; swelling of face on affected side; difficulty opening or closing mouth; malocclusion

C Therapeutic interventions

1. Separated fragments of broken bone are reunited and immobilized by wires and rubber bands; usually placed without surgical incision
2. Open reduction of jaw is indicated for severely fractured or displaced bones; interosseous wiring performed

Nursing Care of Clients with Fracture of the Jaw

Assessment/Analysis

1. Respiratory status for presence of distress
2. Nausea and potential for vomiting
3. Structures of face and neck for clinical findings of edema
4. Drainage from nose or ears for presence of cerebrospinal fluid (CSF); CSF dries in concentric rings (Halo sign)

Planning/Implementation

1. Position on side to reduce risk for aspiration pneumonia
2. Control vomiting postoperatively; keep wire cutters at bedside to release wires and rubber bands if emesis occurs; suction oropharynx if vomiting occurs
3. Establish alternate means of communication
4. Explain diet to client and family; no solid foods are permitted; encourage high-protein liquids or soft foods pureed in blender
5. Stress importance of oral hygiene and institute it during postoperative period

Evaluation/Outcomes

1. Adheres to nutritionally balanced safe diet
2. Demonstrates oral hygiene techniques
3. Describes technique for releasing wires and rubber bands if emesis occurs

Cancer of the Oral Cavity

Data Base

A Etiology and pathophysiology

1. Primarily in clients who smoke, chew tobacco, or drink alcohol in large quantities; usually discovered by dentist
2. Cancer of lip easily diagnosed; prognosis is positive; incidence highest in pipe smokers
3. Cancer of tongue usually occurs with cancer of floor of mouth; metastasis to neck is common
4. Cancer of submaxillary glands; highly malignant and grows rapidly

B Clinical findings

1. Subjective: pain (not an early symptom); alterations of taste
2. Objective: leukoplakia (white patches on mucosa), which is considered precancerous; ulcerated, bleeding areas in involved structure; lymphadenopathy

C Therapeutic interventions

1. Reconstructive surgery if indicated
2. Radiation or implantation of radioactive material may arrest growth of tumor

3. TPN, enteral tube feedings
4. Tracheostomy and tube feedings/TPN with extensive head and neck surgery
5. Antineoplastics: cisplatin (Platinol), fluorouracil (Adrucil), paclitaxel (Taxol), docetaxel (Taxotere), carboplatin (Paraplatin), methotrexate (Trexall), gemcitabine (Gemzar)

Nursing Care of Clients with Cancer of the Oral Cavity

Assessment/Analysis

1. History of hemoptysis and pain
2. Baseline nutritional data (e.g., weight, dietary intake, and ability to chew)
3. Characteristics of lesions in oral cavity

Planning/Implementation

1. Maintain patent airway; keep tracheostomy set at bedside
2. Maintain fluid, electrolyte, and nutritional balance; administer TPN, enteral tube feedings as ordered
3. Relieve dryness of mouth by frequent saline mouthwashes and ample fluids if receiving radiation therapy
4. Consider time and distance in relation to radioactive implants when at bedside

Evaluation/Outcomes

1. Maintains airway patency
2. Maintains nutritional status

Gastroesophageal Reflux Disease (GERD)

Data Base

A Etiology and pathophysiology

1. Backflow of gastric contents into esophagus, gradually breaking down esophageal mucosa
2. Inadequate lower esophageal sphincter (LES) tone, corrosive effects of gastric acid on esophagus, and delayed esophageal and gastric emptying; associated with hiatal hernia, obesity, pregnancy, and caffeine, chocolate, and high-fat food ingestion
3. May lead to Barrett esophagus, a pathologic condition that can progress to esophageal cancer

B Clinical findings

1. Subjective: dyspepsia, dysphagia, heartburn (pyrosis), oral release of salty secretions (water brash)
2. Objective: eructation, regurgitation, hoarseness, chronic cough, wheezing, recurrent pneumonia if severe; esophageal pH reveals acid reflux; endoscopy reveals tissue damage

C Therapeutic interventions

1. Pharmacological management: histamine receptor agonists, antacids, proton pump inhibitors, cholinergics, promotility drugs
2. Dietary management: small, frequent feedings; avoidance of spices, fats, alcohol, chocolate, peppermint, and caffeinated drinks; avoidance of eating 2 to 3 hours before lying down or remaining upright for 2 hours after meals; avoidance of overeating
3. Weight reduction if indicated; eliminating smoking

4. Surgical intervention if medical management is unsuccessful; Nissen fundoplication (sutures tighten fundus around esophagus)
5. Endoscopic therapy (Stretta procedure): radiofrequency energy at high temperatures via endoscopic catheter causes tiny lesions in LES while under conscious sedation; causes tissue tightening, establishing barrier to reflux and reducing LES relaxation

Nursing Care of Clients with Gastroesophageal Reflux Disease

Assessment/Analysis

1. History of heartburn, regurgitation, dysphagia
2. Baseline weight to determine need for weight loss
3. Dietary and medication history to determine contributing factors

Planning/Implementation

1. Teach dietary guidelines
 - a. Eat small, frequent meals to avoid gastric distention
 - b. Limit fatty foods, which delay gastric emptying
 - c. Avoid foods that decrease LES pressure (e.g., alcohol, peppermints, caffeine, and chocolate)
 - d. Avoid eating or drinking 2 to 3 hours before bedtime; avoid overeating
 - e. Chew gum because it stimulates production of bicarbonate-containing saliva, which neutralizes acid
2. Teach to maintain desirable body weight and avoid tight-fitting clothing and activities that increase intraabdominal pressure
3. Support smoking cessation efforts
4. Elevate head of bed; use extra pillows; avoid exercising or lying down after meals
5. Provide care after endoscopic therapy (Stretta procedure): ensure patent airway; elevate head of bed 45 degrees; monitor vital signs for complications; assess oxygen saturation; suction secretions if necessary; report pain more than 5 (on a scale of 0 to 10) because this may indicate perforation; provide discharge instructions (e.g., avoid nonsteroidal antiinflammatory drugs [NSAIDs] for 10 days, consume soft diet for 2 weeks, crush all pills, and report fever, nausea and vomiting, dysphagia, abdominal discomfort, chest pain, bleeding, and shortness of breath)

Evaluation/Outcomes

1. Reports reduced episodes of heartburn
2. Maintains desirable body weight

Cancer of the Esophagus

Data Base

A Etiology and pathophysiology

1. History of alcohol abuse; ingestion of hot, spicy foods; smoking; GERD; or Barrett esophagus (esophageal damage from acid reflux)
2. Additional risk factors: older age, males, African-Americans
3. Most common in middle and lower third of esophagus

B Clinical findings

1. Subjective: dysphagia; substernal burning pain, particularly after hot fluids; weight loss; indigestion; and heartburn
2. Objective: regurgitation; hoarseness and cough; esophagogastroduodenoscopy (EGD) with biopsy and brushings demonstrate malignant cells; barium swallow indicates mass

C Therapeutic interventions

1. Surgical removal of esophagus is treatment of choice
 - a. Esophagogastrostomy: resection of portion of esophagus in which stomach may be brought up to remaining end of esophagus (gastric pull through)
 - b. Esophagectomy: removal of part or all of esophagus, which is replaced by Dacron graft or portion of colon (colon interposition)
2. Gastrostomy: opening directly into stomach in which a feeding tube is usually inserted to bypass esophagus
3. Radiation and/or chemotherapy may be used before or instead of surgery as palliative measure
4. TPN, enteral tube feedings
5. Photodynamic therapy for palliative treatment; porfimer sodium (Photofrin) is injected, and several days later a fiberoptic probe in esophagus activates absorbed drug in cancer cells, shrinking them
6. Laser therapy: narrow beam of intense light to kill cancer cells
7. Electrocoagulation: electrical current to kill cancer cells

Nursing Care of Clients with Cancer of the Esophagus

Assessment/Analysis

1. History of nutritional status and weight loss
2. Presence of pain and dysphagia
3. History of foul breath, eructation, nausea, and vomiting

Planning/Implementation

1. Observe for respiratory distress caused by pressure of tumor on trachea; place in semi-Fowler or high-Fowler position to facilitate respirations
2. Monitor vital signs, especially respirations
3. Provide oral care because dysphagia may result in accumulation of saliva in mouth
4. Maintain nutritional status by providing TPN, tube feedings, high-protein liquids, and vitamin and mineral replacements as ordered
5. Suction oral secretions if necessary

Evaluation/Outcomes

1. Maintains airway
2. Maintains nutritional status

Hiatal Hernia

Data Base

A Etiology and pathophysiology

1. Portion of stomach protruding through hiatus (opening) in diaphragm into thoracic cavity
2. Caused by congenital weakness of diaphragm or from injury, pregnancy, or obesity
3. Function of cardiac sphincter is lost; gastric juices enter esophagus, causing inflammation

B Clinical findings

1. Subjective: substernal burning pain or fullness after eating; dyspepsia in recumbent position; nocturnal dyspnea
2. Objective: barium swallow, upper GI series, and endoscopy show protrusion of stomach through diaphragm; regurgitation

C Therapeutic interventions

1. Small, frequent, bland feedings
2. Avoidance of overeating, caffeine, smoking, alcohol
3. Wearing of loose-fitting clothing around torso
4. Pharmacologic therapy (see Therapeutic Interventions under GERD) and dietary management
5. Surgical repair (done infrequently)

Nursing Care of Clients with Hiatal Hernia

See [Nursing Care of Clients with Gastroesophageal Reflux Disease](#)

Peptic Ulcer Disease (PUD)

Data Base

A Etiology and pathophysiology

1. Ulcerations of GI mucosa and underlying tissues caused by gastric secretions that have low pH (acid)
2. Causes: conditions that increase secretion of hydrochloric acid by gastric mucosa or that decrease tissue's resistance to acid
 - a. Infection of gastric and/or duodenal mucosa by *Campylobacter pylori* or *H. pylori*
 - b. Zollinger-Ellison syndrome: tumors secreting gastrin that stimulates production of excessive hydrochloric acid
 - c. Drugs that decrease tissue resistance (e.g., aspirin, steroids, NSAIDs)
 - d. Smoking
3. Peptic ulcers may be present in esophagus, stomach (pyloric portion most common site), or duodenum
4. Complications include pyloric or duodenal obstruction, hemorrhage, iron depletion, and perforation

B Clinical findings

1. Subjective: heartburn (pyrosis); nausea; gnawing or burning epigastric pain 1 to 2 hours after eating (gastric) or 2 to 4 hours after eating (duodenal); pain relieved by food or antacids (duodenal)
2. Objective
 - a. History of gastritis
 - b. If bleeding occurs: indications of anemia; tarry stools (melena); vomitus the color of coffee grounds or port wine; low hemoglobin and hematocrit levels
 - c. *H. pylori* serum antibodies via urea breath test or via biopsy during EGD

C Therapeutic interventions

1. Restriction of irritating substances (e.g., nicotine, caffeine, alcohol, spices, gas-producing foods, NSAIDs)
2. Antibiotic therapy if microorganism is identified; tetracycline (Sumycin), metronidazole (Flagyl), and bismuth (Helidac)
3. Histamine H₂ receptor antagonists or proton pump inhibitors to limit gastric acid secretion; antacids to reduce acidity, protectants (e.g., sucralfate [Carafate])
4. Sedatives, tranquilizers, anticholinergics, and analgesics for pain and restlessness
5. Antiemetics for nausea and vomiting
6. Vasoconstrictor to control bleeding
7. Blood transfusion if hemorrhage occurs
8. Nasogastric tube for decompression, instillation of vasoconstrictors, and/or saline lavages when hemorrhage occurs
9. Surgical intervention rarely used because drug therapy usually is effective; used for life-threatening complications (e.g., hemorrhage, perforation, obstruction)
 - a. EGD to treat area with electrocoagulation or heater probe therapy
 - b. Vagotomy: cutting vagus nerve that innervates stomach to decrease secretion of hydrochloric acid
 - c. Billroth I: removal of lower portion of stomach and attachment of remaining portion to duodenum; treatment for carcinoma
 - d. Billroth II: removal of antrum and distal portion of stomach with anastomosis of remaining section to jejunum; treatment for carcinoma
 - e. Antrectomy: removal of antral portion of stomach
 - f. Gastrectomy: removal of 60% to 80% of stomach
 - g. Common complications of partial or total gastric resection
 - (1) Dumping syndrome: rapid passage of food from stomach to jejunum causes diaphoresis, faintness, and palpitations; these clinical manifestations are related to hypertonic food (especially carbohydrates) that draws fluid from circulating blood into jejunum, decreased peripheral vascular resistance, visceral pooling of blood, and reactive hypoglycemia
 - (2) Hemorrhage
 - (3) Pneumonia
 - (4) Pernicious anemia

Nursing Care of Clients with Peptic Ulcer Disease

Assessment/Analysis

1. Characteristics of pain and relationship to types of food ingested and time food is consumed; whether gnawing sensation is relieved by food
2. Epigastric tenderness, guarding, and bowel sounds
3. History of dietary patterns, foods ingested, alcohol consumption, and foods that exacerbate symptoms

Planning/Implementation

1. Administer and assess effects of sedatives, antacids, anticholinergics, H₂ receptor antagonists, antibiotics, and dietary modifications
2. Encourage hydration to reduce anticholinergic side effects and dilute hydrochloric acid in stomach
3. Provide teaching
 - a. Eat small- to medium-sized meals to help prevent gastric distention; encourage between-meal snacks to achieve adequate caloric intake
 - b. Avoid foods that increase gastric acid secretion or irritate gastric mucosa (e.g., alcohol, caffeine-containing foods and beverages, decaffeinated coffee, red or black pepper); replace offending items with alternatives (e.g., decaffeinated soft drinks and teas; seasonings such as thyme, basil, and sage)
 - c. Avoid foods that cause distress; varies for individuals, but common offenders are gas producers (e.g., legumes, carbonated beverages, cruciferous vegetables)
 - d. Eat meals in pleasant, relaxing surroundings to reduce acid secretion
 - e. Take calcium and iron supplements if prescribed if medication increases gastric pH
4. Refrain from administering drugs that increase hydrochloric acid secretion (e.g., salicylates, NSAIDs, steroids, and adrenocorticotrophic hormone [ACTH])
5. Monitor for complications (e.g., gastric hemorrhage, perforation, and drug toxicity)
6. Allow time to express concerns
7. Provide postoperative care after gastric resection
 - a. Monitor vital signs; assess dressing for drainage
 - b. Maintain patent nasogastric tube to suction, which helps prevent stress on suture line; instill or irrigate nasogastric tube as ordered; monitor electrolytes
 - c. Observe and document color and amount of nasogastric drainage; report excessive bleeding or bright red blood if it occurs after 12 hours
 - d. Encourage coughing, deep breathing, and changing position frequently to prevent pulmonary complications
 - e. Monitor intake and output (I&O)
 - f. Apply antiembolism stockings or sequential compression device if ordered; encourage early ambulation to prevent vascular complications
 - g. Instruct client how to limit or prevent dumping syndrome
 - (1) Eat smaller meals at more frequent intervals
 - (2) Avoid high-carbohydrate intake and concentrated sweets
 - (3) Consume liquids only between meals
 - (4) Assume a reclining position for 1 hour after eating
 - h. Time antacids 1 hour before or 2 hours after other medications

Evaluation/Outcomes

1. States pain is reduced or relieved
2. Identifies clinical findings of complications and need for immediate medical care
3. Follows nutritionally sound diet

Cancer of the Stomach

Data Base

A Etiology and pathophysiology

1. Risk factors: *H. pylori* in stomach; ingestion of smoked meats, salted fish, and processed food containing nitrates; smoking; heredity; disorders such as ulcerative diseases and pernicious anemia
2. Incidence higher in men older than 40 years of age; Japanese people have greater rate of cancer of stomach than Americans
3. Often not diagnosed until metastasis occurs; stomach accommodates growth of tumor; pain occurs late in disease
4. May metastasize via direct extension, lymphatics, or blood to esophagus, spleen, pancreas, liver, or bone

B Clinical findings

1. Subjective: lack of interest in food (anorexia); nausea; belching (eructation); heartburn (dyspepsia)
2. Objective: weight loss; stools positive for occult blood; anemia; absence of hydrochloric acid; pale skin and acanthosis nigricans (a hyperpigmented, velvety thickening of skin in neck, axilla, and groin)

C Therapeutic interventions

1. Surgical resection
2. Radiation therapy before and/or after surgery
3. Chemotherapy before and/or after surgery
4. Chemoradiation

Nursing Care of Clients with Cancer of the Stomach

Assessment/Analysis

1. History of causative factors, pain, and weight loss
2. Axillary lymph nodes and left supraclavicular nodes for hardness indicative of metastasis
3. Skin for color and lesions associated with cancer of GI tract

Planning/Implementation

1. Encourage verbalization of fears (e.g., cancer, death, family problems, self-image)
2. Provide nursing care after gastric resection (see Peptic Ulcer Disease); if a total gastrectomy is performed, the chest cavity usually is entered and chest tubes are inserted (see [Chapter 7, Related Procedures](#), Chest Tubes)
3. Modify diet to include smaller, more frequent meals (see Peptic Ulcer Disease)
4. If a total gastrectomy is performed, vitamin B₁₂ deficiency results (see [Chapter 6, Anemias and Blood disorders](#), [Data Base](#))
5. Administer gavage feedings as ordered (see [Related Procedures](#), [Gavage \[Tube Feedings\]](#))

Evaluation/Outcomes

1. States relief from discomfort and pain
2. Maintains adequate nutritional status
3. Verbalizes feelings

Cholelithiasis/Cholecystitis

Data Base

A Etiology and pathophysiology

1. Inflammation of gallbladder; usually caused by infection or stones (cholelithiasis), which are composed of cholesterol, bile pigments, and calcium; may be related to hepatic *Helicobacter* bacteria; cannot contract in response to fatty foods entering duodenum because of obstruction by calculi or edema
2. Obstructed common bile duct: bile cannot pass into duodenum and is absorbed into blood, leading to hyperbilirubinemia and jaundice
3. Incidence: highest in obese women in fourth decade; people with cirrhosis, portal hypertension, sickle cell disease, or diabetes; transplantation candidates

B Clinical findings

1. Subjective: indigestion after eating fatty or fried foods; pain, usually in right upper quadrant of abdomen, which may radiate to back; nausea; itchy skin
2. Objective
 - a. Vomiting; increased temperature and WBC count; clay-colored stool; dark urine; jaundice may be present
 - b. Rebound tenderness in abdomen increasing on inspiration, indicating peritoneal inflammation
 - c. Diagnostic tests
 - (1) Serum bilirubin and alkaline phosphatase levels are increased
 - (2) Ultrasonography determines presence of gallstones
 - (3) Endoscopic retrograde cholangiopancreatography (ERCP) reveals location of gallstones

C Therapeutic interventions

1. Medical management
 - a. Nasogastric tube suctioning to reduce nausea and eliminate vomiting
 - b. Opioids (drug of choice) to decrease pain by relaxing smooth muscles
 - c. Antispasmodics and anticholinergics to reduce gallbladder spasms and contractions
 - d. Antibiotic therapy if infection is suspected
 - e. Vitamin K to prevent bleeding (vitamin K is fat-soluble and is not absorbed in absence of bile and a deficiency may result in bleeding)
 - f. When the surgical risk is high or radiolucent cholesterol stones are small, chenodeoxycholic acid (Chenodiol), or ursodiol (Actigall) administered for 6 to 12 months to dissolve stones
 - g. Dissolution of stones by infusing a solvent such as methyl tertiary terbutyl ether (MTBE) into the gallbladder through ERCP
 - h. Endoscopic papillotomy via ERCP to retrieve stones in common bile duct
 - i. Electrohydraulic shock wave lithotripsy (ESWL): fragmentation of stones by ultrasonic sound waves enables their passage without surgical intervention
 - j. Low-fat diet to avoid stimulating gallbladder, which contracts to excrete bile with subsequent pain; calories principally from carbohydrate foods in acute phases; calories may be reduced to 1000 to 1200 if weight loss is indicated; postoperatively a fat-restricted diet is initiated and progresses to a regular diet
2. Surgical intervention
 - a. Abdominal cholecystectomy: removal of gallbladder through an abdominal incision
 - b. Laparoscopic cholecystectomy: removal of gallbladder through endoscope inserted through

- abdominal wall; also called endoscopic lasercholecystectomy; not used if infection is present
- c. Choledochotomy: incision into common bile duct for removal of stones

Nursing Care of Clients with Cholelithiasis/Cholecystitis

Assessment/Analysis

1. Characteristics of pain
2. Pain in relation to ingestion of foods high in fat
3. Pain on inspiration while examiner's fingers are touching site of gallbladder (Murphy sign); due to peritoneal inflammation
4. Stools for color (clay-colored) and fat (steatorrhea); urine for color (dark)
5. Laboratory values for abnormal liver function tests

Planning/Implementation

1. Teach dietary modification to achieve low-fat intake initially because reduced bile flow will reduce fat absorption; supplement with water-miscible forms of vitamins A and E as prescribed
2. Relieve pain preoperatively and postoperatively; administer opioids as prescribed
3. Administer vitamin K as prescribed
4. Provide care after cholecystectomy
 - a. Monitor nasogastric tube attached to suction to prevent distention
 - (1) Maintain patency of tube
 - (2) Assess and measure drainage
 - b. Provide fluids and electrolytes via intravenous route
 - (1) Monitor I&O
 - (2) Check IV site for redness, swelling, heat, or pain
 - c. Maintain in low-Fowler position
 - d. Encourage coughing and deep breathing; splint incision (incision is high and midline, making coughing painful)
 - e. Provide care related to T-tube (if common bile duct is explored, T-tube is inserted to maintain patency)
 - (1) Secure drainage bag; avoid kinking of tube
 - (2) Measure drainage routinely (e.g., every 8 to 12 hours); drainage during first day may be 500 to 1000 mL and then gradually decreases
 - (3) Apply prescribed protective ointments around tube to prevent excoriation
 - (4) When tube is removed (usually in 7 days) observe stool for usual brown color, which indicates bile is entering duodenum

Evaluation/Outcomes

1. Verbalizes decrease in pain
2. Maintains nutritional status

Acute Pancreatitis

Data Base

A Etiology and pathophysiology

1. Inflammation caused by autodigestion by pancreatic enzymes, primarily trypsin
2. Risk factors: gallstones, alcoholism, carcinoma, acute trauma to pancreas or abdomen, or hyperlipidemia
3. Inflammation with or without edema of pancreatic tissues may precipitate suppuration, abscess formation, hemorrhage, necrosis, or duct obstruction

B Clinical findings

1. Subjective

- a. Abrupt onset of aching, burning, stabbing, or pressing central epigastric pain; may radiate to shoulder, chest, and back
- b. Abdominal tenderness
- c. Nausea
- d. Pruritus associated with jaundice

2. Objective

- a. Increased temperature
- b. Shallow respirations
- c. Vomiting, weight loss
- d. Change in character of stools (e.g., steatorrhea)
- e. Tachycardia, hypotension, shock
- f. Jaundice
- g. Grossly increased serum amylase and lipase levels
- h. Decreased serum calcium level
- i. Abnormal pancreatic findings on computed tomography (CT) scan
- j. Boardlike abdomen associated with peritonitis

3. Severity depends on cause of problem, amount of fibrous replacement of healthy duct tissue, degree of autodigestion, type of associated biliary disease if present, and amount of interference in blood supply to pancreas
4. Complications may occur such as pseudocysts (dilated space containing blood, necrotic tissue, and enzymes), abscesses, and pancreatic fistulas

C Therapeutic interventions

1. Antacids to neutralize gastric secretions
2. Opioids to control pain
3. Bed rest to decrease metabolic demands and promote healing
4. NPO and nasogastric decompression to control nausea, reduce stimulation of pancreas to secrete enzymes, and remove gastric hydrochloric acid
5. Anticholinergics to suppress vagal stimulation and decrease gastric motility and duodenal spasms
6. Antibiotics to prevent secondary infections and abscess formation
7. Pancreatic rest until pain has diminished and bowel sounds return: diet regulated according to extent of condition; NPO; parenteral administration of fluids and electrolytes; TPN via a central line or peripheral route; diet low in fats and proteins, with restriction of stimulants (e.g., caffeine and alcohol)
8. Pancreatic enzymes and bile salts if necessary
9. Surgical intervention if medical management is ineffective (e.g., jaundice persists or a pseudocyst or bleeding occurs); type of surgery is determined by cause (e.g., biliary tract surgery, removal of gallstones, drainage of cysts, temporary stent placement)

10. Treatment for hyperglycemia and administration of insulin as necessary (beta cells of pancreas may be affected by disease process)

Nursing Care of Clients with Acute Pancreatitis

Assessment/Analysis

1. History of causative factors, pain, and recent weight loss
2. Presence of jaundice
3. Abdomen for rigidity and guarding
4. Presence of hyperglycemia

Planning/Implementation

1. Provide care related to nasogastric tube
 - a. Observe for electrolyte imbalances manifested by clinical findings (e.g., tetany, irritability, jerking, muscular twitching, mental changes, and psychotic behavior)
 - b. Observe for paralytic ileus (e.g., nausea and vomiting, abdominal distention)
 - c. Maintain tube patency
2. Monitor for hyperglycemia
3. Monitor vital signs and oxygen saturation
4. Administer prescribed analgesics
5. Maintain NPO during acute stage of illness; monitor I&O
6. Place in semi-Fowler position and encourage deep breathing and coughing to promote deeper respirations and prevent respiratory problems
7. Monitor parenteral therapy until oral feedings can be tolerated
8. Teach dietary modifications usually starting with small feedings of low-fat, non-gas-producing liquids and progressing to a more liberalized diet low in fat but high in protein and carbohydrates; if fat malabsorption is severe, supplemental vitamins A and E may be necessary; daily supplements of calcium and zinc may also be needed; if insulin secretion is impaired, an American Diabetes Association (ADA) diet is indicated
9. Teach client and family importance of dietary discretion, especially avoidance of alcohol, coffee, spicy foods, and heavy meals
10. Teach importance of taking prescribed medication containing pancreatic enzymes (e.g., amylase, lipase, trypsin) with each meal to improve digestion of food if disease becomes chronic

Evaluation/Outcomes

1. Reports decrease in pain
2. Maintains nutritional status
3. Demonstrates adequate depth of respirations
4. Maintains fluid and electrolyte balance
5. Maintains serum glucose levels within ordered range

Cancer of the Pancreas

Data Base

A Etiology and pathophysiology

1. Malignant growth from epithelium of ductal system, producing cells that block pancreatic ducts
2. Fibrosis, pancreatitis, and obstruction of pancreatic duct
3. Lesion metastasizes by direct extension to duodenal wall, splenic flexure of colon, posterior stomach wall, and common bile duct
4. Risk factors: heredity, environmental toxins, alcohol abuse, high-fat diet, and smoking, chronic pancreatitis, diabetes mellitus
5. Incidence higher in middle-aged men than women

B Clinical findings

1. Subjective: anxiety; depression; anorexia; nausea; dull, achy pain progressing to severe pain; pruritus associated with jaundice
2. Objective
 - a. Jaundice; weight loss; diarrhea and steatorrhea; clay-colored stools; dark urine; ascites
 - b. Decreased serum amylase and lipase levels because of decreased secretion of enzymes
 - c. Increased serum bilirubin and alkaline phosphatase levels when biliary ducts are obstructed

C Therapeutic interventions

1. Glucose monitoring and insulin replacement to control hyperglycemia
2. Drug therapy: pancreatic enzymes, bile salts, and vitamin K to correct deficiencies
3. Analgesics and tranquilizers for pain
4. Biliary stent may be used to relieve jaundice
5. Preparation for surgical intervention: RBC and blood volume replacement; medications to correct coagulation problems and nutritional deficiencies
6. Surgery is treatment of choice, although postsurgical prognosis is grim; Whipple procedure (removal of head of pancreas, duodenum, portion of stomach, and common bile duct); distal pancreatectomy and splenectomy or cholecystojejunostomy (creation of an opening between gallbladder and jejunum to direct bile flow)
7. Palliative surgery: biliary and/or gastric bypass
8. Chemotherapy and radiation when surgery is not possible or desired to provide comfort, or in conjunction with surgery to limit metastasis
9. Chemotherapy: gemcitabine (Gemzar); erlotinib (Tarceva), often used along with gemcitabine; metronomic chemotherapy (small doses over a period of several days has potential to affect cancerous cells as they are dividing)
10. Intraarterial chemotherapy: anticancer drug delivered directly into the pancreas
11. Immunotherapy: uses immune system to directly or indirectly fight the cancer

Nursing Care of Clients with Cancer of the Pancreas

Assessment/Analysis

1. Presence of jaundice
2. Stool for clay color
3. Urine for dark amber color and frothy appearance
4. Abdomen for enlargement of liver and gallbladder
5. Characteristics of pain
6. History of anorexia, nausea, and weight loss

7. Abdominal dullness on percussion indicating early ascites

Planning/Implementation

1. Provide emotional support for client and family; set realistic goals when planning care
2. Administer analgesics as prescribed and as soon as needed to promote rest and comfort
3. Use soapless bathing and antipruritic agents to relieve pruritus
4. Observe for complications such as peritonitis, gastrointestinal obstruction, jaundice, hyperglycemia, and hypotension
5. Observe stools for undigested fat
6. Monitor vital signs
7. Observe for wound hemorrhage caused by coagulation deficiency; administer vitamin K parenterally as prescribed
8. Encourage coughing, turning, and deep breathing; monitor for respiratory tract infection caused by limited chest expansion resulting from pain at site of incision
9. Monitor I&O; measure abdominal girth
10. Observe for chemotherapeutic and radiation side effects (e.g., skin irritation, anorexia, nausea, vomiting)
11. Maintain skin markings for radiation therapy
12. Support natural defense mechanisms by encouraging frequent and/or supplemental feedings of high-nutrient-density foods; encourage immune-stimulating nutrients, especially vitamins A, C, and E, and the mineral selenium
13. Control nausea and vomiting before feedings, if possible
14. Administer vitamin supplements, bile salts, and pancreatic enzymes, as prescribed
15. Provide oral hygiene and maintain a pleasant environment, especially at mealtime
16. Provide care after pancreatic surgery (see [Chapter 3](#), General Nursing Care of Clients during the Postoperative Period; also see Nursing Care under Peptic Ulcer Disease)
 - a. Monitor and maintain mechanical ventilation (see [Chapter 7](#), [Related Procedures](#), Mechanical Ventilation)
 - b. Monitor and maintain patency of multiple drainage tubes and venous and arterial lines
 - c. Monitor for hyperglycemia and malabsorption syndrome
 - d. Monitor for delayed wound healing; may be at risk because of hyperglycemia
 - e. Monitor for hemorrhage, vascular collapse, and hepatorenal failure
 - f. Prevent infection (e.g., maintain skin integrity, protect integrity of surgical incision, use sterile technique when changing dressing)
 - g. Meet emotional needs during this critical and stressful postoperative period

Evaluation/Outcomes

1. States that pain is controlled
2. Maintains nutritional status
3. Maintains fluid and electrolyte balance
4. Discusses feelings and concerns
5. Maintains serum glucose levels within ordered range
6. Avoids infection

Hepatitis

Data Base

A Etiology and pathophysiology

1. Acute or chronic inflammation caused by bacterial or viral infection, parasitic infestation (usually by contaminated water or food), or chemical agents
2. Hepatic dysfunction may impair clotting mechanisms
3. Hepatitis A (formerly known as infectious hepatitis)
 - a. Caused by hepatitis A virus (HAV)
 - b. Transmitted via fecal-oral route, contamination associated with floodwaters, or contaminated food (e.g., shellfish)
 - c. Excreted in large quantities in feces 2 weeks before and 1 week after onset of clinical findings
 - d. Incubation period 15 to 50 days
 - e. Confers immunity on individual; carrier state is possible
 - f. Serum studies
 - (1) Anti-HAV: antibodies usually apparent once clinical findings appear and last up to 12 months
 - (2) Immunoglobulin M (IgM) anti-HAV: antibodies indicate recent infection
 - g. Vaccine: hepatitis A vaccine provides long-term protection
4. Hepatitis B (formerly known as serum hepatitis)
 - a. Caused by hepatitis B virus (HBV)
 - b. Transmitted by
 - (1) Contaminated blood products or articles (e.g., toothbrush, razor, needle)
 - (2) Other body secretions (e.g., saliva, semen, urine)
 - (3) Introduction of infectious material into eye, oral cavity, lacerations, or vagina
 - (4) Shared contaminated needles
 - c. Incubation period 28 to 160 days
 - d. Serum studies
 - (1) HBsAg—hepatitis B surface antigen: indicates infectious state
 - (2) Anti-HBs: antibody to surface antigen indicates immune response
 - (3) HBeAg—hepatitis Be antigen: indicates highly infectious state and possible progression to chronic hepatitis
 - (4) Anti-HBe: antibody found in recovery
 - (5) HBcAg: core antigen of hepatitis B; found in liver cells
 - (6) Anti-HBc: antibody most sensitive indicator of prior HBV infection
 - e. Vaccine: three doses of hepatitis B vaccine provide immunity in 90% of healthy adults; dosing interval—initial dose, 1 month, 6 months
5. Hepatitis C
 - a. Caused by hepatitis C virus (HCV)
 - b. Transmitted through blood and blood products
 - c. Incubation period is 15 to 160 days following exposure (average 50 days)
 - d. Serum studies
 - (1) Hepatitis C virus antibodies
 - (2) Hepatitis C virus RNA
 - (3) Hepatitis C genotyping

e. Chronic carrier state possible; associated with hepatic cancer

6. Hepatitis D

- a. Caused by hepatitis D virus (HDV)
- b. Transmitted through blood and blood products and close personal contact
- c. Incubation period is unknown
- d. Chronic carrier state possible
- e. Serum studies

(1) HDAg—hepatitis D antigen: can be detected early

(2) Anti-HDV antibody: indicates past or present infection

7. Hepatitis E

- a. Caused by hepatitis E virus (HEV)
- b. Transmitted through fecal-oral route
- c. Incubation period is 15 to 65 days
- d. Onset of clinical findings is similar to other types of hepatitis; clinical findings are severe in pregnant women

8. Hepatitis G

- a. Caused by hepatitis G virus (HGV)
- b. Transmitted percutaneously through blood, needles, body fluids
- c. Incubation period is unknown
- d. Bloodborne RNA virus frequently associated with human immunodeficiency virus (HIV) infection

9. Nonviral, toxic, or drug-induced hepatitis: caused by drug therapy or other chemicals (e.g., carbon tetrachloride, chloroform, gold compounds, isoniazid [INH], halothane, acetaminophen)

10. Phases of disease: prodromal (preicteric), icteric, and recovery

11. Progression to cirrhosis, hepatic coma, and death

B Clinical findings

1. Prodromal (preicteric) phase: malaise, anorexia, nausea, vomiting, and weight loss; upper respiratory tract infection; intolerance for cigarette smoke

2. Icteric phase: jaundice, bile-colored urine that foams when shaken; acholic (clay-colored) stools

3. Recovery phase: fatigability

C Therapeutic interventions

1. Rest

2. Diet therapy

a. Moderate to high-protein intake to heal liver tissue (approximately 75 to 100 g); avoidance of alcohol

b. High carbohydrate (approximately 300 to 400 g) to meet daily energy needs and restore glycogen reserves

c. Low fat

d. High calorie (approximately 2500 to 3000) to meet increased energy needs for disease process and tissue regeneration and to spare protein for healing

e. Supplements of calcium and zinc and vitamins A and E when steatorrhea is present

3. Bile acid sequestrants (e.g., cholestyramine [Questran]) to reduce pruritus

4. Avoidance of hepatotoxic drugs (e.g., acetaminophen, aminoglycoside antibiotics, sedatives)

5. Antiviral agents (e.g., interferon [Intron, Roferon, Infergen]); chronic hepatitis B: Telbivudine (Tyzeka), lamivudine (Epivir, Epivir HBV); hepatitis C: interferon (Intron) and ribavirin (Rebetol),

and protease inhibitors

6. Liver transplantation

Nursing Care of Clients with Hepatitis

Assessment/Analysis

1. History of exposure to virus; foreign travel
2. History of exposure to environmental factors over previous 6 months
3. Right upper quadrant for liver tenderness, firmness
4. Presence of jaundice in skin, sclera, and mucous membranes
5. Temperature to determine presence of fever (associated with type A) or low-grade fever (associated with types B and C); fatigue
6. Presence of bleeding tendencies

Planning/Implementation

1. Encourage rest and quiet activities; protect from injury to prevent bleeding
2. Attempt to stimulate appetite
 - a. Encourage meticulous oral hygiene
 - b. Encourage intake of preferred foods
 - c. Provide pleasant, unhurried atmosphere
 - d. Offer small, frequent feedings because they are tolerated better than large meals
3. Use standard precautions to prevent transmission to others; hepatitis A or E: use contact precautions when exposed to feces
4. Teach prevention
 - a. Thorough hand hygiene
 - b. Contact precautions for exposure to feces, blood, or body secretions
 - c. Meticulous handling of needles (e.g., dispose of needles without recapping to prevent self-injury and contamination, dispose of needles in hard-sided container)
 - d. Administration of immune serum globulin (ISG) after exposure to HAV and administration of hepatitis B immune globulin (BayHep B) after exposure to HBV to provide passive immunity
 - e. Vaccinations against HAV (Havrix, VAQTA) and against HBV (Recombivax HB)
 - f. Use of condoms

Evaluation/Outcomes

1. States an increase in energy
2. Adheres to prescribed diet
3. Remains free of complications
4. Follows precautions to prevent transmission

Hepatic Cirrhosis

Data Base

A Etiology and pathophysiology

1. Irreversible fibrosis and degeneration of the liver

2. Types of cirrhosis
 - a. Alcoholic (Laënnec) cirrhosis: related to alcohol abuse
 - b. Postnecrotic or macronodular: related to viral hepatitis B and C and industrial chemical exposure; most common form worldwide
 - c. Biliary: related to biliary stasis in hepatic ducts; may be an autoimmune response
 - d. Cardiac: results from long-term right-sided heart failure; least common form
3. Pressure increases in portal system (which drains blood from the digestive organs), causing stasis and backup of fluids in digestive organs and lower extremities (portal hypertension)
4. Protein metabolic wastes build up and ammonia levels increase
5. As liver failure progresses, there is increased secretion of aldosterone, decreased absorption and utilization of fat-soluble vitamins (A, D, E, K), and ineffective detoxification of protein wastes
6. GI bleeding results from esophageal varices
7. Hepatic coma (hepatic encephalopathy) results from increased blood ammonia levels when liver is unable to convert ammonia to urea
8. Fat accumulation in liver tissue

B Clinical findings

1. Subjective: anorexia; nausea; weakness; fatigue; abdominal discomfort; pruritus
2. Objective
 - a. Loss of muscle mass with weight gain caused by fluid retention; ascites; esophageal varices resulting from portal hypertension; hemorrhoids; varicose veins; edema of extremities; hematemesis; jaundice (icterus); delirium caused by rising blood ammonia levels; fetor hepaticus (sweet odor to breath)
 - b. Increased liver enzymes (aspartate aminotransferase [AST], alanine aminotransferase [ALT], alkaline phosphatase [ALP], gamma-glutamyl transferase [GGT])
 - c. Decreased serum albumin level; increased serum bilirubin level
 - d. Prolonged prothrombin time that may result in hemorrhage

C Therapeutic interventions

1. Rest for energy conservation
2. Avoidance of alcohol intake
3. Vitamin therapy: especially fat-soluble vitamins A, D, E, and K and vitamin B (thiamine chloride and nicotinic acid); zinc and calcium supplements
4. Diuretics to control ascites and edema
5. Neomycin and lactulose may be prescribed for increased blood ammonia levels
6. Colchicine (Colcrys), an antiinflammatory agent, may increase survival in moderate cirrhosis
7. Treatment of esophageal varices
 - a. Vasopressin (Pitressin) in high doses acts as nonadrenergic peripheral vasoconstrictor
 - b. Octreotide (Sandostatin, Sandostatin LAR)
 - c. Endoscopic sclerotherapy: sclerosing agent is injected endoscopically into the varices, causing thrombosis and hemostasis; first-line treatment for active variceal bleeding
 - d. Balloon tamponade with Sengstaken-Blakemore tube for bleeding esophageal varices to apply direct pressure to varices
8. Maintenance of respiratory function and adequate oxygen saturation; paracentesis if ascites causes respiratory distress
9. Surgery to decrease portal hypertension: circulation from portal vein bypasses liver and enters vena cava (portal caval shunt); peritoneovenous shunt (LeVeen or Denver) to move fluid from

abdominal cavity to superior vena cava; liver transplantation

10. Dietary modification

a. Cirrhosis

- (1) Protein as tolerated (80 to 100 g); with increasing liver damage, protein metabolism is hindered
- (2) High carbohydrate, moderate fat increases energy
- (3) Low sodium (500 to 1000 mg daily) to help control increasing ascites
- (4) Soft foods if esophageal varices are present to prevent bleeding and rupture
- (5) Vitamin, mineral, and electrolyte supplements; vitamin B and fat-soluble vitamins A, D, E, and K
- (6) Alcohol and hepatotoxic agents contraindicated to avoid irritation and malnutrition

b. Hepatic coma

- (1) Protein reduced to 15 to 30 g when blood ammonia level increase greater than 200 mcg/dL
- (2) High-calorie diet (1500 to 2000 g) to prevent catabolism and liberation of nitrogen
- (3) Fluid intake controlled according to output and extent of ascites and edema

Nursing Care of Clients with Hepatic Cirrhosis

Assessment/Analysis

(Figure 8-4: Systemic clinical manifestations of liver cirrhosis)

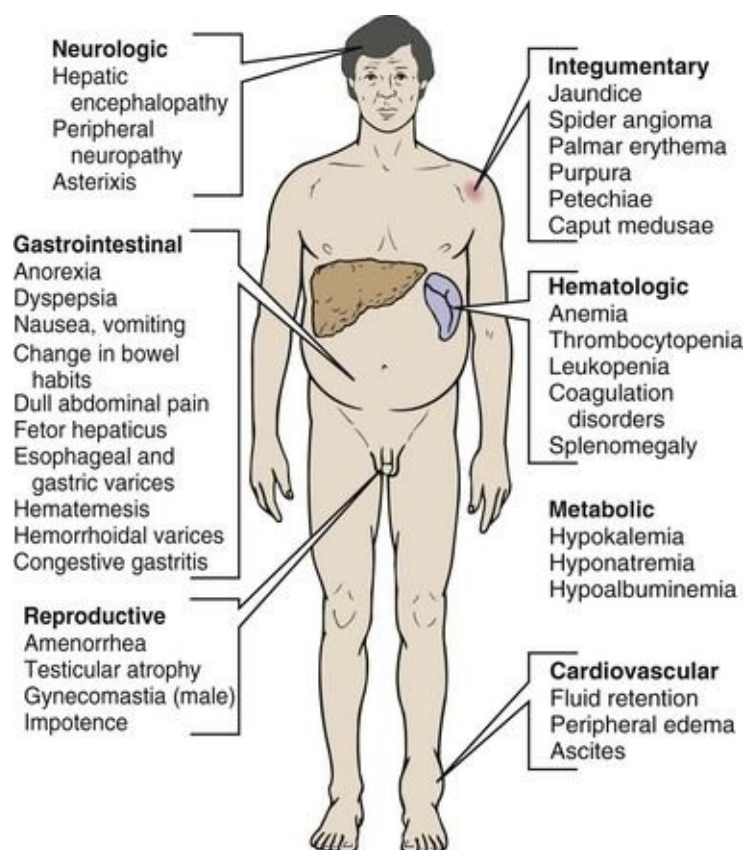


FIGURE 8-4 Systemic clinical manifestations of liver cirrhosis. (From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011.)

1. History of anorexia, dyspepsia, alcohol abuse or exposure to hepatotoxic agents; loss of muscle mass with weight gain caused by fluid retention
2. Abdomen for pain and liver tenderness; dullness when percussing enlarged liver
3. Abdominal girth measurements for baseline data relative to ascites; weight gain
4. Skin for presence of jaundice, dryness, petechiae, ecchymoses, spider angiomas, and palmar erythema
5. Clinical findings of hepatic coma (e.g., confusion, flapping of extremities)

Planning/Implementation

1. Observe for bleeding
2. Monitor liver function studies, complete blood count (CBC), and renal function studies
3. Provide high-calorie, protein-restricted diet
4. Provide special skin care and trim nails because pruritus is associated with jaundice
5. Maintain semi-Fowler position to prevent ascites from causing dyspnea
6. Monitor I&O, abdominal girth, and daily weight to assess fluid balance
7. Assist with paracentesis (see [Paracentesis under Related Procedures](#))
8. Provide care associated with Sengstaken-Blakemore tube
 - a. Maintain traction after tube is passed and gastric balloon is inflated to ensure correct placement
 - b. Maintain esophageal balloon at inflated level (30 to 35 mm Hg)
 - c. Deflate balloon for a few minutes at specific intervals to prevent necrosis if ordered
 - d. Irrigate with saline if ordered
- e. Maintain a patent airway; suction orally as necessary because client will be unable to swallow saliva
9. Provide care after endoscopic sclerotherapy: monitor for complications (e.g., perforated esophagus, aspiration pneumonia, pleural effusion, and increasing ascites); support respiratory status
10. Repeat instructions to client and family; ability of client to understand and remember is often impaired because of hepatic encephalopathy
11. Monitor for impending hepatic coma

Evaluation/Outcomes

1. Follows dietary regimen
2. Maintains fluid balance
3. Remains free from complications

Cancer of the Liver

Data Base

A Etiology and pathophysiology

1. May be primary or metastatic; primary carcinoma (e.g., hepatocellular cancer, hepatoma) of liver is rare
2. Contributing factors: hepatitis B and C, cirrhosis, alcoholism, and anabolic steroid use
3. Lack of bile causes inadequate vitamin K absorption, resulting in deficient prothrombin synthesis and subsequent bleeding
4. Poor prognosis

B Clinical findings

1. Subjective: anorexia, ache in epigastric area, weakness, malaise
2. Objective: weight loss, bleeding, fever, anemia, jaundice, ascites, increased serum bilirubin level; increased alkaline phosphatase level; confusion, lethargy, lower-extremity edema

C Therapeutic interventions

1. Palliative interventions
2. Hepatic lobectomy if tumor is confined; can be done via laparoscopic resection; liver transplantation
3. Chemotherapy: DOXOrubicin, 5-fluorouracil (5-FU), darunavir (Prezista), ibritumomab tiuxetan (Zevalin); targeted drug therapy with sorafenib (Nexavar)
4. Percutaneous infusions with cytotoxic agents: fluorodeoxyuridine (FUDR), Yttrium-90 microspheres, ethanol
5. Radiofrequency ablation, cryosurgery, embolization of blood vessels supplying the tumor, injection of alcohol or anticancer drugs into the tumor
6. Photodynamic therapy: photosensitizing drug and laser light to destroy cancer cells
7. External radiation therapy

Nursing Care of Clients with Cancer of the Liver

Assessment/Analysis

1. Weight to assess ascites and nutritional status
2. Skin for jaundice, bleeding, and pallor
3. Presence of dullness when percussing over liver; ascites
4. Detailed history including exposure to any known causative agents

Planning/Implementation

1. Provide for comfort and pain relief; help to combat fatigue and conserve energy
2. Be available to both client and family members to discuss their feelings
3. Maintain fluid and electrolyte balance; monitor I&O
4. Observe for clinical findings of bleeding, esophageal varices, hypoglycemia, and other metabolic dysfunctions resulting from impaired liver function
5. Encourage coughing, deep breathing, and changing positions frequently to prevent pulmonary and circulatory complications
6. Implement care associated with chest tubes because thoracic cavity may be entered during hepatic surgery (see [Chapter 7, Related Procedures](#), Chest Tubes)

Evaluation/Outcomes

1. Verbalizes feelings about diagnosis and prognosis
2. Maintains fluid balance
3. Remains comfortable
4. Remains free from injury-related altered coagulation

Appendicitis

Data Base

A Etiology and pathophysiology

1. Compromised circulation and inflammation of vermiform appendix; inflammation may be followed by edema, necrosis, rupture, peritonitis
2. Causes: obstruction by a fecalith, foreign body, or kinking

B Clinical findings

1. Subjective: anorexia, nausea, right lower quadrant pain (McBurney point), rebound tenderness
2. Objective: vomiting; fever; leukocytosis; abdominal distention and paralytic ileus if appendix has ruptured

C Therapeutic interventions

1. Surgical removal of appendix immediately to decrease risk of rupture and peritonitis
2. Prophylactic antibiotics
3. Maintenance of fluid and electrolyte balance
4. Analgesics for pain

Nursing Care of Clients with Appendicitis

Assessment/Analysis

1. History of characteristics of pain, nausea, vomiting
2. Presence of anorexia or urge to pass flatus
3. Presence of rebound tenderness when palpating abdomen
4. Presence of tenderness/rigidity when palpating McBurney point (Rovsing sign); located between the anterior iliac crest and the umbilicus in the right lower quadrant of the abdomen
5. Temperature for baseline data
6. Presence and extent of bowel sounds

Planning/Implementation

1. Provide emotional support because this condition is unanticipated and client needs to ventilate concerns
2. Monitor fluid and electrolyte balance
3. Assess for signs of infection; maintain semi-Fowler position to help localize infection in lower abdominal cavity if appendix ruptures
4. Assess for return of bowel function (e.g., bowel sounds, flatus, bowel movement); encourage ambulation

Evaluation/Outcomes

1. States pain is alleviated
2. Remains free from infection

Irritable Bowel Syndrome (IBS)

Data Base

A Etiology and pathophysiology

1. Functional motility disorder of intestines
2. Cause unknown; possibly related to serotonin associated with neurologic hormonal regulation; vascular or metabolic disturbance; infection; irritation; heredity; psychologic stress; depression and anxiety; high-fat diet; irritating foods; alcohol consumption
3. Affects approximately 25% population; affects more women than men

B Clinical findings

1. Subjective: left lower quadrant abdominal pain that may be precipitated by eating and/or relieved by defecation; bloating, abdominal cramps, dyspepsia
2. Objective: constipation, diarrhea, or combination of both; abdominal distention; barium enema and colonoscopy may indicate spasm or mucus accumulation in intestines

C Therapeutic interventions

1. Hydrophilic colloids (bulk) and antidiarrheal agents to control diarrhea; anticholinergics and calcium channel blockers to minimize smooth muscle spasm
2. Initially NPO with gradual reintroduction of foods to a healthy high-fiber diet; avoidance of foods that trigger an exacerbation (e.g., wheat and or gluten, caffeine-containing products, artificial sweeteners, citrus fruits)
3. Antidepressants; stress reduction and/or behavior modification program
4. Broad-spectrum antibiotic; rifaximin (Xifaxan) shown to reduce overall clinical findings
5. Alosetron hydrochloride (Lotronex), blocks action of serotonin decreasing motility
6. Antispasmodics: chlordiazepoxide/clidinium (Librax), dicyclomine (Bentyl)

Nursing Care of Clients with Irritable Bowel Syndrome

Assessment/Analysis

1. Presence of pain, bloating, and abdominal cramps; factors (e.g., food, emotional) precipitating an event; dietary habits
2. History of pattern and characteristics of bowel elimination
3. Presence and extent of bowel sounds

Planning/Implementation

1. Instruct client to
 - a. Eliminate irritating and gas-producing substances
 - b. Add fiber to diet
 - c. Schedule meals regularly
 - d. Chew thoroughly and eat slowly
 - e. Minimize beverages with meals to avoid distention
 - f. Avoid smoking and alcohol
 - g. Maintain an adequate fluid intake
 - h. Perform meticulous perianal skin care
2. Encourage adherence to prescribed medication regimen (e.g., antidiarrheal, bulk-forming laxatives, and/or antispasmodics)
3. Encourage use of stress management strategies
4. Provide emotional reassurance

Evaluation/Outcomes

1. Reports reduction in pain
2. Reports decrease in diarrhea/constipation
3. Maintains nutritional status
4. Maintains fluid and electrolyte balance
5. Implements strategies to reduce emotional stress
6. Maintains skin integrity

Malabsorption Syndrome

Data Base

A Etiology and pathophysiology

1. Failure to absorb one or more of necessary ingested nutrients; can occur anywhere along digestive tract
2. May be primary disorder (e.g., celiac sprue or lactase deficiency) or secondary to gastric or intestinal surgery (e.g., short-bowel syndrome), inflammatory disease, infection, radiation, or drug side effects

B Clinical findings

1. Subjective: weakness, fatigue, anorexia, and decreased feeling of well-being
2. Objective: weight loss, flatulence, borborygmus (loud bowel sounds), abdominal distention, diarrhea or bulky stool, steatorrhea (greasy, bulky, mushy stool with foul odor); clinical findings of deficient protein and fat-soluble vitamin intake; dehydration; low serum values (e.g., albumin, transferrin, total lymphocyte count, hemoglobin, and hematocrit); lactose intolerance; biopsy of mucosa indicative of pathology; deficiencies in specific absorption tests

C Therapeutic interventions

1. Resolution of precipitating event
2. Dietary therapy: avoidance of aggravating substances, supplementation of needed nutrients, reduction/elimination of gluten (e.g., wheat, rye, oats, barley) intake for celiac sprue, restriction of milk, and/or enzyme supplementation for lactose intolerance; tube feedings, PPN, or TPN during exacerbations
3. Administration of antidiarrheals, antispasmodics, antibiotics, and vitamins as indicated

Nursing Care of Clients with Malabsorption Syndrome

Assessment/Analysis

1. Weight, dietary habits, fluid and electrolyte status
2. Stools for frequency, color, consistency, and steatorrhea
3. Extent of bowel sounds, abdominal distention, flatulence
4. Clinical findings of specific deficiencies (e.g., protein, vitamins)
5. Presence of fatigue, weakness, and anorexia
6. Laboratory data reflective of nutritional status

Planning/Implementation

1. Monitor weight, fluid and electrolyte balance; monitor for clinical findings associated with cause

- of the malabsorption
- 2. Instruct regarding dietary restrictions/modifications
- 3. Provide supplements or assist with PPN or TPN as prescribed

Evaluations/Outcomes

1. Maintains or regains weight
2. Adheres to dietary regimen
3. Maintains fluid and electrolyte balance
4. Verbalizes an increase in energy
5. Reports decrease in frequency of episodes of diarrhea

Inflammatory Bowel Disease, Regional Enteritis (Crohn Disease)

Data Base

A Etiology and pathophysiology

1. Ulceration of intestinal submucosa accompanied by congestion, thickening of small bowel, and fissure formations; fistulas and abscesses may form
2. Cobblestone ulcerations along mucosal wall of terminal ileum, cecum, and ascending colon form scar tissue that inhibits food and water absorption
3. Cause unknown; theories include genetic predisposition, autoimmune reaction, or environmental factors

B Clinical findings

1. Subjective: nausea, severe abdominal pain, cramping, and spasms; exacerbations related to emotional upsets or dietary indiscretions (e.g., milk, milk products, fried foods)
2. Objective
 - a. Weight loss; fever; increased WBC count; diarrhea with mucus; electrolyte disturbances; blood and fat in feces; enlarged regional lymph nodes
 - b. Endoscopy with biopsy confirms diagnosis
 - c. Barium study of upper GI tract reveals stricture of ileum (string sign)
 - d. Fecal fat test determines fat content (excessive amount is significant in malabsorptive disorders or hypermotility)
 - e. Erythema nodosum, conjunctivitis, and arthritis
 - f. D-Xylose tolerance test determines absorptive ability of upper intestinal tract
 - g. CT scan reveals bowel wall thickening and fistulas

C Therapeutic interventions

1. NPO and TPN when inflammatory episodes are severe
2. Clear fluid diet progressing to bland, low-residue, low-fat; increased calories, carbohydrates, proteins, and vitamins, especially K and B₁₂ when large portion of ileum is involved
3. Pharmacologic management: monoclonal antibody form of antitumor necrosis factor (e.g., infliximab [Remicade], adalimumab [Humira]); antiinflammatories (e.g., sulfasalazine [Azulfidine]), mesalamine [Asacol, Lialda, Pentasa]); anticholinergics; antiinfectives (e.g., metronidazole [Flagyl], ciprofloxacin [Cipro]); corticosteroids; antidiarrheals (e.g., loperamide [Imodium], bismuth subsalicylate [Pepto-Bismol, Kaopectate])

4. Surgery when complications (e.g., fistulas, intestinal obstruction) occur; resection with anastomosis or a temporary or permanent ostomy
5. Maintenance of fluid and electrolyte balance

Nursing Care of Clients with Crohn Disease

Assessment/Analysis

1. Weight, temperature, and I&O
2. Feces for color, consistency, and steatorrhea
3. Tenderness and guarding of abdomen, especially right lower quadrant
4. Presence and extent of bowel sounds

Planning/Implementation

1. Encourage verbalization of feelings; encourage client and family to participate in the Crohn and Colitis Foundation of America
2. Monitor for fluid and electrolyte imbalances and I&O
3. Monitor for complications (e.g., increased temperature, increasing nausea and vomiting, abdominal rigidity)
4. Assist with TPN if prescribed (see [Parenteral Replacement Therapy under Related Procedures](#))
5. Teach client to
 - a. Adhere to dietary restrictions and modifications (see [Ulcerative Colitis under Inflammatory Bowel Disease](#))
 - b. Avoid taking laxatives and salicylates that irritate intestinal mucosa
 - c. Follow package directions when taking antidiarrheals and mucilloid drugs
 - d. Provide skin care if perianal area is irritated
 - e. Seek help early when exacerbations occur
6. Provide preoperative and postoperative care for intestinal surgery (see [Nursing Care under Inflammatory Bowel Disease, Ulcerative Colitis](#))

Evaluation/Outcomes

1. Reports reduction in pain
2. Reports decrease in number of bowel movements
3. Maintains nutritional status
4. Maintains fluid and electrolyte balance
5. Implements strategies to reduce emotional stress

Inflammatory Bowel Disease, Ulcerative Colitis

Data Base

A Etiology and pathophysiology

1. Edema of mucous membrane of colon leads to bleeding and shallow ulcerations; bowel wall shortens and becomes thin and fragile; abscess formation may occur
2. Causes: autoimmune response, genetic predisposition, bacterial infection; emotional stress
3. Associated with increased risk for colon cancer

B Clinical findings

1. Subjective: weakness, debilitation, anorexia, nausea, abdominal cramps
2. Objective: dehydration with tenting of skin; frequent passage of bloody, purulent, mucoid, watery stools; anemia; hypocalcemia; low-grade fever

C Therapeutic interventions

1. Dietary management
 - a. During acute episode: low-residue diet progressing to regular diet
 - b. Maintenance: high-protein, high-calorie diet; raw bran may be effective in controlling bouts of diarrhea and constipation; avoidance of food allergens, especially milk
 - c. Unrestricted fluid intake if tolerated
2. Pharmacologic management: antiemetics, anticholinergics, corticosteroids, antibiotics, sedatives, analgesics, tranquilizers, and antidiarrheals; antiinflammatories (e.g., mesalamine [Asacol, Lialda, Pentasa], olsalazine [Dipentum], sulfasalazine [Azulfidine]); immune system suppressors (e.g., azathioprine [Azasan, Imuran], mercaptopurine [Purinethol], cycloSPORINE [Gengraf, Neoral]); monoclonal antibody form of antitumor necrosis factor (e.g., infliximab [Remicade]); nicotine patches may be used for short-term exacerbations
3. Replacement of fluids and electrolytes lost with diarrhea; TPN may be instituted
4. Surgical intervention indicated when medical management is unsuccessful
 - a. Segmental or partial colectomy with anastomosis
 - b. Total colectomy with ileostomy
 - c. Total colectomy with incontinent or continent ileostomy
 - d. Total colectomy with ileoanal anastomosis (creation of an ileal pouch that maintains anal sphincter function)

Nursing Care of Clients with Ulcerative Colitis

Assessment/Analysis

1. Localized areas of tenderness found over diseased bowel on palpation
2. History of patterns and characteristics of bowel elimination
3. Feces for color, consistency, and characteristics
4. Temperature and weight for baseline data
5. Presence and extent of bowel sounds
6. Nutritional status

Planning/Implementation

1. Involve in dietary selections; incorporate preferences as much as possible
2. Initiate administration and documentation of fluid, electrolyte, or blood replacements
3. Provide gentle, thorough perineal care
4. Monitor for complications (e.g., rectal hemorrhage, fever, dehydration, electrolyte imbalances)
5. Encourage client and family to verbalize feelings and participate in care; encourage participation in Crohn and Colitis Foundation of America
6. Instruct client to
 - a. Eat small, frequent meals of high-protein, high-calorie foods; low-fat diet to decrease steatorrhea; vitamins A and E may be supplemented if steatorrhea is present

- b. Avoid irritating foods and spices
- c. Take prescribed supplements (e.g., iron, calcium, zinc)
- d. Self-administer prescribed monthly vitamin B₁₂ injections to treat anemia associated with ileal involvement
- e. Avoid all food allergens, especially milk; milk may be reintroduced when relatively asymptomatic; lactose intolerance is common and dairy restrictions may be permanent; lactase enzymes can be added to milk products to hydrolyze lactose
- 7. Provide preoperative care; arrange for nurse specialist to assist in preoperative stoma site assessment and marking (poorly placed stoma will prevent tight seal of pouch, contributing to leakage, skin excoriation, incompatibility with clothing, and decreased quality of life)
- 8. Provide postoperative care
 - a. Maintain nasogastric suction during immediate postoperative period
 - b. Provide colostomy care (see [Colostomy Irrigation under Related Procedures](#))
 - c. Monitor fecal drainage and fluid balance ([Figure 8-5](#): Consistency of feces depending on intestinal location)

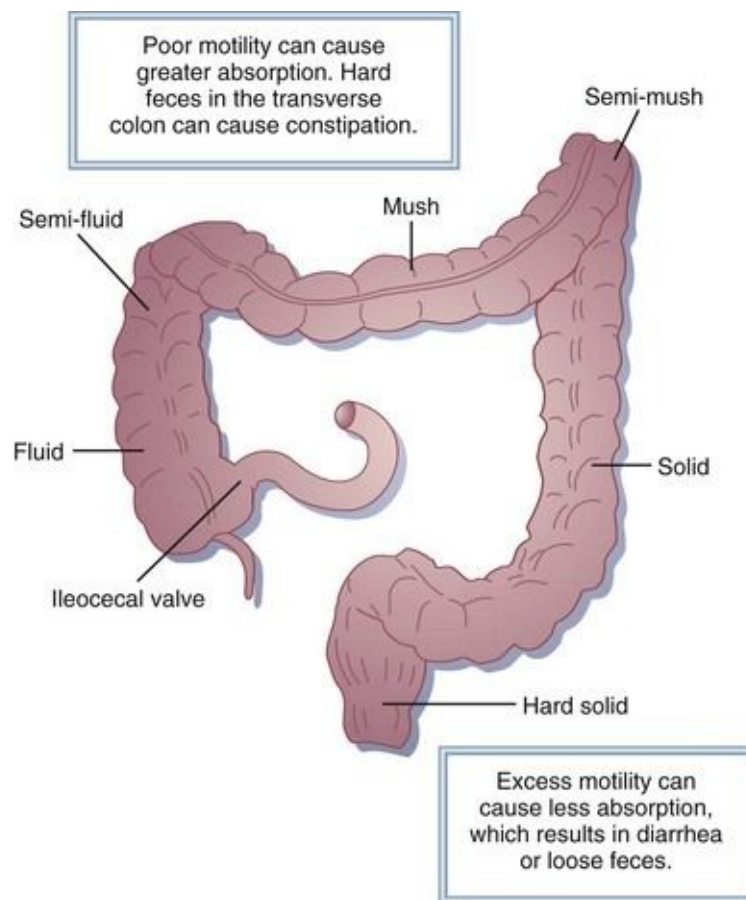


FIGURE 8-5 Consistency of feces depending on intestinal location. As the feces move from the ileocecal valve to the anus, water is absorbed and the feces become more solid. The characteristics of the output from a colostomy depend on its location in the colon. (From Mahan LK, Escott-Stump S: *Krause's food and nutrition therapy*, ed 12, St. Louis, 2008, Saunders.)

- d. Assess for clinical findings of peritonitis
- e. Assess viability of stoma: expected—brick red; inadequate perfusion—gray, pale pink, dark purple
- f. Teach ileostomy care
 - (1) Ileostomy: skin care, continuous use of appliance because stoma drains continuously
 - (2) Continent ileostomy (Kock pouch): pouch will stretch over time to hold over 500 mL; must

be catheterized to drain effluent every 4 to 6 hours; external appliance unnecessary; small dressing covers stoma

g. Teach dietary guidelines

- (1) Initial low-residue diet to promote healing
- (2) Avoidance of kernels or seeds that can cause obstruction
- (3) Increased fluid intake to compensate for losses

h. Provide emotional support; involve enterostomal therapy nurse; refer to local ostomy organizations

Evaluation/Outcomes

1. Maintains or regains weight
2. Adheres to dietary regimen
3. Establishes acceptable pattern of soft, formed bowel movements
4. Client or family member demonstrates ability to perform ostomy care
5. Implements strategies to reduce emotional stress

Intestinal Obstruction

Data Base

A Etiology and pathophysiology

1. Interference with peristaltic movement of intestinal contents because of neurologic or mechanical impairments
2. Causes ([Figure 8-6](#): Bowel obstructions)

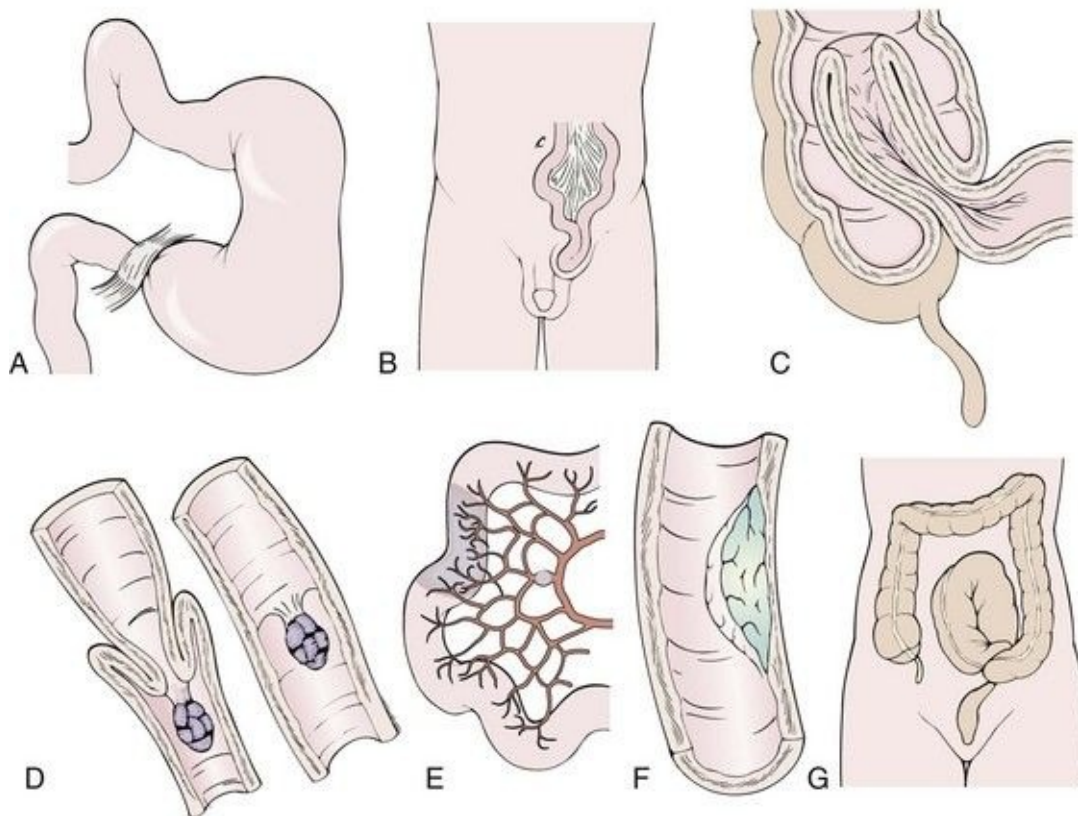


FIGURE 8-6 Bowel obstructions. **A**, Adhesions. **B**, Strangulated inguinal hernia. **C**, Ileocecal intussusception. **D**, Intussusception from polyps. **E**, Mesenteric occlusion. **F**, Neoplasm. **G**, Volvulus of the sigmoid colon. (From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011.)

- a. Carcinoma of the bowel
- b. Hernias
- c. Fecal impaction
- d. Adhesions (scar tissue forms abnormal connections after surgery, inflammation)
- e. Intussusception (telescoping of bowel on itself)
- f. Volvulus (twisting of intestines)
- g. Paralytic ileus (interference with neural innervation of intestines, resulting in decrease or absence of peristalsis; may be caused by surgical manipulation, electrolyte imbalance, or infection)
- h. Mesenteric infarction (occlusion of arterial blood supply to bowel leading to necrosis of bowel)

B Clinical findings

1. Subjective: colicky abdominal pain; constipation that may be accompanied by urge to defecate without results and seepage of fecal liquid
2. Objective: abdominal distention; vomiting that may contain fecal matter; initially increased progressing to decreased or absent bowel sounds; clinical findings of dehydration and electrolyte imbalance; obstipation; flat plate of abdomen shows bowel distended with air

C Therapeutic interventions

1. Restriction of oral intake; administration of parenteral fluid and electrolytes
2. Surgical intervention: correction of cause (e.g., hernias, adhesions); colostomy, cecostomy, or ileostomy
3. Decompression of GI tract via nasogastric or intestinal tube

Nursing Care of Clients with Intestinal Obstruction

Assessment/Analysis

1. History to determine risk and causative factors
2. Abdomen for peristaltic waves, distention
3. Presence and characteristics of bowel sounds
4. Pattern and characteristics of bowel elimination

Planning/Implementation

1. Monitor for dehydration and electrolyte imbalances, intake and output
2. Auscultate for bowel sounds; identify passage of flatus
3. Administer meticulous oral hygiene
4. Provide special care associated with an intestinal tube
 - a. After tube reaches stomach, position on right side to facilitate passage of tube through pylorus; then in semi-Fowler position to permit gradual advance into intestines
 - b. Coil and loosely attach extra tubing to client's gown to avoid tension against peristaltic action
 - c. Instill or irrigate with sterile saline every 6 to 8 hours or as ordered to maintain patency
 - d. Assess advancement of tube by identifying markings on tube; record level of advancement; advance (usually 2 to 3 inches every hour) as ordered
 - e. When tube is discontinued, remove gradually because it is being pulled against peristalsis
5. Encourage fluids and foods high in fiber if constipated

Evaluation/Outcomes

1. Establishes a regular pattern of bowel elimination
2. Maintains fluid and electrolyte balance

Diverticular Disease

Data Base

A Etiology and pathophysiology

1. Diverticulosis: multiple pouchlike herniations of intestinal mucosa, as a result of weakness and increased intraabdominal pressure; may be asymptomatic
2. Diverticulitis: inflammation caused by food or feces trapped in a diverticulum; may lead to bleeding, perforation, abscess formation, peritonitis, and bowel obstruction
3. Most commonly occurs in sigmoid colon, but can occur anywhere along GI tract
4. Risk factors: genetic predisposition, inadequate dietary fiber, history of constipation with straining at stool
5. Incidence increases with age

B Clinical findings

1. Subjective: cramping, colicky pain in left lower quadrant, nausea, malaise
2. Objective
 - a. Diarrhea or constipation, frank blood in stool, abdominal distention, fever
 - b. Diagnostic tests: CBC reveals leukocytosis; CT scan, abdominal radiograph, and colonoscopy provide direct evidence of disease

C Therapeutic interventions

1. Prevention through high-fiber diet; studies demonstrate that intake of seeds, nuts, or popcorn does not increase incidence of disease
2. NPO or clear liquids during acute diverticulitis
3. Pharmacologic management: analgesics; antibiotics (e.g., ciprofloxacin [Cipro], metronidazole [Flagyl], cephalexin [Keflex], doxycycline [Vibramycin]); antispasmodics (e.g., chlordiazepoxide/clidinium [Librax], dicyclomine [Bentyl]); and bulk-forming laxatives and stool softeners
4. Fluid and electrolyte replacement
5. Surgery: hemicolectomy, temporary loop colostomy, or removal of involved bowel for perforation, fistula, abscess or recurrent disease

Nursing Care of Clients with Diverticular Disease

Assessment/Analysis

1. History of constipation and/or diarrhea with progression of clinical findings
2. Foods that may precipitate acute diverticulitis
3. Stool for consistency and presence of blood
4. Abdomen for distention
5. Presence and extent of bowel sounds

Planning/Implementation

1. Teach importance of high-fiber and high-fluid intake; foods to avoid to prevent diverticulitis
2. Teach to prevent constipation with dietary bran and prescribed bulk laxatives
3. Maintain NPO and gastric decompression if ordered during acute episode
4. Monitor for clinical findings of peritonitis (e.g., pain, hypotension, abdominal rigidity, abdominal distention, leukocytosis)
5. Administer fluid and electrolyte replacement
6. Teach importance of completing antibiotic regimen
7. Provide care related to bowel surgery (see [Nursing Care under Cancer of the Small Intestine, Colon, or Rectum](#))

Evaluation/Outcomes

1. States attainment of soft, formed bowel movements
2. Maintains dietary regimen
3. Reports relief from pain
4. Maintains fluid and electrolyte balance

Cancer of the Small Intestine, Colon, or Rectum

Data Base

A Etiology and pathophysiology

1. Tumor causes narrowing of bowel lumen, ulcerations, necrosis, or perforation
2. Risk factors: familial polypos, aging, chronic ulcerative colitis, bowel stasis, ingestion of food

additives, and high-fat, low-fiber diet

3. Cancer of colon is more common in males; incidence increases after 50 years of age

4. Cancer of small intestine is rare; adenocarcinoma of large intestine is more common

B Clinical findings (Figure 8-7: Clinical findings of colorectal cancer by location of primary lesion)

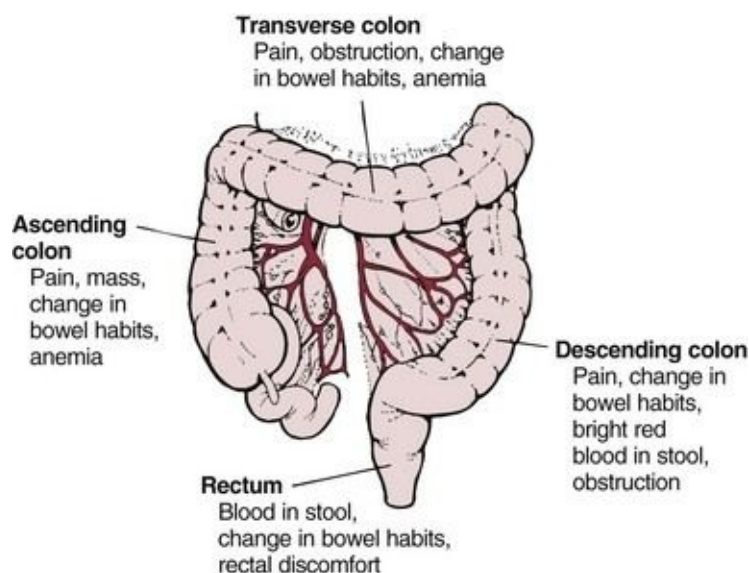


FIGURE 8-7 Clinical findings of colorectal cancer by location of primary lesion. McCance et al: *Pathophysiology: the biologic basis for disease in adults and children*, ed 6, St. Louis, 2010, Mosby.)

1. Subjective: abdominal discomfort or pain, weakness, fatigue

2. Objective

- Alterations in usual bowel function (e.g., constipation or diarrhea, alternating constipation and diarrhea); change in shape of stool (e.g., pencil-shaped, ribbon-shaped)
- Abdominal distention
- Weight loss
- Frank or occult blood in stool; secondary anemia
- Digital examination detects palpable mass
- Proctosigmoidoscopy or colonoscopy allows for direct visualization of bowel and permits biopsy
- Cytologic examination of tissue from GI tract detects malignant cells
- Increased alkaline phosphatase (ALP) and aspartate aminotransferase (AST) levels detect metastasis to liver
- Increased serum carcinoembryonic antigen (CEA) level may indicate carcinoma of colon

C Therapeutic interventions

- Surgical intervention:** removes tumor and restores bowel function (e.g., colostomy, hemicolectomy, abdominal perineal resection)
- Radiation:** reduces size of tumor in nonsurgical situations; may be used preoperatively to reduce size of tumor; may be used postoperatively to limit metastases; may be external or internal (e.g., needles, seeds, wires, catheters)
- Chemotherapy:** reduces size of tumor and limits metastases; medication may be given for systemic effect or instilled into organ or body cavity
- Targeted therapy:** cetuximab (Erbitux), panitumumab (Vectibix)
- Preparation for surgery**

- a. Antibiotics (e.g., neomycin or sulfonamides) to reduce bacteria in bowel
- b. Type and crossmatch of blood for transfusions to correct anemia
- c. Vitamin supplements to improve nutritional status
- d. Gastric or intestinal decompression
- e. Bowel preparation (e.g., liquid diet, laxatives, enemas)

Nursing Care of Clients with Cancer of the Small Intestine, Colon, or Rectum

Assessment/Analysis

1. History of clinical findings and risk factors
2. Stool for frequency, color, consistency, shape
3. Weight for baseline data
4. Abdomen for discomfort on palpation
5. Presence and extent of bowel sounds

Planning/Implementation

1. Monitor vital signs, increasing abdominal pain, nausea, and vomiting to detect early clinical findings of complications
2. Monitor patency of gastric or intestinal tube; instill or irrigate with normal saline as ordered; identify amount and character of drainage
3. Implement preoperative bowel preparation and intestinal antisepsis
4. Administer prescribed chemotherapeutic drugs; monitor for significant side effects (e.g., stomatitis, dehydration, nausea, vomiting, diarrhea, leukopenia)
5. Administer electrolyte and parenteral fluid replacement as ordered for bleeding, vomiting, and/or obstruction
6. Provide progressive diet as ordered; assess tolerance
7. Teach dietary modifications to client and family
 - a. Avoid gas-forming foods and stimulants
 - b. Ensure adequate fluid intake
 - c. Eat foods that support the body's natural defense mechanism, particularly nutrient-dense foods (e.g., fruit, vegetables, cereal grains, legumes, lean meat, fish, and poultry)
 - d. Eat a variety of foods that are as close to the presurgical diet as possible
 - e. Take prescribed vitamin and mineral supplements
8. Provide preoperative and postoperative care for colon surgery (see Nursing Care under [Inflammatory Bowel Disease, Ulcerative Colitis](#))
9. Provide care after a colostomy
 - a. Assess client's and family members' reaction to colostomy (depends on how colostomy is viewed, how it affects lifestyle, physical and emotional status, social and cultural background, and place and role in family); stages of grieving may be evident
 - b. Consider that client with a cecostomy or colostomy is especially sensitive to odors and gestures and facial expressions of others
 - c. Assess color of stoma: expected—brick red; inadequate perfusion—gray, pale pink, dark purple
 - d. Teach that colostomy drainage begins in 3 to 4 days; it can be controlled by following a regular irrigation schedule and dietary modifications for colostomy in the distal colon

- e. Provide colostomy care (see Colostomy Irrigation under [Related Procedures](#)); encourage involvement in colostomy care as soon as physical and emotional status permits
- 10. Teach need to periodically dilate stoma to prevent strictures
- 11. Instruct client and family to prevent postoperative infection through meticulous hand hygiene, avoidance of sick individuals and people who recently received pneumonia or influenza vaccinations if possible
- 12. Teach about resumption of activities to as close as possible to previous lifestyle, including sexual activity; however, contact sports should be avoided
- 13. Teach need for regular medical supervision; arrange for follow-up care with community agencies as required (e.g., home care programs, American Cancer Society, ostomy resource person)

Evaluation/Outcomes

- 1. Maintains adequate fluid and electrolyte balance
- 2. Resumes regular pattern of bowel elimination
- 3. Client or family member demonstrates ability to perform ostomy care
- 4. Discusses feelings concerning diagnosis, prognosis, and ostomy
- 5. Maintains nutritional status

Peritonitis

Data Base

A Etiology and pathophysiology

- 1. Inflammation of peritoneum (most commonly caused by *E. coli*)
- 2. Generally caused by infection from perforation of GI tract, chemical stress, or trauma

B Clinical findings

- 1. Subjective: abdominal pain, rebound tenderness, malaise, nausea
- 2. Objective: abdominal muscle rigidity, vomiting, increased temperature and total WBC count, particularly neutrophils

C Therapeutic interventions

- 1. Bed rest in semi-Fowler position to localize drainage to dependent portion of abdominal cavity
- 2. Nasogastric decompression until passing flatus
- 3. Parenteral replacement of fluids and electrolytes; TPN if necessary
- 4. Antibiotic therapy; analgesics for pain
- 5. Surgery to correct cause of peritonitis (e.g., appendectomy, incision and drainage of abscesses, closure of perforation)

Nursing Care of Clients with Peritonitis

Assessment/Analysis

- 1. Temperature for baseline data
- 2. Guarded movements and/or self-splinting
- 3. Reduction or absence of bowel sounds
- 4. Presence and characteristics of abdominal pain

Planning/Implementation

1. Maintain in semi-Fowler position
2. Monitor vital signs, especially temperature
3. Monitor extent and characteristics of pain; administer analgesics as prescribed
4. Monitor IV therapy, GI decompression, and I&O
5. Auscultate for bowel sounds; identify passage of flatus
6. Administer prescribed IV antibiotics

Evaluation/Outcomes

1. Reports absence of pain
2. Maintains fluid and electrolyte balance
3. Reestablishes regular pattern of bowel elimination

Hemorrhoids

Data Base

A Etiology and pathophysiology

1. Varicosities of rectum; can be internal or external
2. Risk factors: prolonged sitting or standing, straining at defecation, obesity, and pregnancy

B Clinical findings

1. Subjective: anal pressure, pain and pruritus
2. Objective: protrusion of varicosities around anus, rectal bleeding and mucus discharge

C Therapeutic interventions

1. Low-roughage diet (e.g., elimination of raw fruits and vegetables) during acute exacerbations
2. High-fiber diet during remissions to prevent constipation
3. Stool softeners and bulk cathartics to facilitate passage of stool
4. Analgesic suppositories and ointments; sitz baths or ice compresses for discomfort
5. Surgical intervention: ligation (internal hemorrhoids may be ligated with rubber bands); cryosurgery; laser; sclerotherapy; hemorrhoidectomy

Nursing Care of Clients with Hemorrhoids

Assessment/Analysis

1. History of causative factors
2. Presence and characteristics of pain/bleeding
3. Presence of hemorrhoids in perianal area

Planning/Implementation

1. Teach client to
 - a. Promote comfort with sitz baths, ice compresses, local analgesics
 - b. Ensure sufficient private time for defecation, especially after meals
 - c. Increase intake of high-fiber foods
 - d. Drink at least 8 glasses of fluid per day

- e. Avoid routine use of laxatives, which results in dependency
 - f. Take prescribed bulking agents (e.g., psyllium [Metamucil]) or stool softeners (e.g., docusate sodium [Colace])
 - g. Implement regular bowel habits
2. Provide care after a hemorrhoidectomy
- a. Monitor for rectal hemorrhage and urinary retention postoperatively; explain that some bleeding with a bowel movement is expected
 - b. Teach how to administer a retention enema on second or third postoperative day, if ordered, to stimulate defecation and soften stool

Evaluation/Outcomes

- 1. Reports increased comfort, particularly on defecation
- 2. Adheres to treatment regimen
- 3. Establishes a pattern of regular bowel movements without straining or use of laxatives

Hernias

Data Base

A Etiology and pathophysiology

- 1. Protrusion of organ or structure through weakening in abdominal wall; may result from congenital or acquired defect; may be precipitated by obesity
- 2. Reducible: protruding structure can be manipulated back in place
- 3. Incarcerated: protruding structure cannot be manipulated back in place
- 4. Strangulated: blood supply to tissues within hernia is disrupted; emergency situation because gangrene occurs
- 5. Named by location: incisional, umbilical, femoral, inguinal

B Clinical findings

- 1. Subjective: history of swelling after lifting, coughing, or exercising; pain caused by incarceration or strangulation; nausea can accompany strangulation
- 2. Objective: swelling (lump) in groin or umbilicus, or near an old surgical incision that may subside when in a recumbent position; vomiting and abdominal distention when strangulation occurs

C Therapeutic interventions

- 1. Manual reduction by gently pushing mass back into abdominal cavity
- 2. Truss (pad worn next to skin held in place under pressure by a belt) may be ordered when client is a poor surgical risk
- 3. Surgery
 - a. Herniorrhaphy: repair of defect in abdominal musculature or fascia
 - b. Hernioplasty: herniorrhaphy with placement of synthetic mesh, biologic grafts (e.g., human or animal tissue), or biodesign products (e.g., attributes of synthetic mesh and biologic grafts)

Nursing Care of Clients with Hernias

Assessment/Analysis

- 1. History of potential causative factors

2. Presence or absence of bowel sounds on auscultation
3. Abdomen while in standing and lying positions to determine if hernia reduces with positional change

Planning/Implementation

1. Avoid abdominal palpation if hernia is strangulated
2. Provide care after surgery
 - a. Instruct to avoid coughing if possible; use deep breathing and incentive spirometry to prevent respiratory complications; encourage self-splinting
 - b. Administer mild cathartics as prescribed to prevent straining, which will increase intraabdominal pressure
 - c. Apply ice bag and scrotal support if scrotum is edematous postoperatively to reduce edema and pain (more common with inguinal hernia)
 - d. Administer analgesic for pain as prescribed
 - e. Instruct to avoid lifting or strenuous exercise on discharge until permitted by health care provider

Evaluation/Outcomes

1. Reports decreased pain
2. Restates discharge instructions
3. Avoids straining on defecation

CHAPTER 9

Overview

Review of Anatomy and Physiology

Function of the Endocrine System

Endocrine glands continuously secrete products called hormones, which are chemical messengers that deliver stimulatory or inhibitory signals to target cells as a result of a feedback mechanism; once secreted, hormones usually remain present in the body for 4 to 6 hours

Structures of the Endocrine System

(Figure 9-1: Principal endocrine glands)

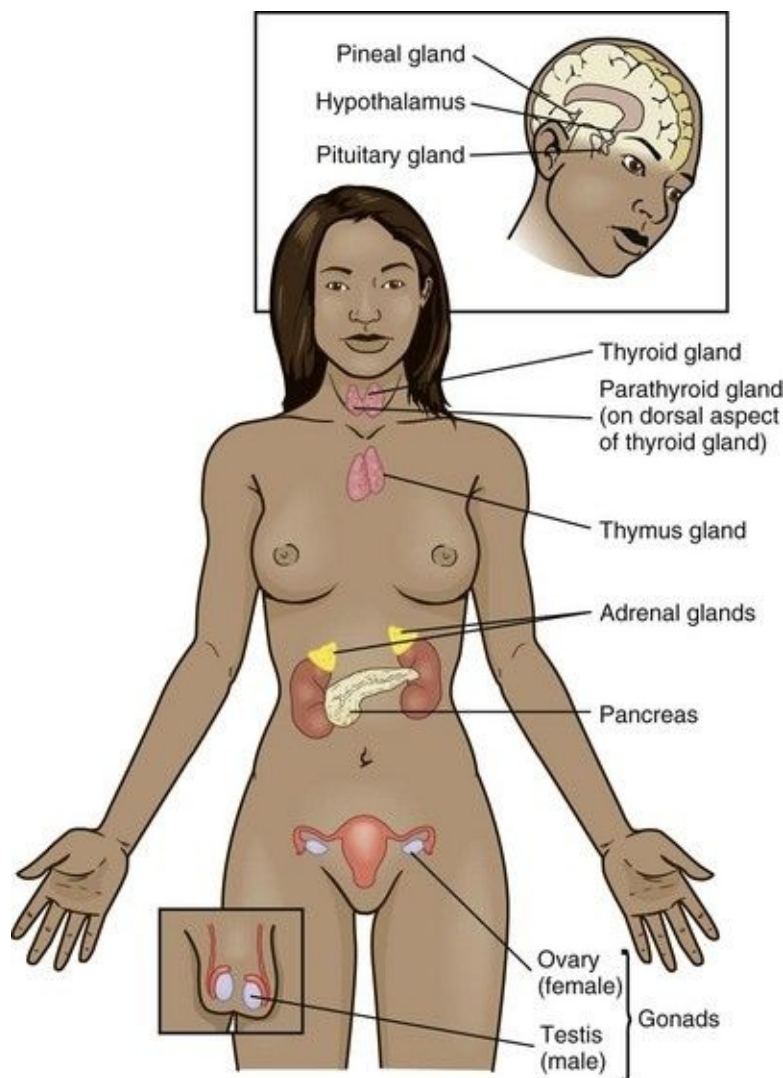


FIGURE 9-1 Principal endocrine glands. (From McCance et al: *Pathophysiology: the biological basis for disease in adults and children*, ed 4, St. Louis, 2002, Mosby.)

Thyroid Gland

A Overlies thyroid cartilage below larynx

B Thyroid hormones: accelerate cellular reactions in most body cells

1. Thyroxine: stimulates metabolic rate; essential for physical and mental development
2. Triiodothyronine: inhibits anterior pituitary secretion of thyroid-stimulating hormone
3. Calcitonin (thyrocalcitonin): decreases loss of calcium from bone; promotes hypocalcemia; action opposite that of parathormone

Parathyroid Gland

A Small glands (2 to 12) embedded in posterior part of thyroid

B Parathyroid hormone (parathormone)

1. Increases blood calcium concentration
 - a. Breakdown of bone with release of calcium into blood (requires active form of vitamin D)
 - b. Calcium absorption from intestine into blood
 - c. Kidney tubule reabsorption of calcium
2. Decreases blood phosphate concentration by slowing its reabsorption from kidneys, thereby decreasing calcium loss in urine

Testes and Ovaries

(See [Structures of the Male Reproductive System in Chapter 12](#) and [Female Reproductive System in Chapter 23](#))

Adrenal Glands

A Two closely associated structures, adrenal medulla and adrenal cortex, positioned at each kidney's superior border

B Adrenal hormones

1. Adrenal medulla: produces two catecholamines, epinephrine and norepinephrine
 - a. Stimulate liver and skeletal muscle to break down glycogen to produce glucose
 - b. Increase oxygen use and carbon dioxide production
 - c. Increase blood concentration of free fatty acids through stimulation of lipolysis in adipose tissue
 - d. Cause constriction of most blood vessels of body, thus increasing total peripheral resistance and arterial pressure to shunt blood to vital organs
 - e. Increase heart rate and force of contraction, thus increasing cardiac output
 - f. Inhibit contractions of gastrointestinal and uterine smooth muscle
 - g. Epinephrine significantly dilates bronchial smooth muscle
2. Adrenal cortex: secretes the mineralocorticoid aldosterone and the glucocorticoids cortisol and corticosterone
 - a. Aldosterone
 - (1) Markedly accelerates sodium and water reabsorption by kidney tubules
 - (2) Markedly accelerates potassium excretion by kidney tubules
 - (3) Secretion increases as sodium ions decrease or potassium ions increase
 - b. Cortisol and corticosterone
 - (1) Accelerate mobilization and catabolism of tissue protein and fats
 - (2) Accelerate liver gluconeogenesis (hyperglycemic effect)
 - (3) Decrease antibody formation (immunosuppressive, antiallergic effect)
 - (4) Slow proliferation of fibroblasts characteristic of inflammation (antiinflammatory)

effect)

(5) Decrease adrenocorticotrophic hormone (ACTH) secretion

(6) Mildly accelerate sodium and water reabsorption and potassium excretion by kidney tubules

(7) Increase release of coagulation factors

Pancreas

A Retroperitoneal in abdominal cavity

B Pancreatic hormones: regulate glucose and protein homeostasis through action of insulin and glucagon

1. Insulin: secreted by beta cells of islets of Langerhans

a. Promotes cellular uptake of glucose

b. Stimulates intracellular macromolecular synthesis, such as glycogen synthesis (glyconeogenesis), fat synthesis (lipogenesis), and protein synthesis

c. Stimulates cellular uptake of sodium and potassium (latter is significant in treatment of diabetic coma with insulin)

2. Glucagon: secreted by alpha cells of islets of Langerhans

a. Induces liver glycogenolysis; antagonizes glycogen synthesis stimulated by insulin

b. Inhibits hepatic protein synthesis, which makes amino acids available for gluconeogenesis and increases urea production

c. Stimulates hepatic ketogenesis and release of glycerol and fatty acids from adipose tissue when cellular glucose level falls

Thymus Gland

A Located at root of neck and anterior thorax

B Thymic hormone (thymosin)

1. Regulates immunologic processes

2. T lymphocytes produced after birth migrate to lymph nodes and spleen to provide cell-mediated immunity

3. Synthesizes hormones that regulate rate of development of lymphoid cells, particularly T cells

Pineal Gland

A Located in midbrain attached to third ventricle

B Pineal hormone (melatonin)

1. May regulate diurnal fluctuations of hypothalamic-hypophyseal hormones

2. Inhibits numerous endocrine functions, particularly gonadotropic hormones

Pituitary Gland

A Located in cranial cavity in sella turcica of sphenoid bone; near optic chiasm

B Anterior lobe (adenohypophysis) and posterior lobe (neurohypophysis)

C Pituitary hormones

1. Hormones secreted by anterior lobe

a. Growth hormone (GH)

(1) Promotes protein anabolism

(2) Promotes fat mobilization and catabolism

(3) Slows carbohydrate metabolism

b. Thyroid-stimulating hormone (TSH): stimulates synthesis and secretion of thyroid hormones

c. ACTH

(1) Stimulates growth of adrenal cortex

(2) Stimulates secretion of glucocorticoids; slightly stimulates mineralocorticoid secretion

d. Follicle-stimulating hormone (FSH)

(1) Stimulates primary graafian follicle to grow and develop

(2) Stimulates follicle cells to secrete estrogen

(3) Stimulates development of seminiferous tubules and spermatogenesis

e. Luteinizing hormone (LH)

(1) Stimulates maturation of follicle and ovum; required for ovulation

(2) Forms corpus luteum in ruptured follicle following ovulation; stimulates corpus luteum to secrete progesterone

(3) In males, LH is called interstitial cell–stimulating hormone (ICSH); stimulates testes to secrete testosterone

f. Prolactin (PRL)

(1) Promotes breast development during pregnancy

(2) Initiates milk production after delivery

(3) Stimulates progesterone secretion by corpus luteum

2. Hormones secreted by posterior lobe

a. Antidiuretic hormone (ADH, vasopressin)

(1) Increases water reabsorption by distal and collecting tubules of kidneys

(2) Stimulates vasoconstriction, raising blood pressure

b. Oxytocin

(1) Stimulates contractions by pregnant uterus

(2) Stimulates milk ejection from alveoli of lactating breasts into ducts

c. Melanocyte-stimulating hormone (MSH): stimulates synthesis and dispersion of melanin in skin, causing darkening

Related Pharmacology

Antidiabetic Agents

A Description

1. Used to treat diabetes mellitus

2. Classified into two types: insulin for parenteral use and oral antidiabetics

3. Insulin

a. Acts to facilitate transport of glucose and amino acids across cell membrane; promotes glycogenesis and protein synthesis

b. Available in three forms: human, pork and beef (no longer available in U.S. because of risk of cow tissue spreading specific infections); human insulin is least antigenic; administered parenterally; brands or forms should not be substituted without medical supervision; nonhuman insulin rarely used since recombinant forms became available

c. Insulin administered by syringe, pen, pump, or IV

- d. Available in rapid-acting, short-acting, intermediate-acting, and long-acting forms; rapid- or short-acting insulin may be premixed with intermediate-acting insulin

4. Oral antidiabetics

- a. Require some functioning beta cells
- b. Lower serum glucose level in variety of ways depending on drug

B Examples

1. Insulin ([Table 9-1: Types of Insulin](#))

Table 9-1
Types of Insulin

Types of Insulin			
Name	Onset	Peak	Duration
Rapid Acting			
lispro (Humalog)	15-30 min	30 min-1½ hours	3-4 hours
aspart (NovoLog)	10-20 min	1-3 hours	3-5 hours
glulisine (Apidra)	15-30 min	30 min-1½ hours	3-4 hours
Short Acting			
regular (Novolin R)	30 min-1 hour	2-5 hours	5-8 hours
regular (Humulin R)	30 min-1 hour	1-5 hours	6-10 hours
Intermediate Acting			
NPH (N) (Novolin N) (Humulin N)	1½-4 hours	4-12 hours	18-24 hours
Long Acting			
glargine (Lantus)	1-1½ hours	No peak—steadily delivered	20-24 hours
detemir (Levemir)	0.8-2 hours	unknown	24 hours
Premixed			
Novolin 70/30	30 min	2-12 hours	24 hours
Humulin 70/30	30 min	2-4 hours	14-24 hours
NovoLog Mix 70/30	10-20 min	1-4 hours	24 hours
Humulin 50/50	30 min	2-5 hours	18-24 hours
Humalog 75/25	15 min	30 min-2.5 hours	16-20 hours

2. Oral antidiabetics (hypoglycemics)

- a. Sulfonylureas: stimulate beta cells to produce insulin; second-generation sulfonylureas: glipiZIDE (Glucotrol), glyBURIDE, glimepiride (Amaryl)
- b. Biguanides: reduce the rate of endogenous glucose production by liver; increase the use of glucose by muscle and fat cells; metformin (Glucophage)
- c. Thiazolidinediones: improve insulin sensitivity, thus improving peripheral glucose uptake; rosiglitazone (Avandia), pioglitazone (Actos)
- d. Meglitinides: stimulate quick release of insulin by beta cells; repaglinide (Prandin), nateglinide (Starlix)
- e. Alpha-glucosidase inhibitors: block digestion of ingested carbohydrates and slow absorption of glucose; acarbose (Precose), miglitol (Glyset)
- f. Dipeptidyl peptidase 4 (DPP-4) inhibitor: prevents breakdown of glucagon-like peptide-1 (GLP-1) which reduces blood glucose levels in the body; sitagliptin (Januvia), saxagliptin (Onglyza)
- g. Synthetic analog of human amylin: decreases gastric emptying; pramlintide (Symlin)
- h. Incretin mimetic: stimulates insulin production in type 2 diabetes; exenatide (Byetta), liraglutide (Victoza); injectable medications for type 2 diabetes
- i. Combination: glyBURIDE/metformin (Glucovance); sitagliptin/metformin (Janumet); pioglitazone/metformin (Actoplus Met)

C Major side effects

1. Parenteral insulin: hypoglycemia (e.g., irritability, tachycardia, hunger, moist skin, tremor, headache, confusion, seizures); lipodystrophy (incidence decreased dramatically since advent of human recombinant insulin)
2. Inhalation insulin: cough, dry mouth, chest discomfort
3. Oral antidiabetics: hypoglycemia; skin rash, allergic reactions, pruritus (hypersensitivity); jaundice (hepatic alterations); thrombocytopenia; lactic acidosis; vitamin B₁₂ deficiency
 - a. Metformin (Glucophage): not recommended for clients diagnosed with heart failure
 - b. Acarbose (Precose), miglitol (Glyset): bloating, gas pains, and diarrhea
 - c. Rosiglitazone (Avandia): hepatotoxicity, increased risk of fractures

D Nursing care

1. Assess clients for clinical findings of hypoglycemia and side effects of medications
2. Instruct client to
 - a. Use proper medication administration procedure
 - b. Adhere to dietary program, including snacks
 - c. Avoid alcohol, especially when taking metformin (Glucophage)
 - d. Perform self-monitoring of blood glucose (SMBG) levels
 - e. Carry medical alert card
 - f. Be prepared for hypoglycemic incidents; administer rapid-acting glucose (e.g., glucose gel or tablets) followed by complex carbohydrate and protein (e.g., cheese and crackers) to stabilize blood glucose level
 - g. Ensure regular laboratory testing (e.g., blood glucose, glycosylated hemoglobin [glycohemoglobin, Hb A_{1c}], liver enzymes)
3. Administer insulin
 - a. Administer all insulin subcutaneously because insulin is destroyed by gastric juices if taken by mouth; rapid-acting insulins can be used in continuous subcutaneous (Sub-Q) insulin infusion devices

- b. Use regular insulin or glulisine (Apidra) for IV administration
 - c. If premixed insulin is not prescribed and two forms are to be mixed, draw up rapid- or short-acting insulin first so as not to accidentally dilute the vial with NPH insulin; peakless basal insulin cannot be mixed with other insulins because it causes precipitation
 - d. Rotation of sites not necessary with recombinant insulin; abdomen is preferred site because absorption is not influenced by exercise
 - e. Dosage adjustment is necessary when taking nothing by mouth (NPO) and when ill
4. Offer emotional support; therapy is lifelong
 5. Metformin (Glucophage): withhold drug before and 48 hours after diagnostic studies requiring iodinated contrast media; increased risk of hypoglycemia when given concurrently with allopurinol (Zyloprim)
 6. Instruct to prevent complications of hyperglycemia with frequent glucose monitoring and multiple daily injections of insulin as needed

Thyroid Enhancers

A Description

1. Regulate metabolic rate of body cells; aid in growth and development of bones and teeth; affect protein, fat, and carbohydrate metabolism
2. Replace thyroid hormone when there is a reduction in or absence of thyroid gland function
3. Available in oral and parenteral (IV) preparations

B Examples: levothyroxine (Synthroid) is drug of choice; liothyronine (Cytomel); liotrix (Thyrolar)

C Major side effects: increased metabolism (increased serum triiodothyronine [T_3], thyroxine [T_4]); hyperactivity (increased metabolic rate); cardiac stimulation (increased cardiac metabolism)

D Nursing care

1. Instruct client to
 - a. Report occurrence of side effects immediately
 - b. Take medication as scheduled at same time daily; do not stop abruptly
 - c. Take pulse rate; notify health care provider if greater than 100 beats/min
 - d. Carry medical alert card
 - e. Continue routine medical supervision
2. Assess for potentiation of anticoagulant effect
3. Offer emotional support; therapy usually is lifelong
4. Assess for clinical findings of hyperthyroidism

Thyroid Inhibitors

A Description

1. Interfere with synthesis and release of thyroid hormone; inhibit oxidation of iodides to prevent their combination with tyrosine in formation of thyroxine
2. Treat hyperthyroidism
3. Available in oral and parenteral (IV) preparations

B Examples: methimazole (Tapazole); propylthiouracil (PTU)

C Antithyroid medications such as iodine (e.g., potassium iodide, SSKI) to reduce vascularity of thyroid gland

D Major side effects: agranulocytosis (decreased white blood cells [WBCs]); skin disturbances

(hypersensitivity); nausea, vomiting (irritation of gastric mucosa); decreased metabolism (decreased production of serum T_3 , T_4); iodine—bitter taste, stains teeth (local oral effect on mucosa and teeth)

E Nursing care

1. Instruct client to
 - a. Report side effects, especially sore throat, jaundice, and fever
 - b. Avoid crowded places and potentially infectious situations
2. Administer liquid iodine preparations diluted in a beverage; use straw to avoid staining teeth
3. Assess for clinical findings of hypothyroidism

Adrenocorticoids

A Description

1. Interfere with release of factors important in producing inflammatory and immune responses (immunosuppression)
2. Remove fluid accumulation from brain, thereby decreasing cerebral edema
3. Increase glucose and fat formation and promote protein breakdown
4. Used for hormonal replacement therapy
5. Available in oral, parenteral (intramuscular [IM], IV), inhalation, intraarticular, and topical (including ophthalmic) preparations

B Examples

1. Glucocorticoids
 - a. Long-acting: dexamethasone
 - b. Intermediate-acting: methylPREDNISolone (Medrol, Solu-Medrol)
 - c. Short-acting: hydrocortisone (Solu-Cortef)
2. Mineralocorticoids: fludrocortisone

C Major side effects

1. Cushingoid clinical findings (increased glucocorticoid activity causing facial edema, fluid retention)
2. Hypertension (sodium and water retention)
3. Hyperglycemia (increased carbohydrate catabolism; gluconeogenesis)
4. Mood changes (central nervous system [CNS] effect)
5. Gastrointestinal (GI) irritation and ulcer formation (local GI effect)
6. Cataracts (hyperglycemia)
7. Hypokalemia (potassium excretion)
8. Decreased wound healing; leukopenia
9. Osteoporosis
10. Derivatives with 17-ketosteroid properties: masculinization in females

D Nursing care

1. Administer oral preparations with food, milk, or antacid
2. Monitor weight, blood pressure, and serum electrolytes
3. Assess for GI bleeding
4. Monitor blood glucose level in people with diabetes
5. Instruct client to
 - a. Avoid exposure to infections; notify health care provider if fever or sore throat occurs; avoid immunizations during therapy

- b. Avoid using salt; encourage foods high in potassium
 - c. Take medications only as directed, and explain why; avoid missing, changing, or withdrawing drug suddenly
 - d. Avoid nonsteroidal antiinflammatory drugs (NSAIDs) and over-the-counter (OTC) medications
 - e. Carry medical alert card
6. Withdraw drug therapy gradually to permit adrenal recovery

Antidiuretic Hormone

A Description

- 1. Promotes water reabsorption by distal renal tubules and causes vasoconstriction and increased muscle tone of bladder, GI tract, uterus, and blood vessels
- 2. Treatment for diabetes insipidus

B Example: desmopressin (DDAVP)

C Major side effects

- 1. Transient headache, drowsiness, listlessness (CNS effect)
- 2. Nausea, heartburn, mild abdominal cramps (GI irritation)
- 3. Nasal irritation, congestion, rhinitis
- 4. Shortness of breath, facial flushing, pain and swelling at injection site

D Nursing care

- 1. Monitor intake and output (I&O) and electrolytes
- 2. Assess for side effects

Major Disorders of the Endocrine System

Hyperpituitarism

Data Base

A Etiology and pathophysiology

1. Excessive concentration of pituitary hormones (e.g., GH, ACTH, PRL) in the blood, glandular over activity, an adenoma, or changes in the anterior lobe of the pituitary gland
2. Classification of GH overproduction
 - a. Gigantism: generalized increase in size, especially in children; involves long bones
 - b. Acromegaly: occurs after epiphyseal closing, with subsequent enlargement of cartilage, bone, and soft tissues of body
3. Cushing syndrome: overproduction of ACTH

B Clinical findings

1. Subjective: headaches, depression, weakness
2. Objective
 - a. Increased soft tissue and bone thickness
 - b. Facial features become coarse and heavy, with enlargement of lower jaw, lips, and tongue
 - c. Enlarged hands and feet
 - d. Increased GH, ACTH, or PRL
 - e. X-ray examination of long bones, skull (sella turcica area), and jaw demonstrates change in structure
 - f. Amenorrhea
 - g. Clinical findings of increased intracranial pressure (e.g., vomiting, papilledema, focal neurologic deficits)
 - h. Diabetes and hyperthyroidism may result

C Therapeutic interventions

1. Medications
 - a. Somatostatin analog: octreotide (Sandostatin)
 - b. Dopamine agonist: bromocriptine (Parlodel)
 - c. Pegvisomant (Somavert)
 - d. Medications to relieve clinical findings of other endocrine imbalances resulting from pituitary hyperfunction
2. Surgical intervention: hypophysectomy
3. Irradiation of pituitary gland

Nursing Care of Clients with Hyperpituitarism

Assessment/Analysis

1. Changes in energy level, sexual function, and menstrual patterns; signs of increased intracranial pressure
2. Face, hands, and feet for thickening, enlargement; changes in the size of hat, gloves, rings, or shoes
3. Dysphagia or voice changes
4. Presence of hypogonadism as a result of hyperprolactinemia

5. Reaction to changes in physical appearance and sexual function

Planning/Implementation

1. Help to accept altered body image that is irreversible
2. Assist family to understand what client is experiencing
3. Help to recognize that the need for medical supervision will be life-long
4. Help to understand the basis for the change in sexual functioning
5. Encourage to express feelings
6. Teach self-care after a hypophysectomy
 - a. Encourage to follow the established medical regimen, particularly hormone replacement
 - b. Limit stressful situations
 - c. Protect self from infection
7. Provide care after intracranial surgery
 - a. Perform neurologic assessments; monitor for increased intracranial pressure
 - b. Monitor I&O and daily weight to identify complication of diabetes insipidus
 - c. Assess clear nasal drainage for glucose to determine presence of cerebrospinal fluid (CSF); CSF will test positive for glucose
 - d. Encourage deep breathing, but not coughing
 - e. Institute measures to prevent constipation because straining increases intracranial pressure
 - f. Maintain in no lower than semi-Fowler position

Evaluation/Outcomes

1. Verbalizes an improved body image
2. Reports satisfying sexual functioning
3. Continues medical regimen and supervision

Hypopituitarism

Data Base

A Etiology and pathophysiology

1. Deficiency of one or more anterior pituitary hormones
2. Total absence of pituitary hormones referred to as panhypopituitarism (Simmonds disease)
3. Occurs with destruction of anterior lobe of pituitary by trauma, tumor, or hemorrhage

B Clinical findings (vary with target organs affected)

1. Subjective: lethargy; loss of strength and libido; decreased tolerance for cold
2. Objective
 - a. Decreased temperature
 - b. Postural hypotension
 - c. Hypoglycemia
 - d. Decreased levels of GH, ACTH, TSH, FSH, and LH
 - e. Sterility; loss of secondary sexual characteristics
 - f. Visual disturbances if tumor impinges on optic nerve

C Therapeutic interventions

1. Hormone replacement

2. Surgery if tumor is present

Nursing Care of Clients with Hypopituitarism

Assessment/Analysis

1. Baseline vital signs
2. Sexuality (e.g., loss of libido; painful intercourse; inability to maintain an erection)
3. Past and present menstrual patterns
4. Visual acuity
5. Loss of secondary sexual characteristics
6. Activity tolerance

Planning/Implementation

1. Monitor effects of hormone replacement therapy
2. Discuss importance of adhering to medical regimen on long-term basis
3. Allow ample time to verbalize feelings regarding long-term nature of disease and impact on quality of daily life
4. Provide adequate rest periods

Evaluation/Outcomes

1. Adheres to medical regimen
2. Expresses positive feelings of body image
3. Establishes satisfying sexual functioning

Diabetes Insipidus

Data Base

A Etiology and pathophysiology

1. Deficient antidiuretic hormone (ADH) by posterior pituitary gland, decreasing reabsorption of water in nephron tubules; may be familial, idiopathic, or secondary to trauma, surgery, tumors, infections, or autoimmune disorders
2. Neurogenic diabetes insipidus: renal tubular defect resulting in decreased water absorption; results in impaired renal concentrating ability; may be familial or result from renal disorders, primary aldosteronism, or excessive water intake (primary polydipsia)

B Clinical findings

1. Subjective: polydipsia, craving for cold water
2. Objective
 - a. Polyuria (5 to 25 L/24 hr); polydipsia
 - b. Dilute urine; specific gravity 1.001 to 1.005 or less; osmolality 50 to 200 mOsm/kg
 - c. Increased serum sodium level and plasma osmolality
 - d. Clinical findings of dehydration (e.g., poor skin turgor, dry mucous membranes, elevated temperature, hypotension) because of excessive water loss

C Therapeutic interventions

1. Promote reabsorption of water by action on renal tubular epithelium: desmopressin (DDAVP,

Stimate)

2. Potentiate available antidiuretic hormone secretion: chlorPROPAMIDE (Diabinese)
3. Antidiuretic effect: carbamazepine (Carbatrol, Tegretol); unlabeled use
4. Treatment of underlying cause
5. Hypophysectomy

Nursing Care of Clients with Diabetes Insipidus

Assessment/Analysis

1. Intake and output, weight, urine, specific gravity, and urine and serum osmolality to establish baseline data
2. Serum electrolyte levels
3. Dryness of skin and mucous membranes

Planning/Implementation

1. Monitor fluid and electrolyte status (e.g., intake and output, daily weight, skin turgor, electrolyte levels)
2. Replace fluids as ordered
3. Monitor response to ADH replacement
4. Instruct client
 - a. Ensure long-term medical supervision
 - b. Obtain weight daily
 - c. Wear medical alert bracelet
 - d. Monitor for signs of polyuria; water retention and hyponatremia (overdosage of ADH medication may cause syndrome of inappropriate antidiuretic hormone [SIADH])
 - e. Avoid alcohol because it suppresses ADH secretion
 - f. Encourage oral fluids
 - g. Monitor urine specific gravity

Evaluation/Outcomes

1. Maintains fluid balance
2. States clinical findings if overmedication or undermedication with ADH replacement occurs

Syndrome of Inappropriate Antidiuretic Hormone Secretion

Data Base

A Etiology and pathophysiology

1. Excessive ADH secretion leads to fluid retention and dilutional hyponatremia
2. Caused by head trauma, tumors, or infection; malignant tumor cells may produce ADH

B Clinical findings

1. Subjective: anorexia, nausea, fatigue, headache
2. Objective
 - a. Reduced urine output; hyponatremia
 - b. Decreased deep tendon reflexes

- c. Change in mental status, muscle twitching, seizures, coma
- d. Clinical findings of fluid retention/fluid overload (e.g., weight gain, jugular vein distention, crackles on auscultation of lung, amber urine)
- e. Decreased serum sodium level and osmolality

C Therapeutic interventions

1. Fluid restriction; hypertonic parenteral fluids
2. Vasopressin receptor antagonists: conivaptan (Vaprisol), and tolvaptan (Samsca) for treatment of euvolemic-hyponatremia; administered only in hospital environment; used cautiously with clients with alcoholism and/or malnutrition
3. Treatment of symptoms (e.g., seizures, dysrhythmias)

Nursing Care of Clients with Syndrome of Inappropriate Antidiuretic Hormone Secretion

Assessment/Analysis

1. History of malignancy, infection, or increased intracranial pressure
2. I&O, daily weight, vital signs
3. Serum and urine for sodium concentration and osmolality
4. Neurologic evaluations

Planning/Implementation

1. Monitor fluid and electrolyte status; weigh daily
2. Monitor for altered level of consciousness
3. Restrict fluid intake; administer hypertonic intravenous solutions (usually 3% sodium chloride) as ordered
4. Institute seizure precautions and protect from injury
5. Provide supportive measures for related disorders

Evaluation/Outcomes

1. Maintains fluid balance
2. Remains seizure-free

Hyperthyroidism (Graves Disease, Thyrotoxicosis)

Data Base

A Etiology and pathophysiology

1. Excessive concentration of thyroid hormones in blood as result of thyroid disease or increased levels of TSH; leads to hypermetabolic state
2. Autoimmune process of impaired regulation; mediated by immunoglobulin G (IgG) antibody that activates TSH receptors on surface of thyroid cells; associated with other autoimmune disorders
3. Gland may enlarge (goiter) as a result of decreased iodine intake; there may or may not be an increase in secretion of thyroid hormones
4. Hypothyroidism may result from therapy (e.g., radioactive iodine, thyroidectomy); treated with levothyroxine (Synthroid)

B Clinical findings

1. Subjective: polyphagia, emotional lability, apprehension, heat intolerance

2. Objective

- Weight loss, loose stools, tremors, hyperactive reflexes, restlessness, diaphoresis, insomnia, exophthalmos, corneal ulceration, increased systolic blood pressure, temperature, pulse rate, and respiration
- Decreased TSH levels if thyroid disorder; increased TSH levels if secondary to a pituitary disorder
- Graves disease generally involves hyperthyroidism, goiter, and exophthalmos
- Increased T_3 , T_4 , radioactive iodine uptake (RAI) test, long-acting thyroid stimulator (LATS)
- Thyrotoxic crisis (thyroid storm): hypermetabolism that may lead to heart failure; usually precipitated by a severe physiologic or psychologic stress (e.g., manipulation of gland during thyroid surgery, radioactive iodine therapy) that releases thyroid hormone into bloodstream

C Therapeutic interventions

- Antithyroid medications: propylthiouracil (PTU), methimazole (Tapazole); block synthesis of thyroid hormone
- Antithyroid medications: iodine (potassium iodide, SSKI); reduce vascularity of thyroid gland
- Radioactive iodine: ^{131}I (atomic cocktail); destroys thyroid gland cells, thereby decreasing production of thyroid hormone
- Medications to relieve clinical findings related to increased metabolic rate: adrenergic blocking agents
- Graves' ophthalmopathy: prednisone to reduce inflammation behind the eye
- Well-balanced, high-calorie diet with vitamin and mineral supplements
- Surgical intervention: subtotal or total thyroidectomy; orbital decompression to reduce abnormal protrusion of the eyeball (exophthalmos); various procedures to correct vision or protect eye

Nursing Care of Clients with Hyperthyroidism

Assessment/Analysis

- History of weight loss, diarrhea, insomnia, emotional lability, palpitations, heat intolerance
- Eyes for exophthalmos, tearing, sensitivity to light (photophobia)
- Neck palpation for enlarged thyroid gland
- Weight and vital signs to establish baseline

Planning/Implementation

- Establish climate for uninterrupted rest (e.g., decreased stimulation, back rub, prescribed medications); provide relaxing, calm environment
- Protect from stress-producing situations
- Keep room cool
- Provide diet high in calories, proteins, and carbohydrates with supplemental feedings between meals and at bedtime; vitamin and mineral supplements as prescribed
- Understand that client is upset by lability of mood and exaggerated response to environmental stimuli; explain disease processes involved; avoid rushing and surprises; prepare client for procedures

6. Protect eyes (e.g., eye drops, patches, tinted eyeglasses, elevation of head of bed, cool compresses to eyes)
7. Provide care before thyroidectomy
 - a. Teach importance of taking prescribed antithyroid medications to achieve euthyroid state
 - b. Teach deep-breathing exercises and use of hands to support neck to avoid strain on suture line after surgery
8. Provide care after thyroidectomy
 - a. Observe for clinical findings of respiratory distress and laryngeal stridor caused by tracheal edema; explain a sore throat when swallowing is expected; keep tracheotomy set available
 - b. Assess for hoarseness which may result from endotracheal intubation or laryngeal nerve damage
 - c. Maintain in semi-Fowler position to reduce edema at surgical site
 - d. Observe for hemorrhage at operative site and back of neck and shoulders
 - e. Observe for thyrotoxicosis (e.g., high temperature, tachycardia, irritability, delirium, coma)
 - f. Notify health care provider immediately if clinical findings of thyrotoxicosis occur; administer propranolol (Inderal), iodine, propylthiouracil (PTU), and steroids as prescribed
 - g. Observe for signs of tetany (e.g., numbness or twitching of extremities, spasm of glottis, positive Chvostek and Trousseau signs) because hypocalcemia can occur after accidental trauma or removal of parathyroid glands; give calcium gluconate or calcium chloride (IV) as prescribed if tetany occurs
9. Teach regarding radioactive iodine therapy
 - a. Client is mildly radioactive and should follow radiation precautions as advised (usually 7 days)
 - (1) Increase clear fluid intake
 - (2) Void hourly during first 8 to 12 hours
 - (3) Flush toilet twice after use
 - (4) Ensure thorough hand hygiene
 - (5) Avoid contact with children; avoid close prolonged contact or sleeping with another person
 - (6) Do not share dishes, utensils, food, or drink with another; avoid kissing and sexual contact until permitted
 - b. Hospitalization in isolation may be required for several days if larger dose is used
 - c. Clinical findings of hyperthyroidism may take 3 to 4 weeks to subside
10. Teach importance of taking antithyroid medications regularly and to observe for adverse effects
 - a. Hypothyroidism as result of treatment
 - b. Hyperthyroidism as result of thyrotoxicosis or overmedication with thyroid hormone replacement therapy
11. Instruct client to comply with periodic T_3 , T_4 , TSH studies to monitor hormone levels

Evaluation/Outcomes

1. Maintains ideal body weight
2. Establishes regular routine of activity and rest

Hypothyroidism

Data Base

A Etiology and pathophysiology

1. Deficient hormone synthesis
2. Congenital thyroid defects
3. Prenatal and postnatal iodine deficiency
4. Autoimmune diseases (e.g., Hashimoto disease, sarcoidosis)
5. Classified according to time of life when it occurs
 - a. Cretinism: hypothyroidism found at birth
 - b. Lymphocytic thyroiditis: most often after 6 years of age and peaks during adolescence; generally self-limiting
 - c. Hypothyroidism without myxedema: mild degree of thyroid failure in older children and adults; more common as one ages
 - d. Hypothyroidism with myxedema: severe degree of thyroid failure in older individuals
6. Decreased levels of thyroid hormones (T_3 and T_4) slow basal metabolic rate (BMR); decreased BMR affects lipid metabolism, increases cholesterol and triglyceride levels, and affects RBC production, leading to anemia and folate deficiency
7. Myxedema coma is most severe degree of hypothyroidism; exhibited by hypothermia, bradycardia, hypoventilation, progressive loss of consciousness; precipitated by severe physiologic stress; potentially fatal endocrine emergency

B Clinical findings

1. Subjective: dull mental processes, apathy, lethargy, loss of libido, intolerance to cold, anorexia
2. Objective
 - a. Lack of facial expression; weight gain; constipation; subnormal temperature and pulse rate; dry, brittle hair and nails; pale, dry, coarse skin; enlarged tongue; drooling; hoarseness; thinning of lateral eyebrows; loss of scalp, axilla, and pubic hair; diminished hearing; anemia; periorbital edema
 - b. Decreased T_3 and T_4 levels
 - c. TSH stimulation test: increased in primary hypothyroidism; delayed or poor response with secondary hypothyroidism
 - d. Decreased BMR and radioactive iodine uptake

C Therapeutic interventions

1. Thyroid hormones: levothyroxine (Synthroid); liothyronine (Cytomel); liotrix (Thyrolar)
2. Maintenance of vital functions
3. Screening every 5 years after age 35 for thyroid hormone status

Nursing Care of Clients with Hypothyroidism

Assessment/Analysis

1. History that may have contributed to condition
2. Activity tolerance, bowel elimination, sleeping patterns, sexual function, and intolerance to cold
3. Skin and hair for characteristic changes
4. Weight and vital signs to establish baseline
5. Clinical findings of anemia, atherosclerosis, or arthritis

Planning/Implementation

1. Have patience with lethargic client

2. Explain that activity tolerance and mental functioning will improve with therapy; explain importance of continued hormone replacement throughout life
3. Review clinical findings of hypothyroidism and hyperthyroidism to help client identify clinical findings of undermedication or overmedication
4. Instruct client
 - a. Avoid OTC drugs unless approved by health care provider; have medical supervision when taking opioid analgesics and tranquilizers
 - b. Modify outdoor activities in cold weather; wear adequate clothing because of sensitivity to cold environments
 - c. Use moisturizers for dry skin
 - d. Restrict calories, cholesterol, and fat in diet to prevent weight gain
 - e. Avoid constipation (e.g., increase fluid intake and fiber in diet)
5. Teach to seek medical supervision regularly and when clinical findings of illness develop; teach client and family clinical findings of complications
 - a. Angina pectoris: chest pain, indigestion
 - b. Cardiac failure: dyspnea, palpitations
 - c. Myxedema coma: weakness, syncope, slow pulse rate, subnormal temperature, slow respirations, lethargy

Evaluation/Outcomes

1. Completes activities of daily living (ADLs) without fatigue
2. Adheres to dietary, exercise, and medication regimen
3. Establishes regular pattern of bowel elimination

Hyperparathyroidism

Data Base

A Etiology and pathophysiology

1. Hyperfunction of parathyroid glands; usually caused by adenoma; hypertrophy and hyperplasia of glands
2. Increased reabsorption of calcium and excretion of phosphorus by kidneys
3. Demineralization of bone occurs if dietary intake is not enough to meet calcium levels demanded by high levels of parathormone

B Clinical findings

1. Subjective: apathy, fatigue, muscular weakness, anorexia, nausea, emotional irritability, deep bone pain (if demineralization occurs), backache
2. Objective
 - a. Bone cysts, pathologic fractures
 - b. Renal damage, pyelonephritis, polyuria, renal calculi composed of calcium
 - c. Vomiting, constipation
 - d. Cardiac dysrhythmias
 - e. Increased serum calcium and parathormone levels; decreased serum phosphorus level

C Therapeutic interventions

1. Surgical excision of parathyroid tumor

2. Restriction of dietary calcium intake
3. Furosemide (Lasix) to increase renal excretion of calcium
4. Pharmacology to decrease calcium level: gallium (Ganite), calcitonin (Miacalcin)
5. Calcimimetics: cinacalcet (Sensipar) tricks parathyroid glands into releasing less parathyroid hormone
6. Hormone replacement therapy for postmenopausal women with osteoporosis; may help bones retain calcium
7. Bisphosphonates: alendronate (Fosamax), ibandronate (Boniva), risedronate (Actonel) help prevent loss of calcium from bones
8. After parathyroidectomy for parathyroid hyperplasia: autotransplant of a segment of parathyroid gland is placed in forearm or neck to prevent hypoparathyroidism

Nursing Care of Clients with Hyperparathyroidism

Assessment/Analysis

1. GI disturbance or bone pain
2. History of renal calculi or fractures
3. Clinical findings of renal calculi (e.g., hematuria, flank pain)
4. Use of thiazide diuretics or vitamin D, which can increase serum calcium level
5. Serum calcium and phosphorus levels
6. Baseline vital signs, particularly heart rate and rhythm

Planning/Implementation

1. Strain urine for calculi
2. Encourage fluid intake
3. Assist with ambulation because weight-bearing helps prevent demineralization of bone
4. Monitor I&O
5. Instruct client
 - a. Avoid high impact activities to prevent fractures
 - b. Encourage foods with fiber to limit constipation
 - c. Limit intake of foods high in calcium, especially milk products
6. Provide cardiac monitoring if hypercalcemia is severe
7. Provide care after a parathyroidectomy: same nursing care as care after a thyroidectomy (see [Nursing Care under Hyperthyroidism](#))

Evaluation/Outcomes

1. Maintains skeletal integrity
2. Remains free of urinary complications

Hypoparathyroidism

Data Base

A Etiology and pathophysiology

1. Insufficient amount of parathormone after thyroid surgery, parathyroid surgery, or radiation

therapy of neck; idiopathic hypoparathyroidism is rare

2. As level of parathormone drops, serum calcium level also drops, causing clinical findings of tetany; concomitant rise in serum phosphate level occurs

B Clinical findings

1. Subjective: photophobia, muscle cramps, irritability, dyspnea, tingling of extremities
2. Objective
 - a. Trousseau sign: carpopedal spasm
 - b. Chvostek sign: contraction of the facial muscle in response to tapping near the angle of the jaw
 - c. Decreased serum calcium and parathormone levels; elevated serum phosphate level
 - d. Stridor and wheezing from laryngeal spasm; tremors; seizures
 - e. X-ray examination reveals increased bone density
 - f. Cardiac dysrhythmias, alkalosis, cataracts if disease is chronic

C Therapeutic interventions

1. Calcium chloride or calcium gluconate given IV for emergency treatment of overt tetany
2. Calcium salts administered orally: calcium carbonate (TUMS, Cal-Plus, Caltrate, Os-Cal 500), calcium gluconate (Kalcinate); calcium citrate (Citracal, Cal-Citrate 250)
3. Vitamin D: dihydrotachysterol (Hytakerol), ergocalciferol (Calciferol) to increase absorption of calcium from the GI tract
4. Parathormone injections
5. High-calcium, low-phosphate diet
6. Aluminum hydroxide to decrease absorption of phosphorus from the GI tract

Nursing Care of Clients with Hypoparathyroidism

Assessment/Analysis

1. History of muscle spasms, numbness or tingling of extremities, visual disturbances, or seizures
2. Neuromuscular irritability
3. Status of respiratory functioning
4. Heart rate and rhythm
5. Serum calcium and phosphate levels

Planning/Implementation

1. Observe for respiratory distress; have emergency equipment available for tracheostomy and mechanical ventilation
2. Maintain seizure precautions
3. Reduce environmental stimuli
4. Provide dietary instruction (e.g., elimination of milk, cheese, and egg yolks because of high phosphorus content; encourage inclusion of dietary sources of calcium that are low in phosphorus)
5. Teach clinical findings of hypocalcemia and hypercalcemia; instruct to contact health care provider immediately if either occurs

Evaluation/Outcomes

1. Remains free from neuromuscular irritability
2. Maintains respiratory functioning within acceptable limits

Diabetes Mellitus

Data Base

A Etiology and pathophysiology

1. Hyperglycemia occurs with insufficient secretion of insulin, peripheral cells become insulin-resistant, and/or hepatic glucose production is increased
2. Body attempts to excrete excess glucose via kidneys; osmotic force is created because of excess glucose in urine, resulting in polyuria
3. If body is unable to use carbohydrates for cellular function fat is oxidized as an energy source; oxidation of fats produces ketone bodies
4. Risk factors
 - a. Type 1: genetic predisposition; environmental factors (e.g., toxins, viruses); age younger than 30 years
 - b. Type 2: family history, obesity, usually age 45 years or older, history of gestational diabetes, increasing incidence in childhood and adolescence
5. Classification
 - a. Type 1: formerly known as insulin-dependent diabetes mellitus (IDDM); destruction of beta cells leads to inability to produce insulin; requires exogenous insulin
 - b. Type 2: formerly known as non-insulin-dependent diabetes mellitus (NIDDM); has gradual onset and pancreas produces some insulin so that ketoacidosis is unlikely; may be controlled with adherence to diet and exercise program that promotes maintenance of desirable weight; accounts for 90% of diabetes
 - c. Gestational: detected during 24 to 28 weeks' gestation; glucose levels generally are normal 6 weeks postpartum; more likely to develop type 2 diabetes 5 to 10 years after birth of fetus; neonate exhibits macrosomia, hypoglycemia, hypocalcemia, and hyperbilirubinemia (see [Diabetes Mellitus in Chapter 26](#))
 - d. Diabetes mellitus associated with other conditions or syndromes (formerly known as secondary diabetes): associated with glucocorticoid medication and conditions such as Cushing syndrome and pancreatic disease
 - e. Impaired glucose tolerance: high glucose levels but not sufficiently high to be diagnostic for diabetes; prediabetes—fasting serum glucose level of 100 to 125 mg/dL
6. Acute increases in serum glucose levels: diabetic ketoacidosis (DKA) and hyperglycemic hyperosmolar nonketotic syndrome (HHNS) constitute medical emergencies
 - a. Causes: insufficient insulin, major stresses (e.g., infection, surgery, trauma, pregnancy, emotional turmoil, nausea and vomiting); drugs (steroids); glucose load
 - b. Pathophysiology
 - (1) DKA is associated with type 1; with inadequate insulin to support basal needs, proteins and fats are used for energy; ketones are excreted via urine and breathing; dehydration and electrolyte imbalances occur; serum glucose level 300 to 600 mg/dL
 - (2) HHNS is associated with type 2; hyperglycemia increases intravascular osmotic pressure, leading to polyuria and cellular dehydration; serum glucose level 500 to 900 mg/dL
7. Acute decrease in serum glucose level: hypoglycemia
 - a. Causes: excess insulin or oral antidiabetic medications; too little food or too much exercise when receiving antidiabetic medications

b. Pathophysiology: excessive insulin lowers serum glucose level as glucose is carried into cells; decreased food intake in relation to prescribed antidiabetic medications results in hypoglycemia; excessive exercise uses glucose for metabolism, decreasing serum glucose level

8. Long-term complications: all types subject to same complications; microangiopathy (e.g., retinopathy, nephropathy), macroangiopathy (e.g., peripheral vascular diseases, arteriosclerosis, coronary heart disease, cerebral vascular disease), neuropathy, skin problems (e.g., cellulitis, fungal infections, boils), periodontal disease (Figure 9-2: Long-term complications of diabetes mellitus)

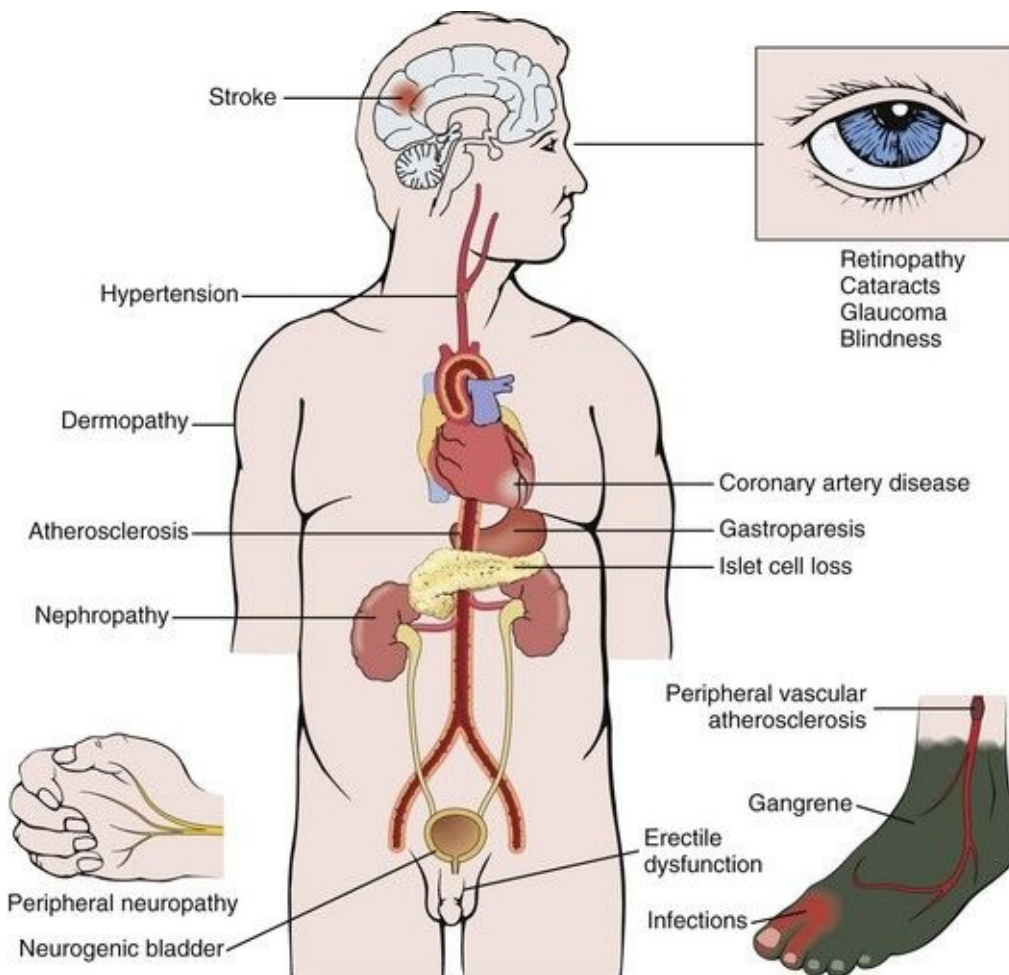


FIGURE 9-2 Long-term complications of diabetes mellitus. (From Kumar V et al: *Robbins and Cotran pathologic basis of disease*, ed 8, Philadelphia, 2010, Saunders.)

B Clinical findings

1. Subjective: polydipsia; polyphagia; fatigue; blurred vision (retinopathy; osmotic changes); peripheral neuropathy

2. Objective

a. Polyuria; weight loss; glycosuria; peripheral vascular changes; ulcers; delayed wound healing; infection; gangrene

b. Hyperglycemia: detected by casual plasma glucose measurement of 200 mg/dL or higher, fasting plasma glucose level of 126 mg/dL or higher, and 2-hour postload glucose level of 200 mg/dL or higher; monitored by hemoglobin A_{1c} (Hb A_{1c}, glycosylated hemoglobin) measurement, which reflects average glucose level over preceding 2 to 3 months and should

not exceed 7%

3. DKA and HHNS

- a. Hyperglycemia, glycosuria, polyuria
- b. Dehydration (e.g., flushed, hot, dry skin; decreased skin turgor [tenting]); hyperosmolar blood; hypotension; tachycardia; thirst; headache; confusion; drowsiness
- c. Metabolic acidosis (DKA only): Kussmaul respirations as body attempts to blow off carbon dioxide; ketonuria, sweet breath odor, anorexia, nausea, vomiting, decreased serum pH, decreased PCO_2 , decreased HCO_3

4. Hypoglycemia

- a. Insulin shock or reaction because of excessive insulin, deficient glucose, or excessive exercise
- b. Clinical findings result from sympathetic nervous system (SNS) stimulation or reduced cerebral glucose supply
- c. CNS effects (e.g., mental confusion, blurred vision, diplopia, slurred speech, fatigue, seizures)
- d. SNS (adrenergic) effects (e.g., nervousness, weakness, pallor, diaphoresis, tremor, tachycardia, hunger)

C Therapeutic interventions

1. Lifestyle changes

- a. Weight control: obesity leads to insulin resistance that can be reversed by weight loss
- b. Regular exercise: increases insulin sensitivity; brisk walking, swimming, and bicycling are recommended
- c. Diet: current recommendations

- (1) Caloric control to maintain ideal body weight
- (2) 50% to 60% of caloric intake from carbohydrates with emphasis on complex carbohydrates, high-fiber foods rich in water-soluble fiber (e.g., oat bran, peas, all forms of beans, pectin-rich fruits and vegetables); avoidance of foods with high glycemic index (glycemic index refers to effect of particular foods on blood glucose level)
- (3) Protein: consistent with the U.S. Dietary Guidelines, usually 60 to 85 g; 12% to 20% of daily calories
- (4) Fat intake not to exceed 30% of daily calories (70 to 90 g/day); replace saturated fats with monounsaturated and polyunsaturated fats
- (5) Dietary ratio: carbohydrate to protein to fat ratio usually about 5 : 1 : 2
- (6) Distribute food evenly throughout day in three or four meals, with snacks added between meals and at bedtime as needed in accordance with total food allowance and therapy (insulin or oral hypoglycemics)
- (7) Consistent, regulated food intake is basic to disease control with consistent exercise, medication, and glucose monitoring
- (8) Basic tools for planning diet: food composition tables showing nutrient content and glycemic index of commonly used foods

d. Self-monitoring of blood glucose (SMBG) level

- (1) Blood glucose monitoring: finger stick—a drop of blood from the fingertip is put on special reagent strip, which is read by glucose monitor
- (2) Interstitial glucose monitoring: continuous interstitial testing (via biosensor inserted subcutaneously) or intermittent transdermal testing (via interstitial fluid drawn through skin and tested with electrochemical sensor)

e. Alternate site testing: forearm, upper arm, abdomen, thigh, base of thumb; rests fingertips; alternate sites have less capillary blood flow than fingertips and may not reflect glucose levels that rapidly rise and fall; rotate site within one area consistently unless otherwise instructed because results at various areas differ

- (1) Use fingertip if hypoglycemia is expected or if client is experiencing rapid change in glucose level
- (2) Rub forearm vigorously until warm before testing
- (3) Use monitor designed for alternate site testing
- (4) Avoid use in arm on side of mastectomy; results may be lower; reduces risk of infection and lymphedema

2. Insulin administration

a. Adjusted after considering physical and emotional stresses; a specific type of insulin and schedule are prescribed; aggressive insulin therapy regimens are gold standard of care

b. Insulin pump

- (1) External battery-operated device delivers insulin through needle inserted into subcutaneous tissue
- (2) Small (basal) doses of regular insulin programmed into computer and delivered every few minutes; bolus doses (extra preset amounts) delivered before meals
- (3) Improves glucose control for clients with wide variations in insulin need as result of irregular schedules, pregnancy, or growth requirements
- (4) Prescribed amount of insulin for 24 hours plus priming is drawn into syringe
- (5) Administration set is primed and needle inserted aseptically, usually into subcutaneous tissue of abdomen

c. Jet injectors: deliver medication through skin under pressure

3. Oral antidiabetics for certain clients with type 2 diabetes who cannot be managed with lifestyle changes alone; must have some functioning beta cells in islets of Langerhans

4. Other therapies: pancreatic islet cell grafts, pancreas transplants, implantable insulin pumps that continually monitor blood glucose level and release insulin accordingly, cyclosporin therapy to prevent beta cell destruction in type 1 diabetes

5. Management of DKA and HHNS

- a. IV to provide fluid replacement and direct access to circulatory system, and indwelling urinary catheter to monitor urine output
- b. Titration of IV regular insulin according to serum glucose levels
- c. Replacement of lost electrolytes, particularly sodium and potassium, using blood studies to determine dosage; when insulin is administered potassium reenters the cell, resulting in hypokalemia
- d. Cardiac monitoring if circulatory collapse is imminent or dysrhythmias associated with electrolyte imbalance occur
- e. Acidosis treated according to cause
- f. Monitoring for hypoglycemia as result of treatment

6. Management of hypoglycemia (insulin shock or reaction)

- a. 15 g of carbohydrate (e.g., glucose gel, 3 glucose tablets, 4 to 6 ounces of juice or soda, hard candy, 1 cup milk, $\frac{1}{2}$ banana, 6 Saltine crackers, 1 tablespoon of sugar or honey)
- b. Insertion of an intravenous line for circulatory access if hemodynamically unstable
- c. Administration of 50% dextrose solution for profound hypoglycemia

d. If unconscious, glucagon injection to stimulate glycogenolysis

7. Management of Somogyi effect

a. Insulin-induced hypoglycemia rebounds to hyperglycemia

b. Epinephrine and glucagon are released in response to hypoglycemia

c. Causes mobilization of liver's stored glucose, which induces hyperglycemia

d. Treated by gradually lowering insulin dosage while monitoring blood glucose level, particularly during night when hypoglycemia is most likely to occur

8. Management of Dawn phenomenon

a. Early-morning hyperglycemia attributed to increased secretion of GH

b. Treated by delaying administration of PM insulin or increased dosage

9. Acetylcysteine therapy when contrast radiologic studies are performed to prevent contrast medium nephrotoxicity

Nursing Care of Clients with Diabetes Mellitus

Assessment/Analysis

1. Familial history of diabetes mellitus

2. Cardinal signs of polyuria, polydipsia, and polyphagia

3. History of fatigue, visual changes, impaired wound healing, urinary tract infections, fungal infections, and altered sensation

4. Blood glucose and Hb A_{1c} levels

5. Visual acuity and retinal changes

6. Vital signs and weight for baseline data

7. Urine for acetone and microalbumin levels

8. Renal function

9. Dietary and exercise patterns

Planning/Implementation

1. Assist client and family to understand disease process

2. Encourage to express feelings about illness and the necessary changes in lifestyle and self-image

3. Help with administration of medication until self-administration is both physically and psychologically possible

4. Assist in recognizing need for activities and diet that promote and maintain ideal body weight

5. Monitor serum glucose level with routine finger sticks

6. Test urine for ketones if glucose level is high; obtain double-voided specimen or specimen from port of retention catheter using sterile technique

7. Teach client and family

a. Use blood glucose monitoring system to test blood glucose level; finger sticks are most reliable; continuous glucose monitoring systems supplement but should not replace finger stick; test blood glucose monitor for accuracy

b. Test urine for ketones when blood glucose level is high

c. Avoid infection

d. Seek professional foot care to cut toenails; provide foot care daily (e.g., wash, dry, and lubricate feet but not between toes; inspect feet for irritation; use mirror for soles and heels); protect feet

(e.g., wear socks and well-fitting, closed shoes; avoid OTC corn medications; do not apply heating pads, ice, or tape to the feet); report problems immediately

- e. Administer insulin using sterile technique; rotate injection sites (abdomen preferred) within an anatomic location if using nonhuman form of insulin (prevents lipodystrophy); measure dosage, noting types, strengths of insulin, and peak action periods; teach use of insulin pump if ordered (e.g., how to change subcutaneous needle and tubing every 3 days)
 - f. Use food tables when planning dietary intake
 - g. Avoid tight shoes and smoking, which will constrict circulation
 - h. Identify clinical findings of impending hypoglycemia (insulin shock, reaction); carry a carbohydrate source
 - i. Identify clinical findings of impending hyperglycemia (DKA, HHNS); carry insulin supplies and glucose monitoring equipment
8. Encourage to continue medical supervision, including visits to an eye care specialist and podiatrist
 9. Encourage follow-up nutritional counseling
 10. Screen client regularly for microalbuminuria to assess kidney function

Evaluation/Outcomes

1. Adheres to medical regimen of diet, exercise, and medications
2. Maintains blood glucose and Hb A_{1c} levels within an expected range
3. Verbalizes and demonstrates skills related to self-care
4. Remains free of complications

Primary Aldosteronism (Conn Syndrome)

Data Base

A Etiology and pathophysiology

1. Excessive secretion of aldosterone, a mineralocorticoid, secreted in response to renin-angiotensin system and ACTH; causes kidneys to retain sodium and excrete potassium and hydrogen
2. Usually caused by adenoma of adrenal cortex; also may be caused by hyperplasia or carcinoma

B Clinical findings

1. Subjective: muscle weakness and cramping, polydipsia, polyuria, paresthesia
2. Objective: hypertension, hypokalemia, hypernatremia, alkalosis, elevated urinary aldosterone levels, renal damage causing proteinuria and decreased urine specific gravity

C Therapeutic interventions

1. Surgical removal of adrenal tumor
2. Potassium-sparing diuretic to control blood pressure; e.g., spironolactone (Aldactone)
3. Aldosterone antagonist to control blood pressure; e.g., eplerenone (Inspra)
4. Calcium channel blockers to reduce production of aldosterone
5. Thiazides to control blood pressure
6. Angiotensin-converting enzyme inhibitors (ACEIs) and angiotensin receptor blockers (ARBs) are potential treatment options
7. Bilateral adrenalectomy requires lifelong corticosteroid therapy

Nursing Care of Clients with Primary Aldosteronism

Assessment/Analysis

1. Vital signs
2. Electrolyte levels
3. I&O, urine specific gravity
4. Motor and sensory functions
5. Cardiac dysrhythmias as result of hypokalemia

Planning/Implementation

1. Regulate fluid intake
2. Encourage continued health care supervision
3. Provide care after bilateral adrenalectomy
 - a. Monitor vital signs, hemodynamic state, and blood glucose level
 - b. Administer steroids with antacid, proton pump inhibitor (PPI), or H₂-blocker to prevent GI erosion
 - c. Protect from infection and stressful situations
 - d. Explain drugs and side effects
 - e. Instruct to carry medical alert identification card
- f. Monitor fluid balance; blood pressure for hypotension
- g. Monitor for emotional upset, which may require an increase in steroid medications
4. Provide dietary instruction (e.g., encourage intake of foods high in potassium, avoidance of foods that contain sodium)

Evaluation/Outcomes

1. Maintains blood pressure at an expected level
2. Selects foods low in sodium and high in potassium
3. Performs routine ADLs without fatigue

Cushing Syndrome

Data Base

A Etiology and pathophysiology

1. Excess secretion of adrenocortical hormones
2. Caused by hyperplasia or tumor of adrenal cortex; primary lesion may be in pituitary gland, causing excess production of ACTH
3. May be precipitated by administration of excess glucocorticoids or ACTH

B Clinical findings

1. Subjective: weakness, decreased libido, mood swings, steroid psychosis
2. Objective
 - a. Obese trunk, thin arms and legs; moon face; buffalo hump; acne; hirsutism; ecchymotic areas; purple striae on breast and abdomen; amenorrhea; increased susceptibility to infections
 - b. Hypertension
 - c. Hyperglycemia, hypokalemia, elevated plasma cortisol level
 - d. Elevated levels of 17-hydroxycorticosteroids and 17-ketosteroids in urine
 - e. Osteoporosis, fractures, kyphosis
 - f. Protein wasting, which causes muscle wasting and weakness

g. Hypernatremia caused by sodium and water retention, resulting in edema and hypertension

C Therapeutic interventions

1. Reduce dosage of externally administered corticoids
2. If lesion on pituitary is causing hypersecretion of ACTH: hypophysectomy or irradiation of pituitary; radiation in small doses over 6 weeks or stereotactic radiosurgery or gamma knife radiation may be given with a single high-dose intervention; radiation with cortisol-inhibiting drugs may help recovery
3. Surgical excision of adrenal tumors (adrenalectomy)
4. Adrenal enzyme inhibitors: ketoconazole (Nizoral), mitotane (Lysodren), metyrapone (Metopirone)
5. Potassium supplements
6. High-protein diet with sodium restriction

Nursing Care of Clients with Cushing Syndrome

Assessment/Analysis

1. Baseline vital signs, weight, blood glucose level, and electrolytes
2. Physical appearance (Figure 9-3: Common characteristics of Cushing syndrome)

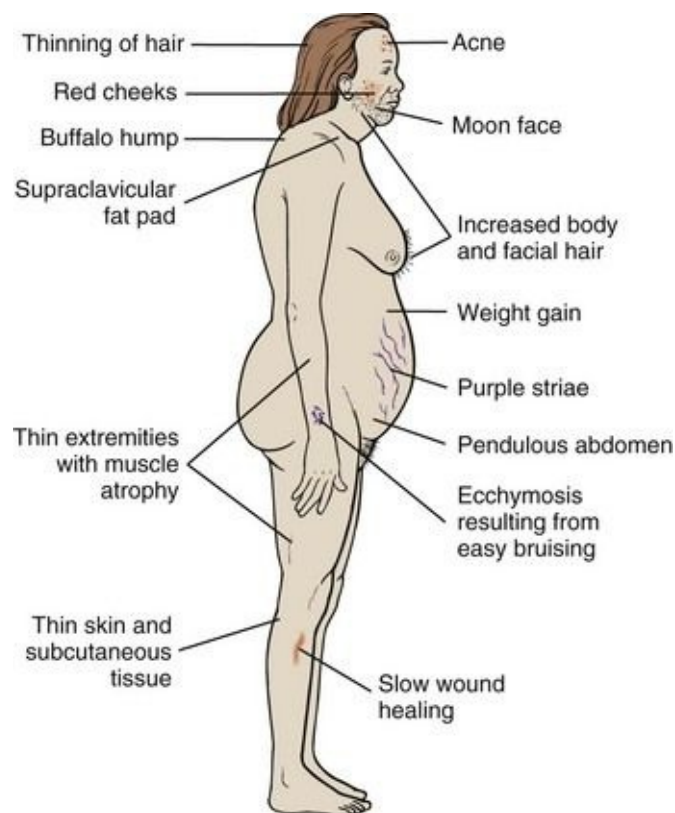


FIGURE 9-3 Common characteristics of Cushing syndrome. (From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011.)

3. Changes in coping and sexuality from history

Planning/Implementation

1. Monitor vital signs, daily weight, I&O, blood glucose level, and electrolyte level
2. Protect from exposure to infections
3. Encourage ventilation of feelings by client and spouse because changes in body image and sex drive can influence spousal support
4. Attempt to minimize stress in environment (e.g., limit visitors, explain procedures carefully)
5. Provide instruction regarding diet and supplementation; encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, legumes) to improve and maintain nutritional status and prevent drug-induced nutrient deficiencies
6. Provide care after a bilateral adrenalectomy (see [Nursing Care under Primary Aldosteronism, Nursing Care](#) in this Chapter)
7. Provide care after a hypophysectomy (see [Nursing Care under Hyperpituitarism, Nursing Care](#) in this Chapter)

Evaluation/Outcomes

1. Maintains fluid balance
2. Remains free of infection
3. Discusses feelings regarding physical changes

Addison Disease (Primary Adrenal Insufficiency)

Data Base

A Etiology and pathophysiology

1. Hyposecretion of adrenocortical hormones
2. Usually autoimmune destruction of cortex or idiopathic atrophy
3. Addisonian crisis (acute adrenal insufficiency) precipitated by stresses (e.g., pregnancy, surgery, infection, dehydration, emotional turmoil); fatal if not treated
4. Associated with endocrine disorders, sudden cessation of glucocorticoids, adrenalectomy, tuberculosis, acquired immunodeficiency syndrome (AIDS)

B Clinical findings

1. Subjective: weakness, fatigue, anorexia, nausea, lethargy
2. Objective
 - a. Increased bronze pigmentation of skin
 - b. Vomiting, diarrhea
 - c. Impaired protein anabolism resulting in emaciation and fatigue
 - d. Hypotension
 - e. Decreased levels of serum cortisol, 17-ketosteroids, and 17-hydroxysteroids; increased plasma ACTH level
 - f. Electrolyte imbalances: hyponatremia, hypoglycemia, hyperkalemia

C Therapeutic interventions

1. Replacement of hormones: glucocorticoids to correct metabolic imbalance; mineralocorticoids to correct electrolyte imbalance and hypotension
2. Additional hormone replacement during illness or stress to prevent Addisonian crisis; e.g., hydrocortisone (Cortef), fludrocortisone
3. Correction of fluid, electrolyte, and glucose imbalances

4. High-carbohydrate, high-protein diet
5. Prevention of osteoporosis, which may develop with use of steroid therapy that breaks down protein matrix in bones

Nursing Care of Clients with Addison Disease

Assessment/Analysis

1. Baseline vital signs, weight, electrolytes, and serum glucose
2. 24-hour urine specimens for diagnostic purposes (17-hydroxycorticosteroids and 17-ketosteroids)
3. Appearance of skin
4. Changes in energy or activity from history

Planning/Implementation

1. Monitor vital signs four times a day; identify increase in temperature (infection, dehydration), alterations in pulse rate and rhythm (hyperkalemia), and alterations in blood pressure
2. Monitor for clinical findings of sodium and potassium imbalance
3. Monitor I&O and weigh daily
4. Collect 24-hour urine specimen
 - a. Teach foods and medications to be avoided before test
 - b. Have client void at beginning of the 24-hour time period and discard urine
 - c. Place urine from every voiding into collection container; ensure that appropriate preservative is used and container is kept refrigerated, if necessary
 - d. Have client void at end of the 24-hour time period and place urine in container
5. Administer steroids as prescribed; give with antacid, PPI, or H₂-blocker to limit ulcerogenic factor effect
6. Prevent exposure to others who may transmit infectious disease (e.g., provide a private room to prevent contact with other clients, limit number of visitors)
7. Advise to avoid physical and emotional stress
8. Teach need for lifelong hormone replacement therapy with increased dosage during stress
9. Review clinical findings of adrenal hypofunction and hyperfunction so client can identify need for adjustment of steroid dose
10. Instruct to wear medical alert band
11. Encourage diet consistent with U.S. Dietary Goals with emphasis on diet high in nutrient-dense foods and adequate sodium
12. Administer antiemetics to prevent fluid and electrolyte loss by vomiting

Evaluation/Outcomes

1. Maintains fluid balance
2. Maintains electrolyte balance

Pheochromocytoma

Data Base

A Etiology and pathophysiology

1. Increased secretion of epinephrine and norepinephrine (catecholamines)
2. Catecholamine-secreting tumor of the adrenal medulla; usually benign
3. Familial tendency; peak incidence 25 to 50 years of age

B Clinical findings

1. Subjective: headache, visual disturbances, palpitations, anxiety, heat intolerance, psychoneurosis
2. Objective
 - a. Hypertension, postural hypotension, tachycardia, diaphoresis, tremors, cardiac dysrhythmias, hyperglycemia, dilated pupils; brain attack or blindness may occur
 - b. Increased levels of plasma and urinary catecholamines; increased vanillylmandelic acid (VMA), a product of catecholamine breakdown

C Therapeutic interventions

1. Surgical removal of tumor
2. Antihypertensives and antidysrhythmics: nitroprusside (Nitropress), propranolol (Inderal), phentolamine (Regitine)

Nursing Care of Clients with Pheochromocytoma

Assessment/Analysis

1. Blood pressures with client in upright and horizontal positions
2. Clinical findings associated with hypertension
3. 24-hour urine specimens for VMA and catecholamine studies

Planning/Implementation

1. Instruct to avoid coffee, chocolate, beer, wine, citrus fruit, bananas, and vanilla before test for VMA
2. Administer parenteral fluids and blood as ordered before and after surgery to maintain blood volume
3. Decrease environmental stimulation
4. Provide care after a bilateral adrenalectomy
 - a. Instruct regarding maintenance doses of steroids (see [Nursing Care under Primary Aldosteronism, Nursing Care](#) in this chapter)
 - b. Instruct to take antihypertensives as prescribed and to monitor blood pressure until it returns to expected range
5. Emphasize importance of continued medical supervision and screening for other family members

Evaluation/Outcomes

1. Maintains blood pressure at expected level
2. Remains free of complications of hypertension



CHAPTER 10

Nursing Care of Clients with Integumentary System Disorders

Overview

Review of Anatomy and Physiology

Functions of the Integumentary System

- A Prevents loss of body fluids
- B Protects deeper tissues from pathogenic organisms, noxious chemicals, and short-wavelength ultraviolet radiation
- C Helps regulate body temperature
- D Provides location for sensory reception of touch, pressure, temperature, pain, wetness, tickle, etc.
- E Assists in vitamin D synthesis
- F Plays excretory role

Structures of the Integumentary System

- A Epidermis (outer layer)
 - 1. Contains no blood or lymphatic vessels; nourished by diffusion from underlying dermal papillae
 - 2. Melanocytes produce melanin, which colors skin
 - 3. Exceptional epidermal regions
 - a. Conjunctiva: epidermis so thin it is transparent
 - b. Lips: epidermis very thin and highly vascular
 - 4. Protects internal structures from harm and microorganisms
- B Dermis
 - 1. Vascular fabric of collagen and elastic fibers woven for strength and flexibility
 - 2. Contains abundant touch receptors
 - 3. Provides fingerprint pattern as unique arrangement of ridges projected to epidermal surface
 - 4. Skin stretched beyond certain limits (e.g., during pregnancy) may rupture dermal collagen and elastic fibers; consequent scar tissue repair produces striae gravidarum
- C Glands
 - 1. Eccrine: sweat glands opening in pores that secrete clear fluid
 - 2. Apocrine: scent glands found in the axillary, mammary, and genital areas
 - 3. Ceruminous: wax glands in external auditory canal
 - 4. Sebaceous: small, saclike glands lacking innervation, usually forming close to hairs and opening into upper portion of hair follicle
 - 5. Mammary: milk-secreting, alveolar glands; develop to full extent only during pregnancy
- D Hair
 - 1. Approximately same number of follicles in males and females; hormones stimulate differential growth
 - 2. Arrector pili (smooth muscle) attached at one end to connective sheath in middle of hair follicle and at other end to papillary region of dermis; on contraction produces “goose bumps”

Tissue Repair

- A Inflammation
 - 1. Vascular changes: initial vasoconstriction for hemostasis; vessel walls become lined with leukocytes (margination); vasodilation and increased vessel permeability (effects of histamine

from mast cells, kinins, and prostaglandins); platelets clump and lymphatics become plugged with fibrin to wall off damaged area

2. Leukocytes leave vessels (diapedesis) and phagocytize foreign substances
3. Chronic inflammation: macrophages predominate and fibroblasts deposit collagen around each group of macrophages and foreign substances; stage of granuloma formation

B Fibroplasia

1. Epithelialization: epithelial cells of epidermis begin to cover tissue defect
2. Deep in wound, fibroblasts synthesize collagen and ground substance; process begins about fourth or fifth day and continues for 2 to 4 weeks
3. Capillaries regenerate and tissue becomes red (granulation tissue)
4. Fibrin plugs are lysed

C Scar maturation

1. Collagen fibers rearranged into stronger, more organized pattern
2. Scar remodels, gradually softens, and fades; hypertrophic scar or keloid forms if collagen synthesis exceeds breakdown
3. Contraction of wound margins begins about 5 days after injury; fibroblasts migrate into wound and assist in closing defect; may result in contractures that can be debilitating

Review of Physical Principles: Heat

A Conduction: transfer of heat from one object to another by direct contact

B Evaporation: water vapor released by skin (perspiration) cools body surface, which decreases body temperature

C Radiation: transfer of heat from one object to another without actual contact

D Convection: transfer of heat away from body by air movement

Related Pharmacology

Pediculicides/Scabicides

A Description

1. Act at the parasite's nerve cell membrane to produce death of the organism
2. Destroy parasitic arthropods
3. Available in topical preparations

B Examples: permethrin (Nix), pyrethrum extract/piperonyl butoxide (RID), lindane (Kwell)

C Major side effects: skin irritation (hypersensitivity); contact dermatitis (local irritation); hepatotoxicity and nephrotoxicity

D Nursing care

1. Inspect skin, particularly scalp, for scabies and pediculosis before and after treatment; assess for skin irritation
2. Use gown, gloves, and hair covering to prevent spread of parasitic arthropods because scabies and pediculosis are highly contagious
3. Keep linen of infected client separate to prevent reinfection of client or family
4. Avoid drug contact with eyes and mucous membranes
5. Follow manufacturer's directions on length of direct exposure to agent (e.g., leave on for 10 minutes and then wash off) and frequency of use, especially with children; explain lice can live up

to 30 days or more; avoid use during pregnancy

Antiinfectives

A Description

1. Have bactericidal effect on bacterial cell wall or alter cellular function
2. Available in topical preparations

B Examples: mafenide (Sulfamylon); silver nitrate 0.5% solution; silver sulfADIAZINE (Silvadene)

C Major side effects

1. Silver sulfADIAZINE: skin irritation; hemolysis in clients with glucose-6-phosphate dehydrogenase (G-6-PD) deficiency; may not be used in presence of renal failure
2. Mafenide: metabolic acidosis; burning sensation when first applied
3. Silver nitrate: electrolyte imbalance; brownish black discoloration of skin

D Nursing care

1. Adhere to strict surgical asepsis; cleanse and ensure débridement before application
2. Apply prescribed medications
 - a. Silver sulfADIAZINE: apply thin layer; monitor G-6-PD level before treatment
 - b. Mafenide: assess for clinical findings of acidosis
 - c. Silver nitrate: apply dressings soaked in silver nitrate; protect self from contact with drug; assess for electrolyte imbalances
 - d. Prevent contamination of topical medication container

Antipruritics

A Description

1. Inhibit sensory nerve impulse conduction at local site; exert local anesthetic effect
2. Relieve itching; promote comfort
3. Available in topical preparations

B Examples: benzocaine (Anbesol, Solarcaine), tetracaine (Pontocaine)

C Major side effects: skin irritation (hypersensitivity); contact dermatitis (local irritation)

D Nursing care

1. Assess lesion for location, size, and irritation
2. Discourage scratching; keep client's nails trimmed; avoid contact with open wounds
3. Advise medical follow-up because these medications provide only temporary relief of clinical findings
4. Prevent contamination of topical agent container

Antiinflammatory Agents

A Description

1. Reduce clinical findings of inflammation
2. Produce vasoconstriction, which decreases swelling and pruritus
3. Available in topical preparations

B Examples: triamcinolone (Kenalog, Triderm)

C Major side effects: skin irritation (hypersensitivity); contact dermatitis (local irritation); skin atrophy; adrenal insufficiency if absorbed systemically (suppression of hypothalamic-pituitary-adrenal axis); fungal overgrowth

D Nursing care

1. Assess lesions for color, location, and size
2. Protect skin from scratching or rubbing
3. Avoid contact with eyes
4. Cleanse skin before application and reapplication
5. Assess for clinical findings of sensitivity
6. Avoid occlusive dressings unless directed otherwise
7. Prevent contamination of topical agent container

Dermal Agents

A Description

1. Inhibit keratinization and sebaceous gland function to improve cystic acne and reduce sebum excretion
2. Available preparations: oral and topical

B Examples: isotretinoin (Claravis, Amnesteem, Sotret), vitamin A acid (Retin-A)

C Major side effects: visual disturbances such as corneal opacities, decreased night vision (vitamin A toxicity—effect on visual rods); papilledema, headache (pseudotumor cerebri); hepatic dysfunction (hepatotoxicity); cheilitis (vitamin A toxicity); pruritus, skin fragility (dryness); hypertriglyceridemia (increased plasma triglycerides)

D Nursing care

1. Assess visual and hepatic status before administration
2. Monitor levels of blood lipids before and during therapy
3. Instruct client
 - a. Avoid pregnancy during and for 1 month after therapy; use contraception if sexually active
 - b. Avoid vitamin A supplements
 - c. Side effects are reversible when therapy is discontinued
4. Assess for depression or suicidal ideation

Major Disorders of the Integumentary System

Skin Lesions

Primary Lesions

([Table 10-1](#): Primary Skin Lesions)

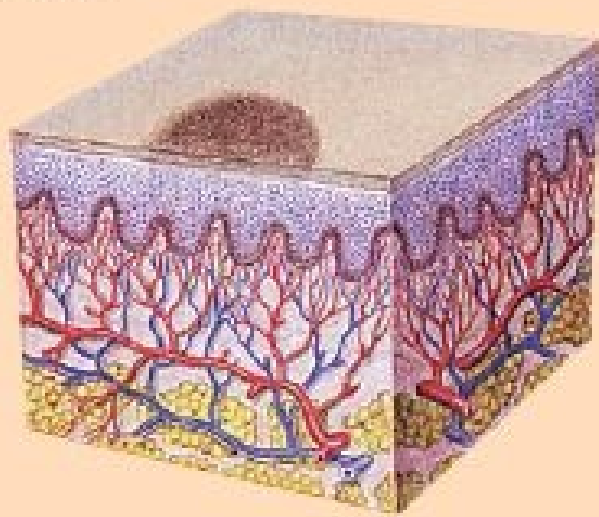
Table 10-1

Primary Skin Lesions

Lesion

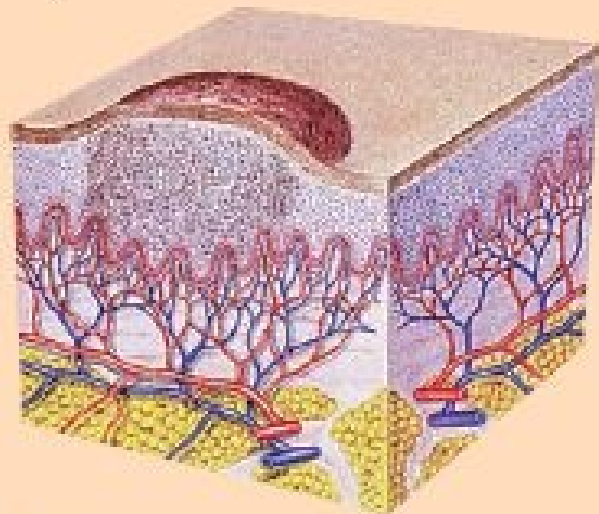
Description

Macule



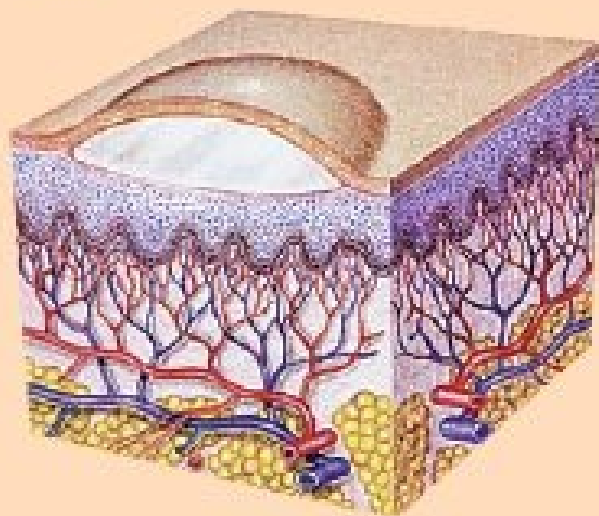
Circumscribed, flat area with a change in skin color; less than 1 cm in diameter
Examples: freckles, petechiae, measles, flat mole (nevus)

Papule



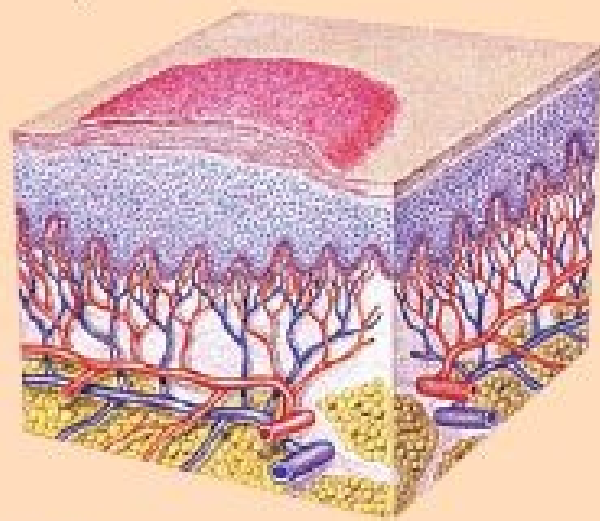
Elevated, solid lesion; less than 1 cm in diameter
Examples: wart (verruca), elevated moles

Vesicle



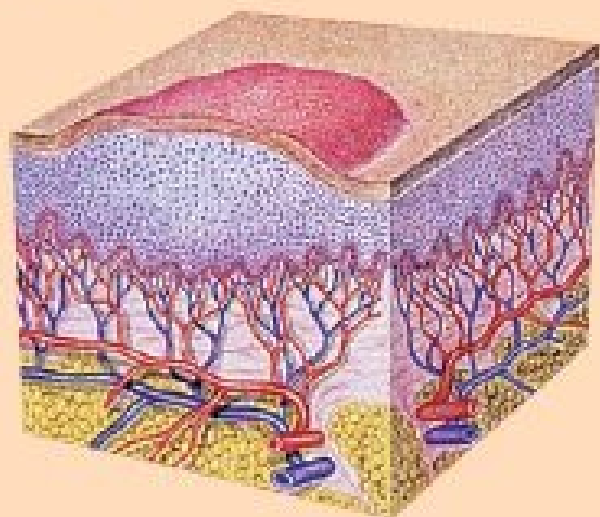
Circumscribed, superficial collection of serous fluid; less than 1 cm in diameter
Examples: varicella (chickenpox), herpes zoster (shingles), second-degree burn

Plaque



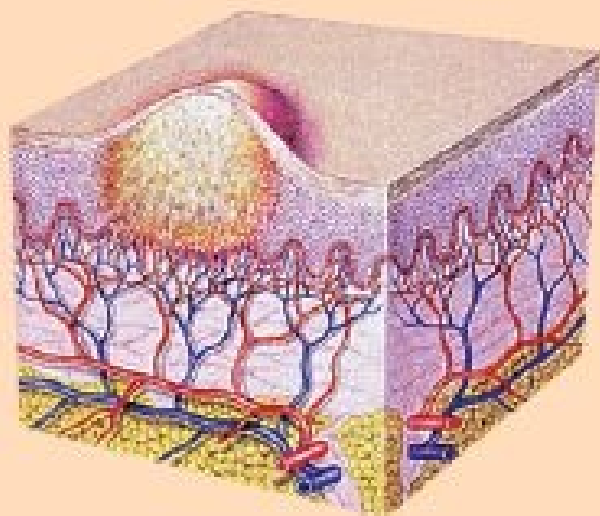
Circumscribed, elevated superficial, solid lesion; greater than 1 cm in diameter
Examples: psoriasis, seborrheic and actinic keratoses

Wheal



Firm, edematous, irregularly shaped area; diameter variable
Examples: insect bite, urticaria

Pustule



Elevated, superficial lesion filled with purulent fluid
Examples: acne, impetigo

From Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011, Mosby.

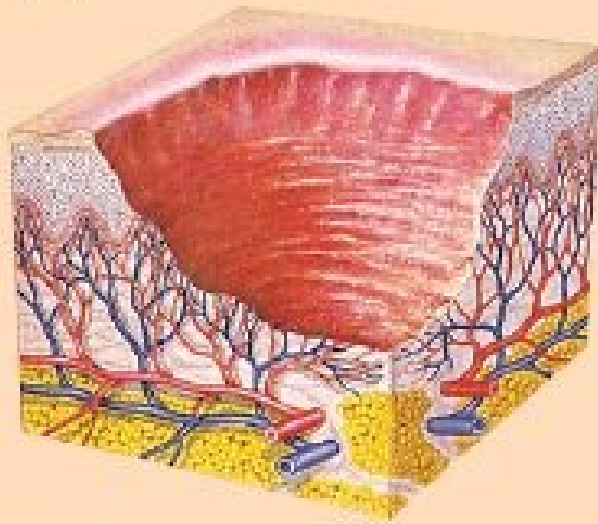
Secondary Lesions

(Table 10-2: Secondary Skin Lesions)

Table 10-2
Secondary Skin Lesions

Lesion	Description
Fissure	Linear crack or break from the epidermis to dermis; dry or moist Examples: athlete's foot, cracks at corner of the mouth
Scale	Excess, dead epidermal cells produced by abnormal keratinization and shedding Examples: flaking of skin after a drug reaction or scarlet fever
Scar	Abnormal formation of connective tissue that replaces normal skin Examples: surgical incision or healed wound

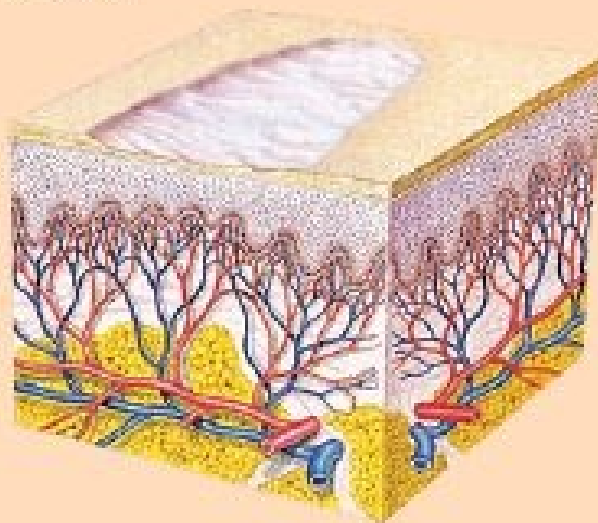
Ulcer



Loss of the epidermis and dermis; craterlike; irregular shape

Examples: pressure ulcer, chancre

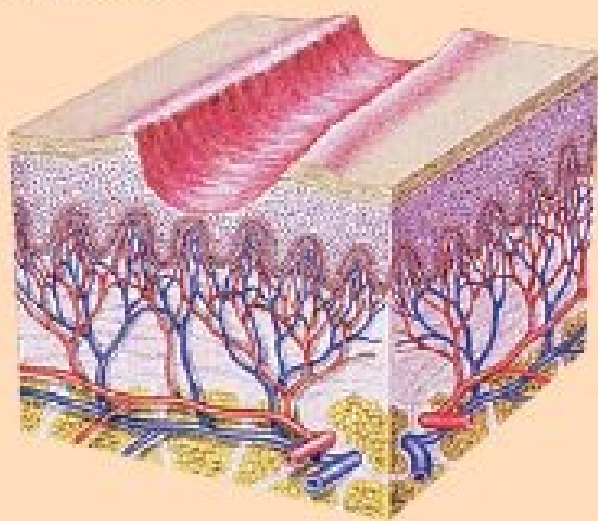
Atrophy



Depression in skin resulting from thinning of the epidermis or dermis

Examples: aged skin, striae

Excoriation



Area in which epidermis is missing, exposing the dermis

Examples: scabies, abrasion, or scratch

Data Base

A Etiology and pathophysiology

1. Interruption of circulation when pressure on skin exceeds capillary pressure of 32 mm Hg for prolonged periods
2. Pressure compresses capillaries and microthrombi form to occlude blood flow; tissue becomes damaged due to hypoxia
3. Commonly occur over bony prominences: sacrum, greater trochanter, heels, scapulae, elbows, malleoli, occiput, ears, and ischial tuberosities ([Figure 10-1: Common sites for pressure ulcers](#))

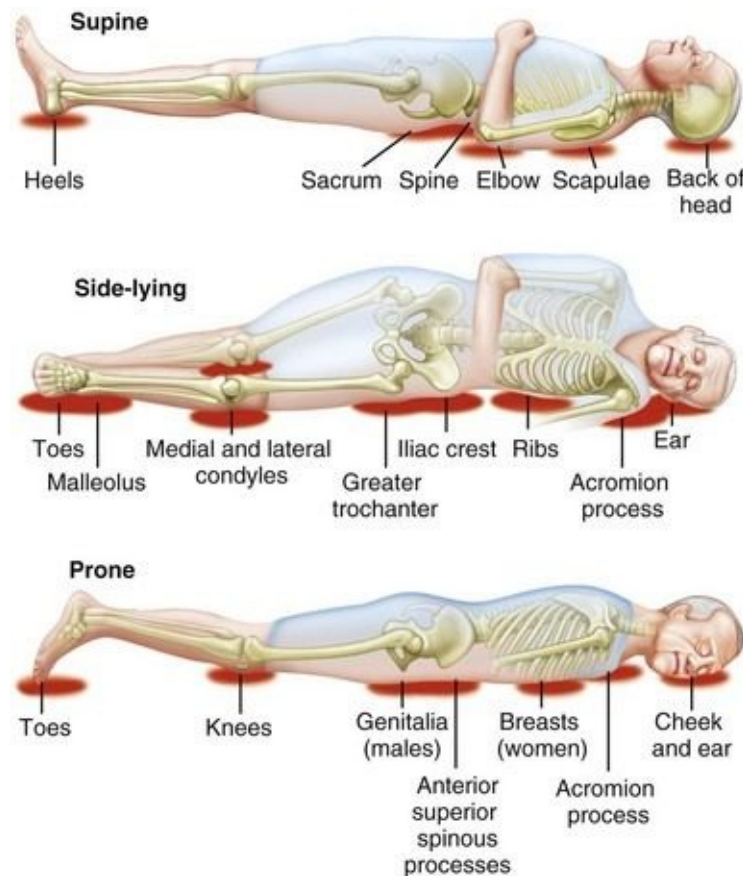


FIGURE 10-1 Common sites for pressure ulcers. (From Harkreader H, Hogan MA, Thobaben M: *Fundamentals of nursing: caring and clinical judgment*, ed 3, St. Louis, 2007, Saunders.)

4. Contributing factors

- a. Immobility—results in prolonged pressure
- b. Aging—decreased epidermal thickness, elasticity, and secretion by sebaceous glands
- c. Moisture (e.g., perspiration, urine)—causes skin maceration
- d. Imbalanced nutrition—loss of subcutaneous tissue reduces padding; inadequate protein intake leads to negative nitrogen balance, decreased muscle mass, and impaired wound healing
- e. Pyrexia—causes increased cellular demand for oxygen
- f. Inadequate tissue oxygenation—edema, anemia, and circulatory disturbances result in less oxygen delivered to tissues
- g. Incontinence—substances in urine and feces irritate skin
- h. Dryness—skin less supple
- i. Shearing force or friction—exerts excessive tension on skin
- j. Cognitive impairments—unaware of discomfort; inability to protect self

k. Equipment—causes pressure, tension, or shearing forces on skin

5. Staging determined by depth and color ([Figure 10-2: Staging of pressure ulcers](#))

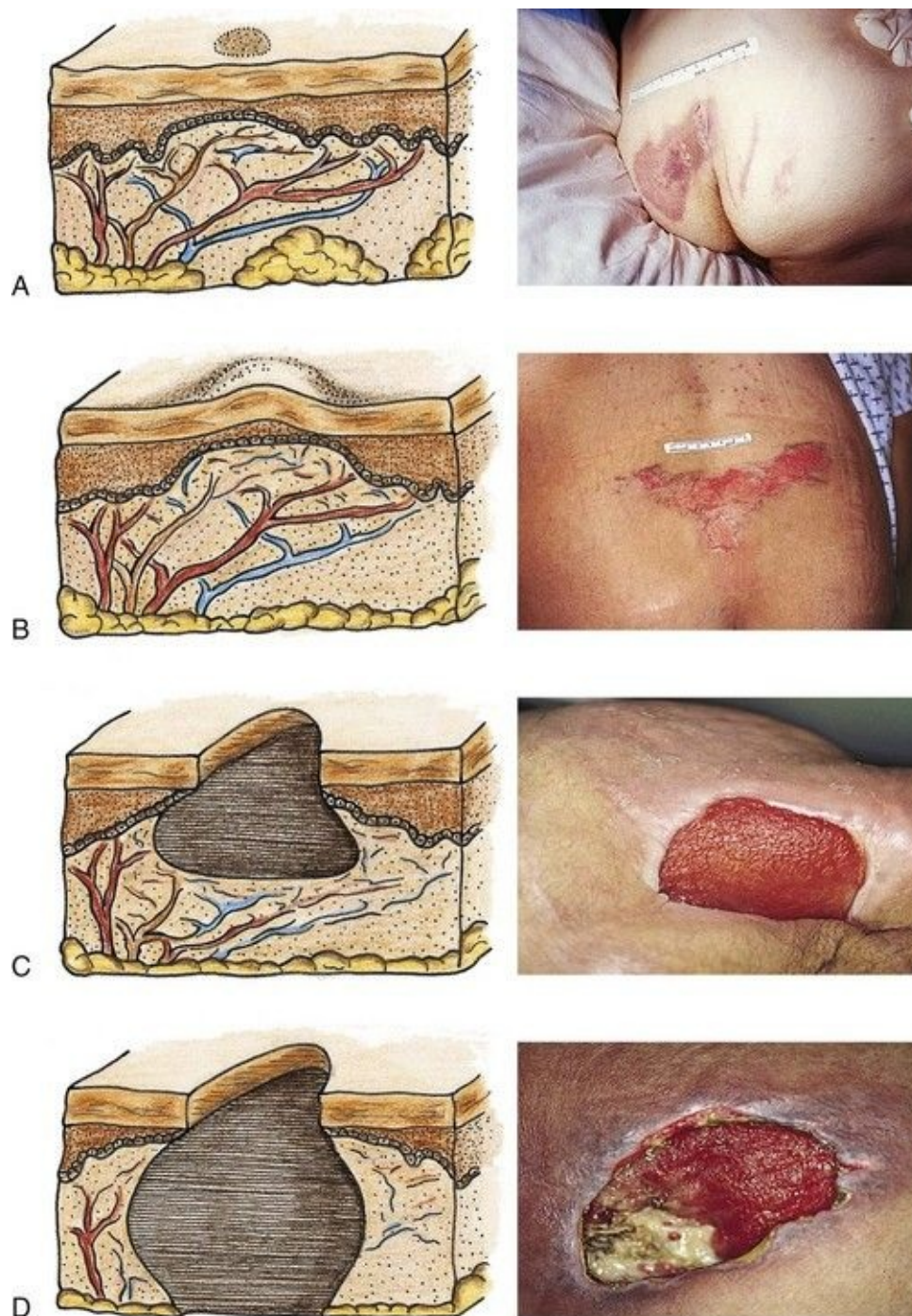


FIGURE 10-2 Staging of pressure ulcers. **A**, Stage I pressure ulcer. **B**, Stage II pressure ulcer. **C**, Stage III pressure ulcer. **D**, Stage IV pressure ulcer. (Courtesy Laurel Wiersma, RN, MSN, Clinical Nurse Specialist, Barnes-Jewish Hospital, St. Louis, MO. In Potter PA, Perry AG: *Fundamentals of nursing*, ed 7, St. Louis, 2009, Mosby.)

a. Depth of tissue damage

- (1) Stage I: nonblanchable area of erythema; skin is intact; usually over bony prominence
- (2) Stage II: partial-thickness ulceration of epidermis and/or dermis; presents as abrasion, blister, or shallow crater; red/pink wound bed; without tissue sloughing; may be intact/open serum-filled blister
- (3) Stage III: full-thickness ulceration involving epidermis, dermis, and subcutaneous tissue; sloughing may be present; presents as deep crater with or without undermining;

bone, tendon, or muscle is not exposed

- (4) Stage IV: extensive tissue damage involving full-thickness skin loss and damage to muscle, bone, and/or tendon; sloughing or eschar may be present on parts of wound bed; often includes undermining or tunneling

b. Color of wound

- (1) Black: necrotic
- (2) Yellow: exudate and yellow fibrous debris
- (3) Red: pink to red granulation

B Clinical findings

- 1. Subjective: pain; loss of sensation if there is sensory nerve damage
- 2. Objective: erythema; tissue damage (see Staging of pressure ulcers); exudate; pyrexia and leukocytosis if systemic infection is present

C Therapeutic interventions

- 1. Elimination/minimization of pressure on ulcer through frequent repositioning and use of supportive devices (e.g., air-fluidized beds, low-air-loss beds, or kinetic beds)
- 2. Administration of protein supplements or total parenteral nutrition (TPN) to prevent negative nitrogen balance if client has serum albumin level less than 3.5 g, is anorexic, or is less than 80% of ideal body weight
- 3. Administration of vitamin and mineral supplements (particularly vitamin C and zinc) to promote wound healing
- 4. Débridement of necrotic tissue, which interferes with healing and promotes bacterial growth: mechanical irrigation; chemical débridement with enzyme preparations; surgical débridement; wet-to-damp dressings
- 5. Application of dressings to promote healing
 - a. Moist gauze: maintains wound humidity, which promotes epithelial cell growth
 - b. Polyurethane film: provides barrier to bacteria and external fluid; promotes moist environment; permits view of wound
 - c. Hydrocolloid dressing: maintains wound humidity, liquefies necrotic debris, and provides a protective cushion
 - d. Absorptive dressing: absorbs drainage
 - e. Negative pressure wound therapy (NPWT); also known as vacuum-assisted wound closure (VAC): negative pressure applied to wound bed to remove exudate and facilitate angiogenesis (Figure 10-3: Wound VAC System)

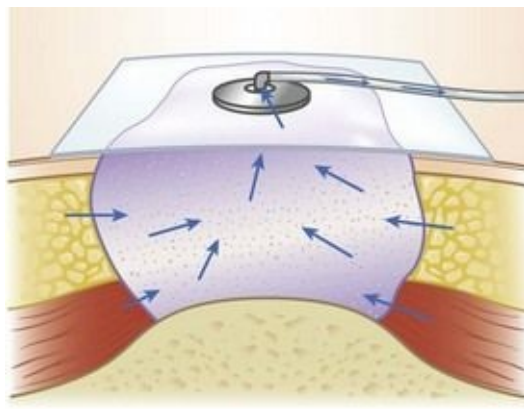


FIGURE 10-3 Wound VAC V.A.C. system using negative pressure to remove fluid from area surrounding the wound, reducing edema and improving circulation to the area.

6. Antibiotic therapy
7. Skin grafts
8. Growth hormone therapy

Nursing Care of Clients with Pressure Ulcers

Assessment/Analysis

1. Stage, size, and location
2. Type and amount of exudate
3. Risk factors (e.g., immobility, incontinence, malnutrition)
4. Skin condition daily of high risk clients

Planning/Implementation

1. Emphasize preventive care when risk factors are identified
2. Change position at least every 2 hours and more frequently if necessary
3. Use supportive devices (e.g., pillows, heel and elbow pads, cushions, special mattresses or bed) to reduce pressure on bony prominences
4. Encourage activity to enhance circulation
5. Teach to change position every hour; teach how to shift weight to minimize pressure
6. Keep skin clean (bathing removes irritants and stimulates circulation), dry, and lubricated
7. Massage around bony prominences, but avoid massaging reddened areas that are already damaged
8. Ensure adequate fluid intake
9. Provide well-balanced diet; emphasize importance of protein, zinc, and vitamins C, A, and B
10. Avoid shearing force by lifting, not dragging, client during position changes, keep head of bed in lowest degree permitted

Evaluation/Outcomes

1. Maintains intact skin
2. Consumes diet high in protein, zinc, and vitamins C, A, and B
3. Changes position every hour

Burns

Data Base

A Etiology and pathophysiology

1. Thermal, radiation, electrical, and chemical (e.g., acids, bases) forces cause cell destruction and result in depletion of fluid and electrolytes; extent of fluid and electrolyte loss directly related to extent and degree of burn
2. Classification of burn depth (Figure 10-4: Classification of burn depth)

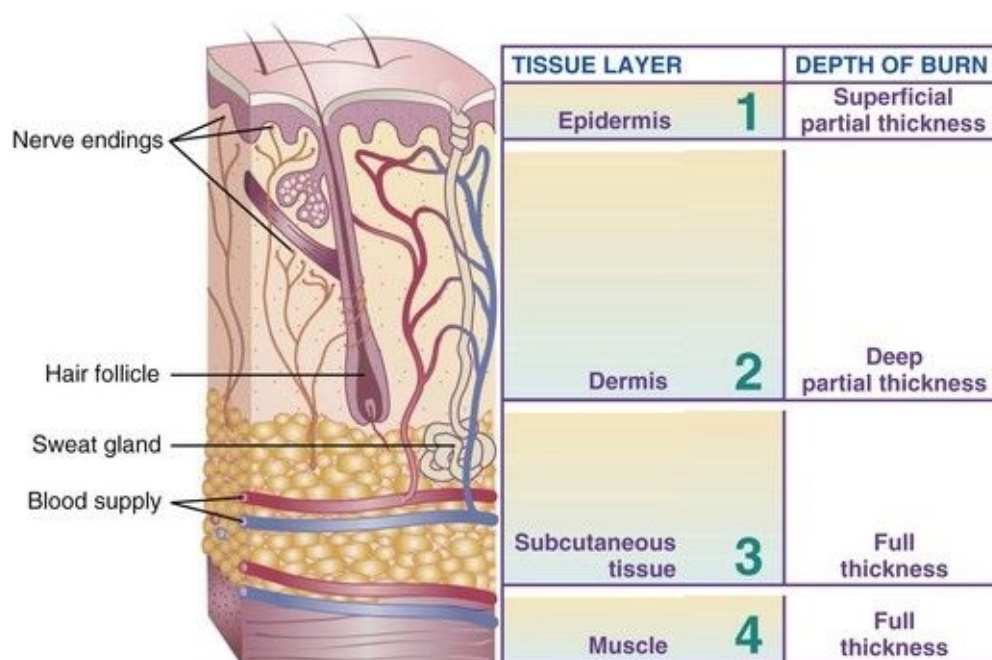


FIGURE 10-4 Classification of burn depth. (From Mahan LK, Escott-Stump S: *Krause's food and nutrition therapy*, ed 12, St. Louis, 2008, Saunders.)

- a. Superficial burn: involves epidermis; pink to red color; mild edema and pain; causes include sunburn, flash burns
 - b. Superficial partial-thickness burn: involves epidermis; pink to red color; mild to moderate edema and pain; blisters; fluid loss slight, especially if less than 15% of body surface involved; causes include scalds, flames, brief contact with hot objects
 - c. Deep partial-thickness burn: involves epidermis and dermis; red to white color; pain; vesicles with oozing; moderate edema; soft and dry eschar; causes include scalds, flames, prolonged contact with hot objects (e.g., tar, grease, chemicals)
 - d. Full-thickness burn: involves entire dermis and at times subcutaneous tissue; black, brown, yellow, white, red color; dry skin; hard and inelastic eschar; pain may be present or absent; fluid loss usually severe, especially if more than 2% of body surface is involved; causes include flames, electricity, chemicals
 - e. Deep full-thickness burn: involves skin, fat, muscle, and bone; areas are charred or burned away; absence of edema and pain; causes include flames, electricity, grease, tar, chemicals
3. Classification of burn injury
 - a. Minor burns: no involvement of hands, face, or genitalia; total partial-thickness burn area does not exceed 15%
 - b. Moderate burns: partial-thickness involvement of 15% to 25% of body; but full-thickness

burns do not exceed 10% of body area

- c. Major burns: involvement exceeds 25% (if partial-thickness) or 10% (if full-thickness) of body surface; involvement of hands, face, genitalia, or feet; this classification is used if client has preexisting chronic health problem, is younger than 18 months or more than 50 years of age, or has additional injuries

- 4. Pulmonary injury should be suspected if two of the following factors are present, and expected if three or four are present

- a. Hair in nostrils singed; soot around mouth or nostrils
- b. Client was trapped in a closed space
- c. Face, nose, and lips burned
- d. Initial blood sample contains carboxyhemoglobin

- 5. Percentage of body surface area involved: estimated by Lund-Browder chart or Rule of Nines (Figure 10-5: Rule of Nines)

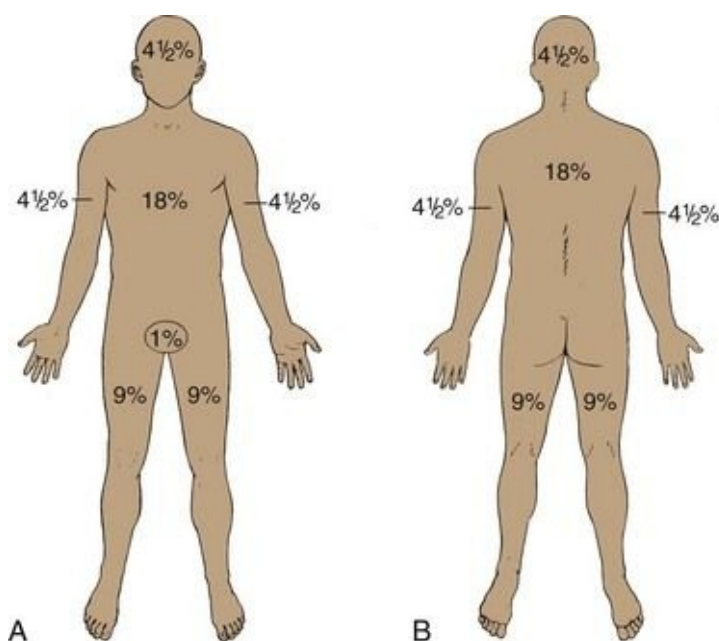


FIGURE 10-5 Rule of Nines. A commonly used assessment tool with estimates of the percentages (in multiples of 9) of the total body surface area burned. **A**, Adults (anterior view). **B**, Adults (posterior view). (From Thompson JM et al: *Mosby's clinical nursing*, ed 5, St. Louis, 2002, Mosby.)

- 6. Phases of burn injury

- a. Resuscitation (emergent): initial life-threatening stage; usually 24 to 48 hours; major concerns are respiratory status because of smoke inhalation, hypovolemia because of fluid shifts out of cells (capillary leak syndrome), and hyperkalemia because of cellular destruction
- b. Acute (remobilization/diuretic): begins with mobilization of fluids and electrolytes back into cells and ends when burns are healed or covered by skin grafts; may take days, weeks, or months; major concerns are hypervolemia and hypokalemia (fluid and electrolytes shift back into intravascular and intracellular compartments) and infection
- c. Rehabilitative: begins when wounds are healed and the ability to resume self-care occurs; may take weeks to months; major concern is resuming functional roles and coping with body image disturbances

- 7. Curling's ulcer may occur after a burn

- a. Clinical findings: reports of gastric discomfort; profuse gastrointestinal bleeding

- b. Usually occurs by end of first week after burn injury
- c. Treatment essentially same as for gastric ulcer; however, mortality after surgical repair is high because of debilitated state

8. Suppressed immune system involving lymphocytes, immunoglobulin production, and changes in neutrophil and macrophage functioning

B Clinical findings

1. Subjective: extreme anxiety; restlessness (may indicate cerebral hypoxia); pain (depends on depth and extent of burn); paresthesia; disorientation
2. Objective
 - a. Changes in appearance of skin indicate degree of burn
 - b. Hematuria; blood hemolysis with subsequent rise in plasma hemoglobin level may occur with full-thickness burns
 - c. Elevated hematocrit level because of fluid loss or deceptively normal values because of protein losses from weeping wounds
 - d. Electrolyte imbalance: cellular destruction results initially in hyperkalemia, hyponatremia, and hyperuricemia
 - e. Clinical findings related to hypovolemic shock; seepage of water, plasma, proteins, and electrolytes from burned area causes circulatory failure
 - f. Presence of clinical findings similar to hypovolemic shock caused by fright, terror, hysteria, and pain involved in situation
 - g. Evidence of renal impairment (e.g., increased blood urea nitrogen [BUN] and creatinine levels) if acute tubular necrosis occurs as result of circulatory collapse

C Therapeutic interventions

1. Establishment of airway and administration of oxygen; mechanical ventilation as needed
2. IV fluid replacement in first 24 hours (e.g., electrolyte solutions and colloids such as blood and plasma) to maintain circulation
 - a. Volume of fluid replacement is based on percentage of body surface area involved and client's weight (e.g., Parkland/Baxter, Brooke Army Hospital, or Evans formulas)
 - b. Half of fluid is administered in first 8 hours; second half is administered over next 16 hours
3. IV fluid replacement in subsequent hours depends on urinary output, blood tests, and hemodynamic pressures
4. Insertion of urinary retention catheter; hourly urinary output to monitor kidney function and influence fluid replacement
5. Insertion of central line to monitor hemodynamic pressures (e.g., central venous pressure [CVP], pulmonary capillary wedge pressure [PCWP])
6. Vital signs monitored every 15 minutes
7. Serum electrolytes and blood gases to monitor levels and assist in deciding replacement therapy
8. Tetanus toxoid booster administration; tetanus human immune globulin for passive immunity if not previously immunized
9. Clear liquids followed by high-protein, high-carbohydrate, high-fat, high-vitamin diet as tolerated. Caloric needs may be as high as 5000 calories daily; high-calorie enteral feedings may be necessary (research demonstrates that early nutritional support within several hours of injury can decrease mortality and complications)
10. Maintenance of surgical asepsis
11. Daily hydrotherapy; water temperature should be tepid (98° to 100° F)

12. Skin grafting to close wounds, limit fluid loss, promote healing, and limit contractures
 - a. Heterograft (xenograft): skin from animals, usually pigs (porcine xenograft); temporary covering
 - b. Homograft (allograft): skin from another person or cadaver; temporary covering
 - c. Autograft: skin from another part of client's body
 - (1) Mesh graft: machine used to mesh skin obtained from donor site so it can be stretched to cover larger area of burn
 - (2) Postage stamp graft: earlier method of accomplishing same goal as mesh graft; small amount of skin is used to cover larger area; donor skin is cut into small pieces and applied to burn
 - (3) Sheet grafting: large strips of skin placed over burn as close together as possible
 - (4) Cultured epithelial autografting is used for massive burn treatment
 - d. Synthetic coverings
13. Surgical, mechanical, or enzymatic débridement to promote healing and decrease infection
14. IV antibiotics based on wound culture and sensitivity [C&S]; topical antibiotics (e.g., mafenide ointment, silver nitrate solution, silver sulfADIAZINE, neomycin, bacitracin, polymyxin B); used to limit infection
15. Opioids to reduce pain and sedatives to decrease anxiety; given IV or orally because of decreased muscle absorption

Nursing Care of Clients with Burns

Assessment/Analysis

1. Clinical findings of airway involvement (e.g., burns of face, neck, or chest; sooty sputum; hoarseness)
2. Vital signs, arterial blood gases, and breath sounds to establish baseline for respiratory function
3. CVP or PCWP, and urine output, to establish baseline for assessment of circulation
4. Estimated body surface area involvement and severity (extent and depth) of burns

Planning/Implementation

1. Apply cool, moist dressing at site of injury; neutralize burn if caused by chemical (e.g., acid, base); flush with water and apply the opposite chemical in a weak form as ordered
2. Monitor vital signs, CVP or PCWP, and intake and output (I&O) (hourly urine output) as ordered; notify health care provider if output decreases below 30 mL/hr or increases above 50 mL/hr
3. Observe for clinical findings of metabolic acidosis and electrolyte imbalances, particularly of calcium, potassium, and sodium and metabolic acidosis
4. Administer fluid and electrolytes as ordered
5. Monitor respiratory function (e.g., characteristics of respirations, breath sounds, arterial blood gases, pulse oximetry)
6. Administer oxygen as ordered
7. Elevate head of bed
8. Encourage coughing, deep breathing, and use of incentive spirometer
9. Prevent infection
 - a. Monitor for clinical findings of infection (e.g., increasing temperature and white blood cell (WBC)

count, odor); promptly culture exudate if infection is suspected

- b. Follow principles of protective precautions (e.g., gown, gloves, mask, hair covering) during contact because of client's compromised ability to resist infection
- c. Administer tetanus toxoid as prescribed
- d. Administer IV and topical antibiotics as prescribed
- e. Use sterile technique for wound care
- 10. Apply pressure dressings as ordered to reduce contractures and scarring
- 11. Support joints and extremities in functional alignment and perform range-of-motion (ROM) exercises; use beds or mattresses designed to avoid pressure
- 12. Provide care related to skin graft
 - a. Keep donor sites dry (which are covered with a nonadherent dressing and wrapped in absorbent gauze); remove just absorbent gauze as nonadherent dressing will separate as healing occurs
 - b. Monitor grafts, which generally are covered with light pressure dressing for approximately 3 days; after graft has "taken," roll cotton-tipped applicators gently over graft to remove underlying exudate; exudate allowed to remain can promote infection and prevent graft from adhering; instruct to restrict mobility of affected part
 - c. Monitor for clinical findings of infection (e.g., foul-smelling drainage, temperature elevation); promptly culture exudate if infection is suspected
 - d. Instruct to avoid exposure of graft and donor sites to the sun
- 13. Provide physical and emotional support while turning
- 14. Keep room temperature warm and humidity high
- 15. Prevent gastrointestinal (GI) erosion
 - a. Observe for clinical findings of stress ulcer
 - b. Give prescribed drugs to decrease or neutralize hydrochloric acid
 - c. Provide small, frequent feedings; diet high in protein, carbohydrates, vitamins, and minerals; moderate in fat; adequate calories for protein sparing
- 16. Administer medication for pain as prescribed and particularly before dressing change
- 17. Provide emotional support
 - a. Expect client to express negative feelings; accept negative feelings
 - b. Explain need for staff wearing gowns and masks
 - c. Assist to cope with change in body image
 - d. Give realistic reassurance; convey a positive attitude
 - e. Encourage participation in self-care
 - f. Refer client and family to support groups and rehabilitative services

Evaluation/Outcomes

- 1. Maintains respiratory function
- 2. Maintains fluid balance
- 3. Remains free of infection
- 4. Expresses feelings about altered body image

Cellulitis

Data Base

A Etiology and pathophysiology

1. Infection of deep layers of dermis; spreads along connective tissue planes
2. Usually caused by streptococcal or staphylococcal organisms
3. Microorganism enters tissue through abrasion, bite, trauma, or wound
4. Erysipelas is an acute infection of superficial dermis and lymphatics caused by *beta-hemolytic group A streptococci*
5. Necrotizing fasciitis is cellulitis that extends to the fascia, causing thrombosis of subcutaneous vessels and gangrene of tissue

B Clinical findings

1. Subjective: pain; itching
2. Objective: swelling; redness; warmth; leukocytosis

C Therapeutic interventions

1. IV, intramuscular (IM), or oral antibiotic therapy after sending specimen for culture and sensitivity
2. Rest with elevation of extremity
3. Warm compresses

Nursing Care of Clients with Cellulitis

Assessment/Analysis

1. Progression of clinical findings
2. Clinical findings associated with inflammation
3. Evidence of tissue trauma
4. Evidence of impaired immune response from history
5. Vital signs and WBC count for data base

Planning/Implementation

1. Monitor vital signs and WBC count for evidence of systemic involvement; assess peripheral tissue perfusion
2. Use contact precautions and surgical asepsis as indicated
3. Administer analgesics and antibiotics as prescribed
4. Elevate extremity
5. Apply warm compresses as ordered; protect from thermal trauma

Evaluation/Outcomes

1. Experiences resolution of inflammatory process
2. Reports relief of pain

Cancer of the Skin

Data Base

A Etiology and pathophysiology

1. Most common cancer; slow progression and high cure rate if detected early for some types
2. Exposure to the sun, irritating chemicals, and chronic friction implicated; more common in persons with fair complexions

3. Types (Figure 10-6: Cancer of the skin)



FIGURE 10-6 Cancer of the skin. **A**, Basal cell carcinoma. **B**, Squamous cell carcinoma. **C**, Melanoma. (**A**, from Belcher AE: *Cancer nursing*, St. Louis, 1992, Mosby. **B**, from Habif TP: *Clinical dermatology: a color guide to diagnosis and therapy*, ed 3, St. Louis, 1996, Mosby. **C**, from Zitelli BJ, Davis HW: *Atlas of pediatric physical diagnosis*, ed 5, St. Louis, 2007, Mosby.)

- Basal cell carcinoma: appears as waxy nodule that may have telangiectasia visible; generally on face; most common type of skin cancer, but metastasis is rare
- Squamous cell carcinoma: appears as small, red, nodular lesion; generally on upper extremities and face, which are exposed to the sun; may develop secondarily to precancerous lesions such as keratosis and leukoplakia; develops rapidly and may metastasize through local lymph nodes
- Malignant melanoma: color of lesion may vary greatly (white, flesh, gray, brown, blue, black); suspected with changes in size, color, sensation, or characteristics of a mole; arises from pigment-producing melanocytes; most serious type of skin cancer; metastasis via blood can be extensive

B Clinical findings

- Subjective: pruritus may or may not be present; localized soreness
- Objective: change in color, size, or shape of preexisting lesion; oozing, bleeding, or crusting; biopsy of lesion reveals type of cancer; lymphadenopathy if metastasis has occurred

C Therapeutic interventions

- Surgical excision of lesion and surrounding tissue. Sequential removal of progressive layers of tissue until healthy tissue is identified (Mohs micrographic surgery); preserves as much healthy tissue as possible

2. Chemosurgery, which involves use of zinc chloride to fix cells before they are dissected by layers
3. Cryosurgery—using liquid nitrogen to destroy tumor cells by freezing
4. Radiation: malignant melanoma does not respond well to this mode of treatment
5. Electrodesiccation and curettage: mechanical disruption of cells by heat; cells are then cut away with curet
6. Laser light is used to vaporize lesions
7. Chemotherapy
8. Immunotherapy: Nonspecific immunostimulants such as bacille Calmette-Guérin (BCG) vaccine; ipilimumab (Yervoy) for late-stage melanoma

Nursing Care of Clients with Cancer of the Skin

Assessment/Analysis

1. History of changes in size, color, shape, sensation, or unusual bleeding of lesions
2. Risk factors from history
3. Skin for presence of suspicious lesions, documenting objective and subjective characteristics

Planning/Implementation

1. Instruct to examine moles for changes and have those subject to chronic irritation (e.g., bra or belt line) removed
2. Encourage to avoid sun exposure; use sunscreens with a rating higher than 15 SPF (solar protection factor); wear protective clothing (e.g., long sleeves, pants, and hat)
3. Emphasize continued medical supervision
4. Encourage verbalization; maintain therapeutic environment
5. Provide care to client receiving radiation: observe skin for local reaction; teach to avoid use of ointments or powders containing metals
6. Provide care related to specific chemotherapeutic agents (see Neoplastic Disorders, Related Pharmacology in [Chapter 3](#))
7. Support natural defense mechanisms of client; encourage intake of nutrient-dense foods with emphasis on fruits, vegetables, whole grains, and legumes, especially those high in immune-stimulating nutrients selenium and vitamins A, C, and E; beta-carotene has been associated with prevention of skin cancer
8. Encourage to verbalize fears

Evaluation/Outcomes

1. Avoids exposure to sun and known irritants
2. Examines skin lesions regularly and reports changes
3. Verbalizes acceptance of physical appearance after surgical excision of lesions

Herpes Zoster (Shingles)

Data Base

A Etiology and pathophysiology

1. Acute viral infection of structures along pathway of peripheral nerves caused by reactivation of

latent varicella-zoster virus

2. May involve eyes, leading to keratitis, uveitis, and blindness
3. Occurs in people who have had chickenpox and are exposed to an affected individual
4. Commonly occurs in immunosuppressed clients (e.g., leukemia, lymphoma) who have previously had chickenpox

B Clinical findings

1. Subjective: pain; paresthesias; pruritus
2. Objective: vesicles along involved nerves; stains made from lesion exudate isolate the causative microorganism

C Therapeutic interventions

1. Administration of acyclovir (Zovirax) or valacyclovir (Valtrex)
2. Medications for pain, relaxation, itching, and prevention of secondary infection
3. Pain control by blocking nerves through injection of drugs such as lidocaine or applying medication such as triamcinolone (Kenalog)
4. Antiinflammatory drugs such as systemic or topical steroids
5. Prevention: vaccine available (Zostavax) for people 60 years or older; reduces development of and chronic pain associated with shingles, which is common in older adults; may reduce risk by 50%

Nursing Care of Clients with Herpes Zoster

Assessment/Analysis

1. Presence of characteristic lesion
2. Progression of clinical findings from history; includes factors that compromise immune response (e.g., age, disease, chemotherapy)

Planning/Implementation

1. Administer analgesics and other medications as prescribed
2. Reduce itching and protect lesions from air by application of salves, ointments, lotions, and sterile dressings as prescribed
3. Protect from pressure by use of air mattress, bed cradle, and light, loose clothing; teach to wear cotton fabrics and avoid synthetic and woolen materials
4. Use airborne and/or contact precautions as indicated
5. Administer antibiotics as prescribed
6. Encourage to avoid scratching and to use gloves at night to limit trauma from accidental scratching; explain basis for rash and pruritus
7. Allay fears about shingles by providing objective information
8. Encourage to express feelings
9. Encourage diet rich in nutrient-dense foods such as fruits, vegetables, whole grains, and legumes to improve and maintain nutritional status and prevent possible drug-induced nutrient deficiencies; encourage intake of vitamin C because it is reported to stimulate immune response to viral infection by increasing interferon, which limits viral reproduction in early stages
10. Teach hand hygiene to help prevent spread of virus; individuals who have not had chickenpox should not be exposed to client
11. Provide emotional support because client is coping with severe pain and social isolation

Evaluation/Outcomes

1. Experiences an improvement in skin integrity
2. Reports that pain and pruritus have subsided

Systemic Lupus Erythematosus (SLE)

Data Base

A Etiology and pathophysiology

1. Necrosis of glomerular capillaries, inflammation of cerebral and ocular blood vessels, necrosis of lymph nodes, vasculitis of GI tract and pleura, and degeneration of basal layer of skin
2. Immune complex deposits in blood vessels, among collagen fibers, and on organs
3. Affects connective tissue and is thought to result from defect in body's immunologic mechanisms, genetic predisposition, or environmental stimuli; actual cause unknown
4. More common in females, ages 15 to 40

B Clinical findings

1. Subjective: malaise, photosensitivity, joint pain
2. Objective
 - a. Fever, butterfly erythema on face, erythema of palms, Raynaud phenomenon, weight loss, and evidence of impaired renal, gastrointestinal, cardiac, respiratory, and neurologic functions
 - b. Positive lupus erythematosus preparation (LE prep); increased antinuclear antibodies (ANAs) in blood

C Therapeutic interventions

1. Corticosteroids and analgesics to reduce inflammation and pain
2. Supportive therapy as major organs become affected
3. Antimalarial drugs: hydroxychloroquine (Plaquenil) to treat fatigue, joint pain, skin rashes and lung inflammation
4. Immunosuppressives: belimumab (Benlysta), azathioprine (Azasan, Imuran), cyclophosphamide (Cytosan)
5. Plasmapheresis to remove autoantibodies and immune complexes from the blood
6. Life-threatening SLE may be treated with stem cell transplants

Nursing Care of Clients with Systemic Lupus Erythematosus

Assessment/Analysis

1. Progression of clinical findings from the history
2. Presence of skin lesions
3. Sensitivity to light (photosensitivity)
4. Vital signs for baseline data
5. Heart and lung sounds
6. Abdomen for enlargement of liver and spleen
7. Neurologic status
8. Renal function (review BUN and creatinine analysis results)

Planning/Implementation

1. Administer corticosteroids and observe for side effects; teach client to do the same (see Antiinflammatory Agents under Related Pharmacology)
2. Help client and family cope with severity of disease and its poor prognosis
3. Explain importance of protecting skin (e.g., use of mild soap and sun-blocking agents, avoidance of exposure to sunlight)
4. Help to establish program of exercise balanced by rest periods to avoid fatigue
5. Instruct to alter consistency and frequency of meals if dysphagia and anorexia exist
6. Encourage diet rich in nutrient-dense foods such as fruits, vegetables, whole grains, and legumes to improve and maintain nutritional status and compensate for nutrient interactions of corticosteroid and other therapeutic medications; emphasize need for vitamin C-enriched foods because it is essential in biosynthesis of collagen, and large doses are found to increase total collagen synthesis
7. Teach to prevent infection (e.g., hand hygiene, avoidance of individuals with infections)
8. Emphasize need for continued medical supervision

Evaluation/Outcomes

1. Demonstrates reduction in skin lesions
2. States that pain is reduced
3. Verbalizes fears with family and health care providers

Progressive Systemic Sclerosis (Scleroderma)

Data Base

A Etiology and pathophysiology

1. Systemic disease causes fibrotic changes in connective tissue throughout body
2. May involve skin, blood vessels, synovial membranes, esophagus, heart, lungs, kidneys, or GI tract
3. CREST syndrome refers to group of clinical findings associated with poor prognosis: Calcium deposits in organs; Raynaud phenomenon; Esophageal dysfunction; Sclerodactyly (scleroderma of the digits); Telangiectasia (vascular lesions formed by dilation of a group of small blood vessels)
4. Thought to be caused by autoimmune defect; occurs more in women than in men

B Clinical findings

1. Subjective: articular pain, muscle weakness
2. Objective
 - a. Hard skin that eventually adheres to underlying structures; face becomes masklike; body motion restricted
 - b. Telangiectases on lips, fingers, face, and tongue
 - c. Dysphagia
 - d. Raynaud phenomenon
 - e. Positive LE preparation, elevated gamma-globulin levels, presence of ANAs

C Therapeutic interventions

1. Immunosuppressants: cycloSPORINE (Gengraf, Neoral) and methotrexate (Trexall); corticosteroids are rarely prescribed because they can cause a sudden decrease in renal function
2. Salicylates or analgesics for joint pain
3. Vasodilators for clinical findings of Raynaud phenomenon: angiotensin-converting enzyme inhibitors; calcium channel blockers; alpha blockers; nitroglycerin topical ointment to digits

4. Physical therapy

Nursing Care of Clients with Scleroderma

Assessment/Analysis

1. Onset and progression of clinical findings
2. Skin, particularly of hands and face
3. Joints for inflammation

Planning/Implementation

1. Support client and family emotionally; there is no cure at present
2. Instruct client
 - a. Use mild soaps and lotions for skin care
 - b. Avoid smoking
 - c. Limit exposure to cold
 - d. Encourage deep-breathing exercises
 - e. Monitor for side effects of immunosuppressive drugs (e.g., infection)
3. Monitor function of all vital organs (e.g., cardiac, respiratory, and renal status)

Evaluation/Outcomes

1. Maintains skin integrity
2. Verbalizes acceptance of changes in appearance and disease
3. Reports clinical findings of vital organ involvement

CHAPTER 11

Nursing Care of Clients with Neuromusculoskeletal System Disorders

Overview

Review of Anatomy and Physiology

Structures and Functions of the Nervous System

Overview

A Central nervous system (CNS)

1. Brain
2. Spinal cord

B Peripheral nervous system (PNS)

1. Cranial nerves
2. Spinal nerves
3. Autonomic nervous system (ANS)
 - a. Sympathetic nervous system: mediated by neurotransmitter norepinephrine
 - b. Parasympathetic nervous system: mediated by neurotransmitter acetylcholine

Neurons

Nerve cells: basic structural and functional units

A Types

1. Sensory (afferent) neurons: transmit impulses to spinal cord or brain
2. Motoneurons (efferent): transmit impulses away from brain or spinal cord to muscles or glands
 - a. Upper motor neurons: located in CNS; destruction causes loss of voluntary control, muscle spasticity, and hyperactive reflexes
 - b. Lower motor neurons: cranial and spinal efferent neurons that lie in gray matter of spinal cord and extend into the peripheral nervous system and end at myoneural junctions in muscles; destruction causes loss of voluntary control, muscle flaccidity, and loss of reflexes

B Impulse transmission

1. Cell body: contains a nucleus and other cytoplasmic matter
2. Dendrite: carry impulses toward cell body
3. Axon: carries impulse away from cell body
4. Myelin: multiple, dense layers of membrane around an axon or dendrite; myelinated nerve fibers transmit nerve impulses more rapidly than nonmyelinated fibers
5. Nerve impulses are excitatory or inhibitory
6. Synapse
 - a. Point of contact between axon of one cell and dendrites of another
 - b. Axons enlarge to form synaptic terminals that secrete neurotransmitters

Brain

A General considerations

1. Has large blood supply and high oxygen consumption
2. Uses glucose for energy metabolism, so hypoglycemia can alter brain function
3. Protected by blood-brain barrier, a selective filtration system that isolates the brain from certain substances in the general circulation

4. Basic tissue types: neuron cell aggregations (gray matter) and tracts of myelinated fibers (white matter)

B Brainstem

1. Consists of medulla, pons, and midbrain
2. Conducts impulses between spinal cord and brain; most motor and sensory fibers decussate (cross over) in medulla
3. Contains reflex centers for heart, respirations, vomiting, coughing, and swallowing; controls blood vessel diameter
4. Cranial nerves III through XII originate in brainstem

C Cerebellum: exerts synergic control over skeletal muscles, producing smooth, precise movements; coordinates skeletal muscle contractions; promotes posture, equilibrium, and balance

D Diencephalon

1. Thalamus
 - a. Crudely translates sensory impulses into sensations but does not localize them
 - b. Processes motor information from cerebral cortex and cerebellum and projects it back to motor cortex
 - c. Contributes to emotional component of sensations (pleasant or unpleasant)
2. Hypothalamus
 - a. Part of neural path by which emotions and other cerebral functions can alter vital, automatic functions (e.g., heartbeat, blood pressure, peristalsis, and secretion by glands)
 - b. Secretes neuropeptides that influence secretion of various anterior pituitary hormones
 - c. Produces antidiuretic hormone (ADH) and oxytocin, which are secreted by the posterior pituitary
 - d. Contains appetite center and satiety center
 - e. Serves as a heat-regulating center by relaying impulses to lower autonomic centers for vasoconstriction, vasodilation, and sweating, and to somatic centers for shivering
 - f. Maintains waking state; part of arousal or alerting neural pathway
3. Optic chiasm: point of crossing over (decussation) of optic nerve fibers

E Cerebral cortex: consists of multiple lobes divided into two hemispheres covered by gray matter forming folds (convolutions) composed of hills (gyri) and valleys (sulci) ([Figure 11-1: Cerebral cortex](#))

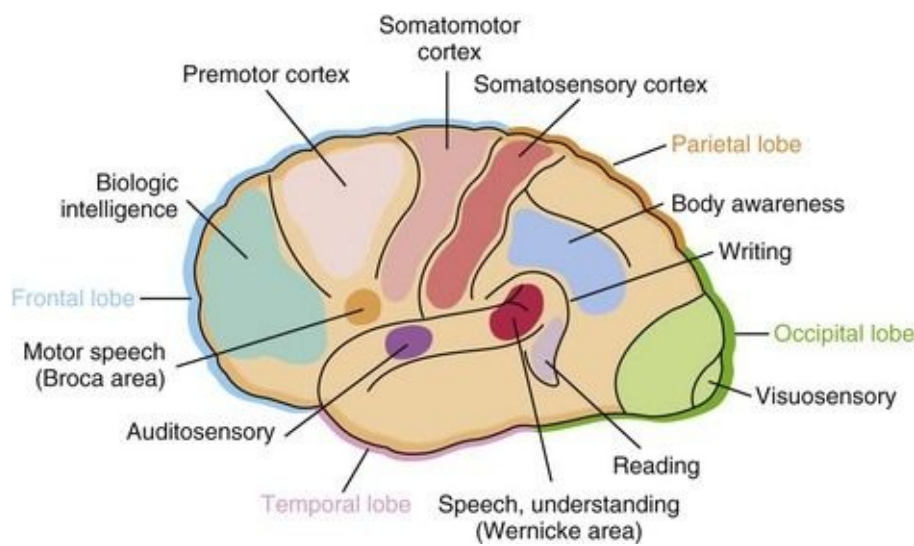


FIGURE 11-1 Cerebral cortex. (Modified from Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

1. Frontal lobe
 - a. Influences abstract thinking, sense of humor, and uniqueness of personality
 - b. Controls contraction of skeletal muscles and synchronization of muscular movements
 - c. Exerts control over hypothalamus; influences basic biorhythms
 - d. Controls muscular movements necessary for speech (Broca area)
 2. Parietal lobes
 - a. Translate nerve impulses into sensations (e.g., touch, temperature)
 - b. Interpret sensations; provide appreciation of size, shape, texture, and weight
 - c. Interpret sense of taste
 3. Temporal lobes
 - a. Translate nerve impulses into sensations of sound and interpret sounds (Wernicke's area; usually in dominant hemisphere)
 - b. Interpret sense of smell
 - c. Control behavior patterns
 4. Occipital lobe
 - a. Interprets sense of vision
 - b. Provides appreciation of size, shape, and color
- F Brain and spinal cord protection
1. Vertebrae around cord; cranial bones around brain
 2. Meninges
 - a. Dura mater: white fibrous tissue, outer layer
 - b. Arachnoid: "cobwebby" middle layer
 - c. Pia mater: innermost layer; adheres to outer surface of cord and brain; contains blood vessels
 3. Spaces
 - a. Subarachnoid space: around brain and cord between arachnoid and pia mater
 - b. Subdural space: between dura mater and arachnoid
 - c. Epidural space: between dura mater and cranial bones
 4. Ventricles and cerebral aqueduct inside brain; four cavities known as first, second, third, and fourth ventricles
 - a. Cerebrospinal fluid (CFS) formed by plasma filtering from network of capillaries (choroid

plexus) in each ventricle

- b. CFS circulates throughout ventricles in the brain and subarachnoid space and returns to blood via venous sinuses of brain

Cranial Nerves

Twelve pairs. ([Table 11-1: Distribution and Function of Cranial Nerve Pairs](#) and [Figure 11-2: Cranial nerves](#))

Table 11-1

Distribution and Function of Cranial Nerve Pairs*

Name and Number	Distribution	Function
Olfactory (I)	Nasal mucosa, high up along the septum especially	Sense of smell (sensory only)
Optic (II)	Retina of eyeball	Vision (sensory only)
Oculomotor (III)	Extrinsic muscles of eyeball, except superior oblique and external rectus; also intrinsic eye muscles (iris and ciliary)	Eye movements; constriction of pupil and bulging of lens, w hich together produce accommodation for near vision
Trochlear (IV), smallest cranial nerve	Superior oblique muscle of eye	Eye movements
Trigeminal (V) (or trifacial), largest cranial nerve	Sensory fibers to skin and mucosa of head and to teeth; muscles of mastication (sensory and motor fibers)	Sensation in head and face; chewing movements
Abducens (VI)	External rectus muscle of eye	Abduction of eye
Facial (VII)	Muscles of facial expression; taste buds of anterior two thirds of tongue; motor fibers to submaxillary and sublingual salivary glands	Facial expressions; taste; secretion of saliva
Acoustic (VIII) (vestibulocochlear)	Inner ear	Hearing and equilibrium (sensory only)
Glossopharyngeal (IX)	Posterior third of tongue; mucosa and muscles of pharynx; parotid gland; carotid sinus and body	Taste and other sensations of tongue; secretion of saliva; swallowing movements; function in reflex arcs for control of blood pressure and respiration
Vagus (X) (or pneumogastric)	Mucosa and muscles of pharynx, larynx, trachea, bronchi, esophagus; thoracic and abdominal viscera	Sensations and movements of organs supplied; for example, slows heart, increases peristalsis and gastric and pancreatic secretion; voice production
Spinal accessory (XI)	Certain neck and shoulder muscles (muscles of larynx, sternocleidomastoid, trapezius)	Shoulder movements; turns head; voice production; muscle sense
Hypoglossal (XII)	Tongue muscles	Tongue movements, as in talking; muscle sense

*NOTE: The first letters of the words in the following sentence are the first letters of the cranial nerves, and many generations of anatomy students have used it as an aid to memorizing the names: “On Old Olympus’ Towering Tops, A Finn and German Viewed Some Hops.” (There are several slightly different versions of the mnemonic.)

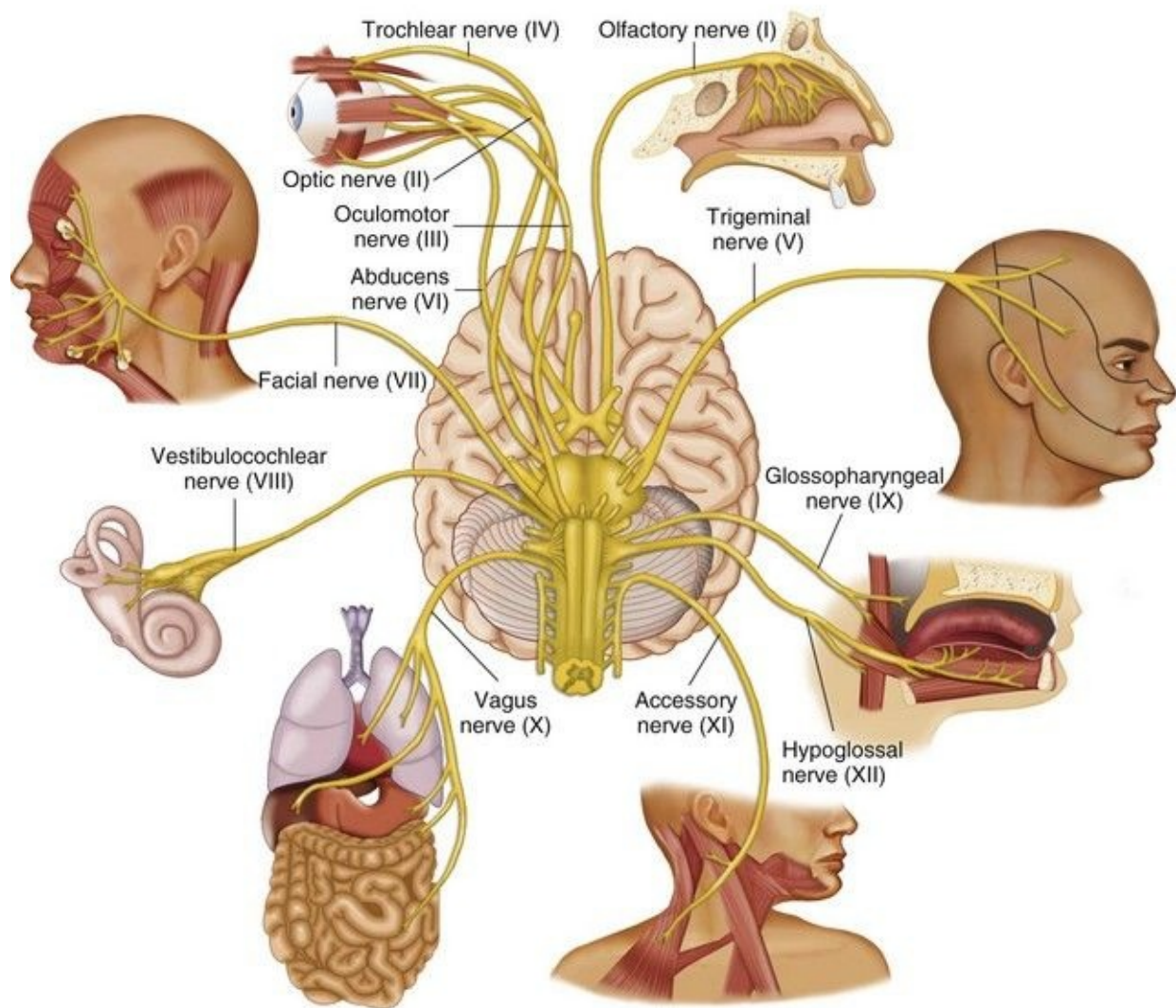


FIGURE 11-2 Cranial nerves. (From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010, Mosby.)

Spinal Cord

A Structure

1. Inner core of gray matter shaped like a three-dimensional H
2. Long columns of white matter surround cord's inner core of gray matter; namely, right and left anterior, lateral, and posterior columns; composed of numerous sensory and motor tracts

B Functions

1. Sensory tracts conduct impulses up cord to brain (e.g., spinothalamic tracts, two of the six ascending tracts, conduct sensations of pain, temperature, vibration, and proprioception)
2. Motor tracts (pyramidal and extrapyramidal tracts) conduct impulses down cord from brain (e.g., the two corticospinal tracts decussate, controlling voluntary movement on side of body opposite the cerebral cortex from which the impulse initiated; three vestibulospinal tracts are involved with some autonomic functions)
3. Gray matter of cord contains reflex centers for all spinal cord reflexes

Spinal Nerves

A Thirty-one pairs, each containing a dorsal root and a ventral root

B Branches of spinal nerves form intricate networks of fibers (e.g., brachial plexus), from which nerves emerge to supply various parts of skin, mucosa, and skeletal muscles

C All spinal nerves are composed of both sensory dendrites (dorsal root) and motor axons (ventral root)

Autonomic Nervous System

A Conducts impulses from brainstem or cord out to visceral effectors (e.g., cardiac muscle, smooth muscle, and glands)

B Consists of two divisions

1. Sympathetic (adrenergic fibers) secretes norepinephrine: influences heart, smooth muscle of blood vessels and bronchioles, and glandular secretion
2. Parasympathetic (cholinergic fibers) secretes acetylcholine: influences digestive tract and smooth muscle to promote digestive gland secretion, peristalsis, and defecation; influences heart to decrease rate and contractility

C Autonomic antagonism and summation: sympathetic and parasympathetic impulses tend to produce opposite effects ([Table 11-2: Autonomic Functions](#))

Table 11-2
Autonomic Functions

Autonomic Effector	Effect of Sympathetic Stimulation (Neurotransmitter: Norepinephrine Unless Otherwise Stated)	Effect of Parasympathetic Stimulation (Neurotransmitter: Acetylcholine)
Cardiac Muscle	Increased rate and strength of contraction (beta receptors)	Decreased rate and strength of contraction
Smooth Muscle of Blood Vessels		
Skin blood vessels	Constriction (alpha receptors)	No effect
Skeletal muscle blood vessels	Dilation (beta receptors)	No effect
Coronary blood vessels	Constriction (alpha receptors) Dilation (beta receptors)	Dilation
Abdominal blood vessels	Constriction (alpha receptors)	No effect
Blood vessels of external genitals	Constriction (alpha receptors)	Dilation of blood vessels causing erection
Smooth Musde of Hollow Organs and Sphincters		
Bronchioles	Dilation (beta receptors)	Constriction
Digestive tract, except sphincters	Decreased peristalsis (beta receptors)	Increased peristalsis
Sphincters of digestive tract	Constriction (alpha receptors)	Relaxation
Urinary bladder	Relaxation (beta receptors)	Contraction
Urinary sphincters	Constriction (alpha receptors)	Relaxation
Reproductive ducts	Contraction (alpha receptors)	Relaxation
Eye		
Iris	Contraction of radial muscle; dilated pupil	Contraction of circular muscle; constricted pupil
Ciliary	Relaxation; accommodates for far vision	Contraction; accommodates for near vision
Hairs (pilomotor muscles)	Contraction produces goose pimples, or piloerection (alpha receptors)	No effect
Glands		
Sweat	Increased sweat (neurotransmitter: acetylcholine)	No effect
Lacrimal	No effect	Increased secretion of tears
Digestive (salivary, gastric, etc.)	Decreased secretion of saliva; not known for others	Increased secretion of saliva
Pancreas, including islets	Decreased secretion	Increased secretion of pancreatic juice and insulin
Liver	Increased glycogenolysis (beta receptors); increased blood glucose level	No effect
Adrenal medulla*	Increased epinephrine secretion	No effect

Sympathetic preganglionic axons terminate in contact with secreting cells of the adrenal medulla. Thus, the adrenal medulla functions, to quote someone’s descriptive phrase, as a “giant sympathetic postganglionic neuron.”

(From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010.)

D Under conditions of stress, sympathetic impulses to visceral effectors dominate over parasympathetic impulses; however, in some individuals under stress, parasympathetic impulses via the vagus nerve increase to glands and smooth muscle of the stomach, stimulating hydrochloric acid secretion and gastric motility

Nerve Impulse Conduction

A Sodium-potassium pump: transports sodium out and potassium into cells; requires adenosine triphosphate (ATP) to function

B Resting potential: exists when cells are in an unstimulated or resting state

C Action potential: composed of depolarization and repolarization; known as the nerve impulse

D Reflex arc: pathway to spinal cord and back to effector organ that elicits a single, specific response; primitive nerve activity

E Types of neurotransmitters (there are at least 30 types)

1. Monoamines (e.g., norepinephrine, dopamine, serotonin, acetylcholine); axons that release acetylcholine are called cholinergic; those that release norepinephrine are called adrenergic
2. Amino acids (gamma-aminobutyric acid [GABA], glutamic acid, glycine, taurine); GABA is most common inhibitory transmitter in the brain
3. Neuropeptides (e.g., vasopressin, enkephalins, and endorphins); some influence hormone levels and others affect perception and integration of pain and emotional experience

4. Prostaglandins: some inhibit and some excite; may moderate actions of other transmitters by influencing the neuronal membrane

Sense Organs

A Taste

1. Taste buds consist of receptors connected to cranial nerves VII and IX
2. Responds to sweet at tongue tip; sour and salt at tip and sides; bitter at back
3. Olfaction involved in sense of taste

B Olfaction

1. Receptors in epithelium of nasal mucosa; odors sensed as chemicals interact with receptors on sensory hairs of olfactory cells
2. Olfactory pathways use cranial nerve I

C Sight

1. Outer layer: sclera and cornea; middle layer: choroid, which includes iris, ciliary body, ciliary muscles, and suspensory ligaments holding the lens; inner layer: retina
2. Anterior cavity contains aqueous humor; posterior cavity contains vitreous humor
3. Extrinsic muscles move eyeball in various directions; intrinsic muscles (e.g., ciliary muscles) control size of pupil and shape of lens, accomplishing accommodation
4. Accessory structures (provide protection): eyebrows, eyelashes, lacrimal apparatus, and eyelids; lined with mucous membrane (conjunctiva) that continues over surface of eyeball; inner and outer canthi at junction of eyelids
5. Physiology of vision
 - a. Refraction, accommodation, and constriction of pupils: necessary to focus image on retina
 - b. Binocular vision: visual fields of two eyes overlap; although each eye sees some areas of the environment that the other eye cannot, both eyes see large areas in common; human brain interprets these overlapping fields in terms of depth; optic chiasm is site of crossover of fibers of optic nerves, permitting binocular vision
 - c. Stimulation of retina: rods considered receptors for night vision; cones are receptors for daylight and color vision; macula lutea, center of retina, receives and analyzes light only from center of visual field and contains fovea centralis where cones are concentrated
 - d. Conduction to visual area in occipital lobe of cerebral cortex by fibers of cranial nerve II and optic tract
6. Errors of refraction
 - a. Myopia (nearsightedness): focuses rays anterior to retina
 - b. Hyperopia (farsightedness): focuses rays posterior to retina
 - c. Astigmatism: irregular curvature of surface of cornea that focuses rays unevenly on retina

D Hearing

1. External ear: consists of auricle (or pinna), external acoustic meatus (ear opening), and external auditory canal
2. Middle ear: separated from external ear by tympanic membrane; middle ear contains auditory ossicles (malleus, incus, stapes) and openings from eustachian tubes, mastoid cells, external ear, and internal ear
3. Inner ear (or labyrinth)
 - a. Vestibule contains maculae acusticae; vestibular nerve (branch of eighth cranial [acoustic or vestibulocochlear] nerve); provides information about equilibrium, position of head, and

acceleration and deceleration

- b. Semicircular canals contain crista ampullaris, sense organ for sensations of equilibrium and head movements
- c. Cochlea contains membranous cochlear duct located in organ of Corti, the hearing sense organ; cochlear nerve (branch of eighth cranial nerve) supplies organ of Corti

4. Physiology of hearing

- a. Sound waves strike tympanic membrane, causing it to vibrate; vibrations sequentially move the malleus, incus, and stapes
- b. Movement of stapes against oval window starts a ripple in perilymph, which is transmitted to endolymph inside the cochlear duct; this stimulates organ of Corti
- c. Cochlear nerve conducts impulses from organ of Corti to brain; hearing occurs when impulses reach the auditory area in temporal lobe of cerebral cortex

Structures and Functions of the Muscular System

A Purpose: movement, posture, and heat production

B Types of muscles and neural control

- 1. Striated: controlled by voluntary nervous system
- 2. Smooth: controlled by autonomic nervous system; not under voluntary control
- 3. Cardiac: control is identical to smooth muscle

C Bursa: synovial fluid-filled sac situated where friction occurs; facilitates movement of tendons over bone, relieving pressure between moving parts

D Tendons: bands of fibrous tissue connecting muscle to bone

E Ligaments: bands of fibrous tissue connecting bone to cartilage; support and strengthen joints

Skeletal Muscles

A Anatomy

- 1. Muscle fibers coated with fibrous connective tissue (fascia) that binds muscle to surrounding tissues
- 2. Attached to at least two bones; bone that moves is insertion bone, and bone that is stationary is origin bone
- 3. Muscle fibers contain myofibrils specialized for contraction; composed of protein myofilaments, containing actin and myosin

B Physiology of muscle contraction

1. Basic principles of muscle contraction

- a. Contract only if stimulated; anything that prevents impulse conduction paralyzes muscles
- b. Skeletal muscles act in groups; classified as prime movers, synergists, or antagonists
- c. Contraction of skeletal muscle either shortens the muscle (producing movement) or increases muscle tension (tone)
 - (1) Tonic contractions: produce muscle tone; there are no muscle movements
 - (2) Isometric contractions: increase degree of muscle tone; daily isometric contractions gradually increase muscle strength; there are no muscle movements
 - (3) Isotonic contractions: muscle is shortened, producing movement
- d. Treppe (staircase phenomenon): when a muscle contracts a few times, subsequent contractions are more powerful

- e. Shivering: rapid, repetitive, involuntary muscle contractions caused by hypothalamic temperature regulating center; most ATP energy is converted to heat, but a small part goes to muscle contraction; consumes large amounts of oxygen

2. Energy of muscle contraction

- a. Electrical energy flows along transverse intracellular tubules associated with sarcoplasmic reticulum
- b. Calcium ions released by electrical energy inactivate troponin, which blocks interaction between actin and myosin
- c. Myosin releases and uses energy from ATP to cause contraction
- d. Creatine phosphate replenishes ATP as needed; source of energy is glucose and fatty acids oxidized aerobically to carbon dioxide and water
- e. Anaerobic breakdown of glucose during prolonged and vigorous muscle contraction results in lactic acid buildup associated with fatigue and pain (lactic acidosis); this oxygen debt is reversed during rest or oxygen administration

3. Neuromuscular junction

- a. Axon terminal, containing synaptic vesicles, forms a junction with sarcolemma of muscle fiber; tiny synaptic cleft separates presynaptic membrane (axon) from postsynaptic membrane (sarcolemma)
- b. When a nerve impulse reaches an axon terminal, acetylcholine is released from synaptic vesicles into the synaptic cleft; when acetylcholine binds to receptor sites on the sarcolemma, a channel opens and sodium and potassium ions flow down their concentration gradients; the sarcolemma is depolarized, and electrical energy flows into the muscle fiber; cholinesterase inactivates acetylcholine to prevent static contraction

4. Changes in muscle mass

- a. Hypertrophy: physical enlargement of muscle resulting from increase in cellular components; muscle fibers do not divide to produce more fibers
- b. Atrophy: wasting of muscle resulting from a variety of factors (e.g., diminished cellular proliferation, death of cells, decreased activity, hormonal changes)
- c. Hyperplasia: proliferation of normal cells, increasing the volume of tissue

Structures and Functions of the Skeletal System

A Purpose

- 1. Provides supporting framework; protects viscera and brain
- 2. Bones serve as levers and joints as fulcrums
- 3. Hemopoiesis by red bone marrow: formation of all blood cells; some lymphocytes and monocytes are formed in lymphatic tissue
- 4. Mineral storage: calcium, phosphorus, and sodium

B Skeleton: contains 206 bones

C Joint: junction of two or more bones

- 1. Synarthrotic (fibrous): generally nonmovable; no joint cavity or capsule; bones held together by fibrous tissue (e.g., sutures)
- 2. Amphiarthrotic (cartilaginous): slightly movable; no joint cavity or capsule; bones held together by cartilage and ligaments (e.g., symphysis pubis)
- 3. Diarthrotic: freely movable; lined by layer of hyaline cartilage covering articular surfaces of joining bones; held together by fibrous capsule lined with synovial membrane and ligaments

- a. May be ball and socket (e.g., hip), hinge (e.g., elbow), condyloid (e.g., wrist), pivot, gliding, or saddle
- b. Movement depends on type of joint
 - (1) Flexion: bending one bone on another, decreasing angle between adjacent bones
 - (2) Extension: stretching one bone away from another, increasing angle between adjacent bones
 - (3) Abduction: moving bone away from body's midline
 - (4) Adduction: moving bone toward body's midline
 - (5) Rotation: pivoting bone on its axis
 - (6) Internal rotation: turning of a limb toward midline of body
 - (7) External rotation: turning of a limb away from midline of body
 - (8) Circumduction: circular movement of a limb
 - (9) Supination: forearm movement turning palm forward or upward
 - (10) Pronation: forearm movement turning palm backward or downward
 - (11) Inversion: ankle movement turning sole of the foot inward
 - (12) Eversion: ankle movement turning sole of the foot outward
 - (13) Protraction: moving a part forward, such as lower jaw
 - (14) Retraction: pulling a part back; opposite of protraction
 - (15) Plantar flexion: pointing toes downward away from body
 - (16) Dorsiflexion: pointing toes upward toward body

D Variations in skeletons

- 1. Male skeleton larger and heavier than female skeleton
- 2. Male pelvis deep and funnel shaped with narrow, pubic arch; female pelvis shallow, broad, and flaring with wider pubic arch
- 3. From infancy to adulthood: bones grow and their relative sizes change partly due to stimulation by somatotrophic hormone (e.g., torso becomes proportionately larger to head, pelvis becomes relatively larger, and legs proportionately longer)
- 4. From young adulthood to old age: bone margins and projections change gradually; marginal lipping and spurs occur, thereby restricting movement
- 5. Demineralization results in a reduction of bone mass per unit of volume (osteoporosis); mostly occurs in postmenopausal women; related to decreased hormone production, lack of exercise that stresses skeleton, and inadequate intake of calcium, magnesium, and vitamins A, C, and D

Bone Formation

A Ossification process

- 1. Types of bone: cancellous (spongy) and compact (dense)
- 2. Formation of bone matrix (intercellular substance of bone): consist of collagen fibers and a cementlike ground substance; osteoblasts (bone-forming cells) synthesize collagen and cement substance from dietary proteins; exercise and estrogens stimulate osteoblasts to form bone matrix
- 3. Calcification of bone matrix: calcium salts deposit in bone matrix
- 4. Balance of osteoblastic (bone building) and osteoclastic (bone resorption) activity continuously turns over bone tissue; osteopenia and osteoporosis occur when osteoclastic activity is greater than osteoblastic activity

B Nutrients required for growth, maintenance, and remodeling of bone

- 1. Vitamin A: promotes chondrocyte function and synthesis of lysosomal enzymes for osteoclast

activity

2. Vitamin C: promotes synthesis of collagen and bone matrix
3. Vitamin D: promotes calcium and phosphorus absorption
4. Calcium: needed to form calcium phosphate and hydroxyapatite
5. Magnesium: important enzyme activator in mineralization process
6. Phosphorus: needed to form calcium phosphate and hydroxyapatite

C Repair of bone

1. When bone is fractured, connective tissue grows into and around fracture (callus)
2. Macrophages reabsorb damaged/dead cells
3. Osteoclasts dissolve bone fragments
4. Osteoblasts produce new bone substance and fuse bone together
5. Final bone shape slowly remodeled; complete process takes several months; slower than epithelial tissue, which has a higher metabolic rate and richer blood supply

Review of Physical Principles

A Lever: rigid bar that moves about a fixed point known as the fulcrum; a small force is applied through a large distance, and the other end of the lever exerts a large force over a small distance; related to effective body mechanics

B Pulleys: can multiply force at expense of distance; used in traction

C Center of gravity

1. Area of body where majority of weight is located; in a human the center of gravity is the pelvic cavity; pelvic cavity should be over the base of support for stability and balance
2. When bending over, body's center of gravity shifts from a stable position between the legs to an unstable position outside the legs; keeping legs apart widens base of support

D Buoyancy of water: reduces energy to move muscles or objects against the force of gravity

E Pascal's principle: when pressure is applied to fluid in a closed, nonflexible container, it is transmitted undiminished throughout all parts of the fluid and acts in all directions (e.g., brain tumor and hydrocephalus); increasing pressure causes pain

F Electromagnetic fields: strong magnetic field (e.g., magnetic resonance imaging [MRI]) or high-energy electromagnetic radiation (e.g., x-ray, computed tomography [CT]) used to diagnose abnormalities

G Sound

1. Mechanical vibration progresses better through solids and liquids than through gases (e.g., bowel sounds, breath sounds)
2. Ultrasonic vibrational frequencies exceeding upper level of human hearing
 - a. Low-intensity ultrasonic waves: used to treat arthritis and bursitis, break kidney stones, and help dissolve scars
 - b. Sonograms: pictures derived through differential reflection or transmission of sound waves; used as a diagnostic tool
3. Hearing aids: electronic devices that amplify sounds to assist the hearing impaired
 - a. Air-conduction type sends an amplified sound wave into ear, thus using person's own middle ear
 - b. Bone-conduction type bypasses middle ear and transmits amplified vibrations to skull bones, which in turn produces vibrations in inner ear

Review of Microorganisms

A Bacterial pathogens

1. *Clostridium tetani*: large, gram-positive, motile bacillus forming large terminal spores; an obligate anaerobe; causes tetanus (lockjaw)
2. *Neisseria meningitidis*: gram-negative diplococcus; causes epidemic (meningococcic) meningitis
3. *Borrelia burgdorferi*: transmitted by tick bite; causes Lyme disease

B DNA viruses: varicella (chickenpox), herpes zoster (shingles), infectious mononucleosis, and cytomegalic inclusion disease

C RNA viruses: mostly borne by mosquitoes and ticks; cause eastern equine encephalomyelitis, western equine encephalomyelitis, and Venezuelan equine encephalomyelitis

D Nematode: *Trichinella spiralis*: small parasitic nematode; causes trichinosis

Related Pharmacology

Anticonvulsants (Antiseizure, Antiepileptic Medications)

A Description

1. Modify bioelectric activity at subcortical and cortical sites by stabilizing nerve cell membranes and/or raising seizure threshold to incoming stimuli
2. Decrease occurrence, frequency, and/or severity of seizure episodes
3. Available in oral and parenteral (IM, IV) preparations
4. Generic substitutes are not interchangeable; formulations vary

B Examples

1. Hydantoins: used for tonic-clonic (formerly grand mal) and psychomotor seizures; phenytoin (Dilantin), fosphenytoin
2. Barbiturates: used for tonic-clonic and partial seizures; phenobarbital, primidone (Mysoline)
3. Benzodiazepines: used as anticonvulsant and antianxiety agents; for status epilepticus—diazepam (Valium), lorazepam (Ativan); for absence (formerly petit mal) seizures—clonazepam (Klonopin)
4. Succinimides: used for absence seizures; ethosuximide (Zarontin), methsuximide (Celontin)
5. Gamma-aminobutyric acid (GABA) analogs: used for partial seizures; to control pain of herpes zoster (shingles) and other neurologic disorders; gabapentin (Neurontin), pregabalin (Lyrica)
6. Carboxamides: used for tonic-clonic and psychomotor seizures; to control pain of trigeminal neuralgia and other neurologic disorders; carbamazepine (Tegretol), oxcarbazepine (Trileptal)
7. Valproates: used for absence seizures; valproic acid (Depakene), divalproex sodium (Depakote)

C Major side effects

1. Dizziness, drowsiness (CNS depression), paresthesia
2. Nausea, vomiting (irritation of gastric mucosa)
3. Skin rash (hypersensitivity)
4. Blood dyscrasias (decreased RBCs, WBCs, platelet synthesis)
5. Hepatotoxicity
6. Phenytoin: ataxia (neurotoxicity); gingival hyperplasia (gum irritation leading to tissue overgrowth); hirsutism (virilism); hypotension (decreased atrial and ventricular conduction); reddish brown urine; therapeutic serum level is 10 to 20 mcg/mL

D Nursing care

1. Administer with food to reduce GI irritation

2. Instruct client
 - a. Avoid alcohol and other CNS depressants
 - b. Notify health care provider if fever, sore throat, skin rash, unusual bleeding, loss of balance, or a seizure occur
 - c. Carry medical alert card
 - d. Avoid abrupt discontinuation; dose must be tapered
3. Encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and prevent possible drug-induced deficiencies of folic acid, calcium, and vitamin D
4. Instruct to review other medications, supplements, and herbal remedies with health care provider and pharmacist because of drug interactions (e.g., phenytoin increases metabolism of oral contraceptives and anticoagulants; ginkgo biloba may decrease phenytoin's effectiveness as an anticonvulsant)
5. Monitor for therapeutic blood levels
6. Teach safety precautions
7. Care for clients receiving phenytoin (Dilantin)
 - a. Avoid mixing with other IV infusions; incompatible with 5% dextrose
 - b. Provide oral hygiene; inspect oral mucosa for infection and gingival hyperplasia
 - c. Assess for initial potentiation of anticoagulant effect followed by inhibition
 - d. Assess urine; drug may discolor urine pink to red-brown
 - e. Assess for tissue necrosis because phenytoin is irritating to veins

Osmotic Diuretics

A Description

1. Reduce cerebral edema and intraocular pressure by increasing osmotic pressure within vasculature, thus causing fluid to leave tissues and be excreted in urine
 2. Available in parenteral (IV) preparations
- B Example: mannitol (Osmitol)**
- C Major side effects**
1. Headache (dehydration)
 2. Nausea (fluid and electrolyte imbalance)
 3. Chills (fluid and electrolyte imbalance)
 4. Rebound edema when discontinued (fluid and electrolyte imbalance)
 5. Fluid/electrolyte imbalances (hyponatremia and hypokalemia resulting from promotion of sodium and potassium excretion)

D Nursing care

1. Administer intravenously through a filter
2. Monitor I&O, daily weight, and serum electrolytes
3. Question prescription if client has heart failure or impaired renal function
4. Elevate head of bed during therapy
5. Assess for signs of increased intracranial pressure (e.g., decreasing pulse rate, widening pulse pressure, increasing systolic pressure, unequal or dilated pupils, change in level of consciousness, vomiting)

Calcium Enhancers

A Description

1. Calcium ion replacement directly increases serum calcium concentration
2. Vitamin D replacement improves absorption of calcium from intestines
3. Bisphosphonates absorb calcium phosphate crystals in bone and may directly block dissolution of hydroxyapatite crystals of bone; inhibit resorption of bone by osteoclast; studies have indicated that they may decrease risk of invasive breast cancer
4. Parathyroid agents decrease bone resorption
5. Hormone replacement therapy ([Chapter 23](#), Nursing Care to Promote Childbearing and Women's Health, Related Pharmacology, Estrogens; and [Chapter 24](#). Nursing Care Related to Major Disorders Affecting Women's Health, Osteoporosis)

B Examples

1. Calcium ion replacement: calcium carbonate (Os-Cal); calcium chloride; calcium gluconate (Kalcinate)
2. Vitamin D replacement: calcitriol (Rocaltrol), cholecalciferol (Calciferol)
3. Bisphosphonates: prescribed daily, weekly, monthly, or yearly depending on medication and client's condition; Oral drugs: alendronate (Fosamax), risedronate (Actonel), ibandronate (Boniva); IV drugs: pamidronate (Aredia), zoledronic acid (Reclast)
4. Parathyroid agents: nasal spray or injection—calcitonin (Miacalcin); Sub-Q—teriparatide (Forteo)

C Major side effects

1. Nausea, vomiting, renal calculi, muscle flaccidity (hypercalcemia)
2. Constipation (increased serum calcium level delays passage of stool)
3. Calcium preparations: cardiac disturbances (stimulation of cardiac conduction)
4. Vitamin D: dry mouth; metallic taste (early vitamin D toxicity associated with hypercalcemia)
5. Bisphosphonates: bone pain, headache, abdominal pain, nausea
6. Parathyroid agents: diarrhea, urinary frequency, headache, chest pressure, and dyspnea

D Nursing care

1. Assess for signs of hypercalcemia and tetany
2. Monitor levels of serum electrolytes during course of therapy
3. Encourage increased fluid intake to reduce potential of renal calculi and constipation; stress vitamin D and calcium-rich foods (e.g., eggs, cheese, whole grain cereals, and cranberries); limit milk, fruits, and vegetables
4. Calcium preparations: assess for potentiation of digitalis effect
5. Oral bisphosphonates: instruct to take on empty stomach with a full glass of water and to remain upright for 30 to 60 minutes; can cause esophageal ulcers

Antiparkinson Agents

A Description

1. Anticholinergic drugs act at central sites to inhibit cerebral motor impulses and block efferent impulses that cause muscular rigidity
2. Dopaminergic agents: supply or cause release of dopamine required for norepinephrine synthesis and maintenance of neurohormonal balance at subcortical, cortical, and reticular sites that control motor function
3. Catechol O-methyltransferase (COMT) inhibitors: deter enzymes involved in breakdown of

levodopa, thereby prolonging duration of action of levodopa in CNS

4. Monoamine oxidase B (MAO-B) inhibitor: exerts neuroprotective effect

5. Antiviral agent: potentiates action of dopamine

B Examples

1. Anticholinergic: benztropine mesylate (Cogentin)

2. Dopaminergic agents: carbidopa-levodopa (Sinemet), carbidopa-levodopa-entacapone (Stalevo);
DOPamine receptor agonists—bromocriptine (Parlodel), ropinirole (Requip), pramipexole (Mirapex)

3. COMT inhibitors: entacapone (Comtan), tolcapone (Tasmar)

4. MAO (Monoamine Oxidase)-B inhibitor: selegiline (Eldepryl)

5. Antiviral agent: amantadine

C Major side effects

1. Anticholinergic drugs (decrease parasympathetic stimulation)

a. Dry mouth (decreased salivation)

b. Blurred vision (pupillary dilation); contraindicated with narrow-angle glaucoma

c. Constipation (decreased peristalsis)

d. Urinary retention (decreased muscle tone)

2. Other drugs

a. Orthostatic hypotension (loss of compensatory vasoconstriction with position change)

b. Ataxia, involuntary movements, blepharospasm (neurotoxicity)

c. CNS disturbances and emotional disturbances including suicidal ideation (CNS effect)

d. Nausea, vomiting (irritation of gastric mucosa)

e. Bone marrow depression

f. Dopaminergics: neuroleptic malignant syndrome (e.g., muscle rigidity, fever, mental status changes, unstable blood pressure)

D Nursing care

1. Instruct client

a. Avoid discontinuing drug suddenly

b. Treatment controls symptoms but is not a cure

c. Continue health supervision

d. Take COMT inhibitors in conjunction with dopaminergic agents or they will be ineffective

2. Offer emotional support; therapy usually is life-long

3. Encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and prevent drug-induced nutrient deficiencies

4. Care for client receiving anticholinergic drugs

a. Suggest sugar-free chewing gum and hard candy to increase salivation

b. Teach to avoid potentially hazardous activities because of drug's CNS effects

c. Teach to increase fluids, roughage, and activity to prevent constipation

d. Monitor for urinary retention

5. Care for the client receiving carbidopa-levodopa

a. Monitor complete blood count (CBC), renal and hepatic function

b. Teach to limit or eliminate vitamin B₆ from diet (e.g., pork, veal, lamb, potatoes, legumes, oatmeal, wheat germ) because it decreases effectiveness of the drug

c. Inform client regarding dosage and "holiday" periods

d. Instruct client and family to monitor for extrapyramidal effects (e.g., unsteady gait,

involuntary movements)

e. Instruct client and family to report signs and symptoms of neuroleptic malignant syndrome

f. Instruct to maintain safety (e.g., change positions slowly to avoid orthostatic hypotension, avoid driving or use of heavy machinery)

6. Care for the client receiving selegiline

a. Inform that selegiline may be started early in the course of the disease because neuroprotective actions are expected

b. Teach safety precautions because drug can cause orthostatic hypotension

c. Instruct to avoid foods containing tyramine (e.g., wine, cheese, and chocolate) because their ingestion with this monoamine oxidase inhibitor (MAOI) can cause a severe hypertensive crisis

Cholinesterase Inhibitors

A Description

1. Prevent enzymatic breakdown of acetylcholine at nerve endings, thus allowing accumulation of the neurotransmitter

2. Improve strength of contraction in all muscles, including those involved with respirations

3. Used to diagnose and treat myasthenia gravis

4. Available in oral and parenteral (IM, IV) preparations

B Examples: edrophonium (Enlon, Tensilon) (used for diagnostic purposes; extremely short acting), neostigmine (Prostigmin), pyridostigmine (Mestinon), ambenonium (Mytelase)

C Major side effects

1. Nausea, vomiting (irritation of gastric mucosa)

2. Abdominal cramps, diarrhea, hypersalivation, hypotension, bradycardia, miosis (increased parasympathetic stimulation)

3. Muscle cramps (increased skeletal muscle contraction)

4. Seizures (CNS effect)

5. Acute toxicity: profound muscle weakness, pulmonary edema, bronchial constriction, and respiratory failure (cholinergic crisis); must be differentiated from myasthenic crisis with edrophonium test

D Nursing care

1. Administer on time exactly as prescribed; monitor client response; dosage is adjusted according to needs

2. Have atropine sulfate available for treatment of overdose

3. Administer with food to reduce GI irritation

4. Instruct client

a. Carry a medical alert card

b. Take medication before meals to improve chewing and swallowing

c. Encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and prevent drug-induced nutrient deficiencies

d. Report respiratory distress immediately

Skeletal Muscle Relaxants

A Description

1. Central agents: depress CNS to promote relaxation of voluntary muscles
2. Peripheral agents: block nerve impulse conduction at the myoneural junction
3. Relieve muscle spasms
4. Available in oral and parenteral (IM, IV) preparations

B Examples: carisoprodol (Soma); cyclobenzaprine (Flexeril); diazepam (Valium); Methocarbamol; baclofen (Lioresal)

C Major side effects

1. Dizziness, drowsiness (CNS depression)
2. Nausea (irritation of gastric mucosa)
3. Headache (central antimuscarinic effect)
4. Tachycardia (brainstem stimulation)

D Nursing care

1. Encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and prevent drug-induced nutrient deficiencies
2. Teach client receiving central agents to use safety precautions during initial therapy and to avoid engaging in potentially hazardous activities or using alcohol and other CNS depressants

Nonsteroidal Antiinflammatory Drugs (NSAIDs)

A Description

1. Interfere with prostaglandin synthesis
2. Alleviate inflammation and subsequent discomfort of rheumatoid conditions
3. Available in oral and parenteral (IM) preparations

B Examples

1. Older NSAIDs: diclofenac (Voltaren); etodolac (Lodine); ibuprofen (Advil, Motrin); Naproxen (Aleve, Naprosyn); salicylates (aspirin); ketorolac (Toradol)
2. Newer NSAIDs: COX-2 inhibitors—celecoxib (Celebrex), nabumetone (Relafen); cause less GI irritation

C Major side effects

1. GI ulceration, tarry stools (melena)
2. Skin rash (hypersensitivity)
3. Blood dyscrasias (e.g., decreased RBCs, WBCs, platelet synthesis)
4. CNS and genitourinary (GU) disturbances
5. Increased liver enzymes
6. COX-2 inhibitors: potentially fatal cardiovascular thrombotic events increase with duration of use

D Nursing care

1. Administer with meals to reduce GI irritation; instruct to avoid other gastric irritants such as alcohol and smoking
2. Monitor coagulation and liver profiles
3. Assess vital signs; may increase BP
4. Instruct to report side effects such as bleeding or hearing disturbance; aspirin toxicity affects cranial nerve VIII causing tinnitus
5. Encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and prevent drug-induced nutrient deficiencies; restrict

sodium intake to limit fluid retention

Antigout Agents

A Description

1. Decrease uric acid formation and increase its excretion
2. Prevent and arrest gout attacks caused by high levels of uric acid in blood
3. Available in oral and parenteral (IV) preparations

B Examples

1. Allopurinol (Zyloprim): blocks formation of uric acid
2. Colchicine (Colsalide, Colcrys): decreases uric acid crystal deposits by inhibiting lactic acid production; effective for acute attacks
3. Probenecid (Benemid): prevents formation of tophi by inhibiting reabsorption of uric acid by kidneys

C Major side effects

1. Nausea, vomiting, diarrhea (irritation of gastric mucosa)
2. Blood dyscrasias (decreased RBCs, WBCs, and platelet synthesis)
3. Liver damage (hepatotoxicity)
4. Skin rash (hypersensitivity)

D Nursing care

1. Administer prescribed antiinflammatory drugs (e.g., predniSONE [Meticorten], indomethacin [Indocin]) to work in concert with antigout medications during acute phase
2. Increase fluids to discourage formation of renal calculi
3. Encourage weight reduction if overweight
4. Monitor serum blood uric acid level to determine effectiveness of treatment; compare to normal levels for males (4.0 to 8.5 mg/dL) or females (2.7 to 7.3 mg/dL)
5. Administer with meals to reduce GI irritation
6. Instruct to avoid high-purine foods (e.g., organ meats, anchovies, sardines, and shellfish); encourage diet rich in nutrient-dense foods (fruits, vegetables, and whole grains as well as milk, cheese, and eggs); teach importance of preventing drug-induced nutrient deficiencies

Ophthalmic Agents

A Description

1. Produce a variety of actions (e.g., constriction, dilation, antiinflammatory, antiinfective)
2. Diagnose and treat conditions affecting eyes
3. Available in a variety of topical preparations; systemic acting medications are available in oral and parenteral (IM, IV) preparations

B Examples

1. Miotics: constrict pupil, pulling iris away from the filtration angle and improving outflow of aqueous humor; treat chronic open-angle glaucoma
 - a. Beta-blocker miotics: betaxolol (Betoptic), timolol (Timoptic, Cosopt)
 - b. Cholinergic miotics: carbachol (Miostat)
2. Mydriatics: dilate pupil (mydriasis) by contracting dilator muscle of iris with minimal effect on the ciliary muscle; lessens effect on accommodation
 - a. Anticholinergics (relax ciliary muscle) and cycloplegic agents (paralyze accommodation);

used to facilitate eye examinations and surgery

- b. Atropine; tropicamide (Mydrilac, Tropicacyl); cyclopentolate (Cyclogyl); dipivefrin (Propine)

3. Carbonic anhydrase inhibitors

- a. Decrease production of aqueous humor to control intraocular pressure
- b. Acetazolamide (Diamox); brinzolamide (Azopt); dorzolamide (Trusopt)

4. Osmotic agents

- a. Administered systemically to increase blood osmolality, which mobilizes fluid from eye to reduce volume of intraocular fluid; decrease intraocular pressure in glaucoma and corneal edema
- b. Mannitol (Osmitrol)

5. Corticosteroids

- a. Administered topically to decrease inflammatory response
- b. Dexamethasone (Decadron) and prednisolone (AK-Pred, Blephamide)

C Major side effects

1. Miotics

- a. Twitching eyelids, brow ache (increased cholinergic stimulation)
- b. Headache (vasodilation)
- c. Conjunctival pain (conjunctival irritation)
- d. Contact dermatitis (local irritation)

2. Mydriatics

- a. Dry mouth (decreased salivation)
- b. Flushing, fever, ataxia (CNS effect)
- c. Blurred vision, photophobia (pupillary dilation)
- d. Skin rash (hypersensitivity)
- e. Tachycardia (decreased vagal stimulation)

3. Carbonic anhydrase inhibitors

- a. Diuresis (increased excretion of sodium and water in renal tubule); metabolic acidosis
- b. Paresthesia (fluid/electrolyte imbalance)
- c. Bone marrow depression
- d. CNS disturbances (CNS effect)

4. Osmotic agents

- a. Headache (cerebral dehydration)
- b. Nausea, vomiting (fluid/electrolyte imbalance)

5. Corticosteroids

- a. Blurred vision
- b. Increased intraocular pressure

D Nursing care

1. Instruct client regarding administration technique (e.g., hand hygiene before instilling drops, placing medication in conjunctival sac, applying pressure on lacrimal duct during instillation to prevent systemic absorption, avoiding squeezing eyes shut, wiping from inner to outer canthus)
2. Assess for side effects and/or worsening of condition
3. Provide care for client receiving mydriatics: caution that vision will be blurred temporarily; advise that sunglasses will limit photophobia; caution about engaging in hazardous activities
4. Encourage continued health care supervision

Related Procedures

Computed Tomography (CT)

A Definition

1. Cross-sectional visualization of the head or other body cavity determined by computer analysis of relative tissue density as an x-ray beam passes through body
2. Provides three-dimensional information about location and extent of tumors, infarcted areas, atrophy, and vascular lesions
3. May be done with IV injection of contrast agent for enhanced visualization

B Nursing care

1. Explain procedure; it will be necessary to lie still and equipment is complex but will cause no discomfort; infants and cognitively impaired or anxious clients may need sedation
2. Obtain informed consent
3. If contrast is planned, assess for allergy to iodine, a component of contrast material; inform that if a contrast medium is used there may be a feeling of warmth, facial flushing, and a salty taste in the mouth
4. Withhold food for approximately 2 hours before contrast testing; dye may cause nausea in sensitive clients
5. Remove wigs, clips, and pins before CT of head
6. Assess for untoward effects such as hypersensitivity reactions (e.g., palpitations, respiratory distress, headache)
7. Encourage fluids after procedure if contrast agent is used
8. Critically ill clients may need continuous monitoring and nursing care during the procedure

Magnetic Resonance Imaging (MRI)

A Definition

1. Uses magnetic fields and radio waves to produce cross-sectional images
2. Produces accurate images of blood vessels, bone marrow, gray and white brain matter, spinal cord, globe of eye, heart, abdominal structures, and breast tissue; can monitor blood velocity; particularly useful for diagnosing multiple sclerosis

B Nursing care

1. Explain procedure; obtain informed consent
2. Screen for ability to withstand confining surroundings (claustrophobia) because client must remain in the tunnel-like machine for up to 90 minutes; sedation may be required; open MRI may be an option for those who cannot tolerate closed spaces
3. Instruct to lie still, expect a series of intermittent thumping sounds, and communicate via microphone located in scanner
4. Remove jewelry, clothing with metal fasteners, dentures, hearing aids, glasses, any transdermal patches with foil layers before entering scanner, and medical equipment from room (e.g., intravenous pumps, oxygen tank, portable monitoring machines)
5. Review history for contraindications: orthopedic hardware, pacemaker, artificial heart valves, or other implants that may be dislodged or malfunction as a result of the magnetic field; keep area free of metal objects; arrange for supplemental oxygen beforehand because oxygen tanks cannot enter room

Lumbar Puncture

A Definition

1. Introduction of a needle into subarachnoid space below spinal cord, usually between L3 and L4 or between L4 and L5
2. Withdrawal of cerebral spinal fluid (CSF) for diagnostic purposes or to reduce spinal pressure (usually 70 to 200 cm H₂O)
3. Measurement of spinal pressure: Queckenstedt test involves compression of the jugular veins; pressure should rise; but if blockage exists, pressure will not rise
4. Injection of medication such as anesthetics

B Nursing care

1. Explain procedure; obtain informed consent
2. Assist to a position that will enlarge opening between vertebrae
 - a. Lying on side with feet drawn up and head lowered to chest; back near edge of mattress
 - b. Sitting on side of bed, leaning on stationary overbed table, feet supported on a flat surface
3. Prevent postlumbar puncture headache: maintain in prone position for 2 hours; flat side-lying for 2 to 3 hours; and then avoid elevating head for 6 more hours
4. Label specimens and send to laboratory; document color and amount of fluid
5. Assess immediate response for signs of shock and complications such as CSF leakage, infection, and brain herniation if a space-occupying lesion is present; prolonged headaches may indicate leakage of CSF
6. Administer fluids unless contraindicated

Positron Emission Tomography (PET)

A Definition

1. Strong radioactive tracers emit signals; computer analysis of emitted gamma rays forms images
2. Determines blood flow, glucose metabolism, and oxygen extraction
3. Effective in diagnosis of brain attack, brain tumors, epilepsy; can evaluate progress of Alzheimer disease, Parkinson disease, bipolar disorders, and head injuries

B Nursing care

1. Explain procedure; obtain informed consent
2. Maintain NPO 4 hours before test
3. Explain importance of lying still for about 45 minutes; sedation may be needed

Neurologic Assessment (Including Glasgow Coma Scale)

A Definition

1. Systematic evaluation of cranial nerves, motor and sensory functioning, and mental status to detect neurologic abnormalities
2. Screening tools assess critical aspects of a complete neurologic evaluation (e.g., neuro checklist, Glasgow Coma Scale) ([Table 11-3](#): Glasgow Coma Scale)

Table 11-3
Glasgow Coma Scale

Assessed Behavior	Adult Criteria	Infant and Young Child Criteria	Score
Eye opening	Spontaneous opening	Spontaneous opening	4
	To verbal stimuli	To loud noise	3
	To pain	To pain	2
	No response	No response	1
Verbal response	Oriented to appropriate stimulation	Smiles, coos, cries	5
	Confused	Irritable, cries	4
	Inappropriate words	Inappropriate crying	3
	Incoherent	Grunts, moans	2
	None	No response	1
Motor response	Obeys commands	Spontaneous movement	6
	Localizes pain	Withdraws to touch	5
	Withdraws from pain	Withdraws to pain	4
	Flexion to pain (decorticate)	Abnormal flexion (decorticate)	3
	Extension to pain (decerebrate)	Abnormal extension (decerebrate)	2
	None	No response	1

*Add the numbers from each category. Maximum score = 15. Minimum score = 3.
(Modified from Teasdale G, Jennett B: Assessment of coma and impaired consciousness: a practical scale, *Lancet* 2:81-84, 1974; James HE: Neurologic evaluation and support of the child with acute brain insult, *Pediatr Ann* 15:17, 1986.)

B Nursing care

1. Assess cranial nerves (see [Table 11-1](#) and [Figure 11-2](#))
 - a. Olfactory (I): ability to identify familiar odors such as mint or alcohol with eyes closed and one nostril occluded at a time
 - b. Optic (II): visual acuity measured by use of Snellen chart or by gross estimation with reading material; gross comparison of visual fields with those of examiner; color perception
 - c. Oculomotor (III), trochlear (IV), and abducent (VI): ability of pupils to react equally to light and to accommodate to varying distances; range of extraocular movement (EOM) evaluated by asking client to follow a finger or object with eyes; also assess for nystagmus (jerking motion of eyes), particularly when eyes are directed laterally
 - d. Trigeminal (V): sensations of face evaluated by lightly stroking cotton across forehead, chin,

and cheeks while client's eyes are closed; ability to clench teeth (jaw closure)

e. Facial (VII): symmetry of facial muscles as client speaks or is asked to make faces

f. Acoustic or vestibulocochlear (VIII): hearing acuity determined by a watch tick or whispered numbers; Weber test may be performed by holding the stem of a vibrating tuning fork at midline of skull (should be heard equally in both ears)

g. Glossopharyngeal (IX) and vagus (X): uvula should hang in midline; swallow and gag reflexes should be intact

h. Spinal accessory (XI): symmetric ability to turn head or shrug shoulders against counterforce of examiner's hands

i. Hypoglossal (XII): ability to protrude tongue without deviation, to left or right, and without tremors

2. Assess motor function (including cerebellar function)

a. Balance

(1) Observation of gait

(2) Romberg test: positive if client fails to maintain an upright position with feet together with closed eyes

b. Coordination: ability to touch finger to nose when arms are extended or to perform similar tasks smoothly

c. Muscle strength: evaluated by having client move symmetrical muscle groups against opposition supplied by examiner

3. Assess sensory function: bilateral testing of response to light touch with cotton, sharp versus dull stimuli, vibration of a tuning fork

4. Assess mental status (cerebral functioning)

a. Level of consciousness: determined by response to stimuli (verbal, tactile, or painful)

b. Orientation to person, place, and time: determined by general conversation and direct questioning

c. Judgment, memory, and ability to perform simple calculations

d. Appropriateness of behavior and mood

5. Assess reflexes

a. Deep tendon reflexes (biceps, triceps, patellar, Achilles) with a reflex hammer; classification from 0 (absent) to 4+ (hyperactive); 2+ is expected

b. Plantar: plantar flexion of foot when sole is stroked firmly with a hard object such as a tongue blade; abnormal adult response (dorsiflexion of foot and fanning of toes) is reported as a positive Babinski reflex and is indicative of corticospinal tract disease

c. Oculocephalic (doll's eyes movements): when head of comatose client is turned to side, eyes should move in opposite direction; absence of reflex suggests brainstem injury; eliciting this response is contraindicated when client has a neck injury

d. Oculovestibular (caloric test): when warm or ice water is instilled into ear of a comatose client, nystagmus occurs; eyes should deviate toward stimulated ear if ice water is used and away with warm water; absence of reflex suggests brainstem damage; performing this test is contraindicated if eardrum is perforated

6. Assess posturing ([Figure 11-3](#): Types of posturing)

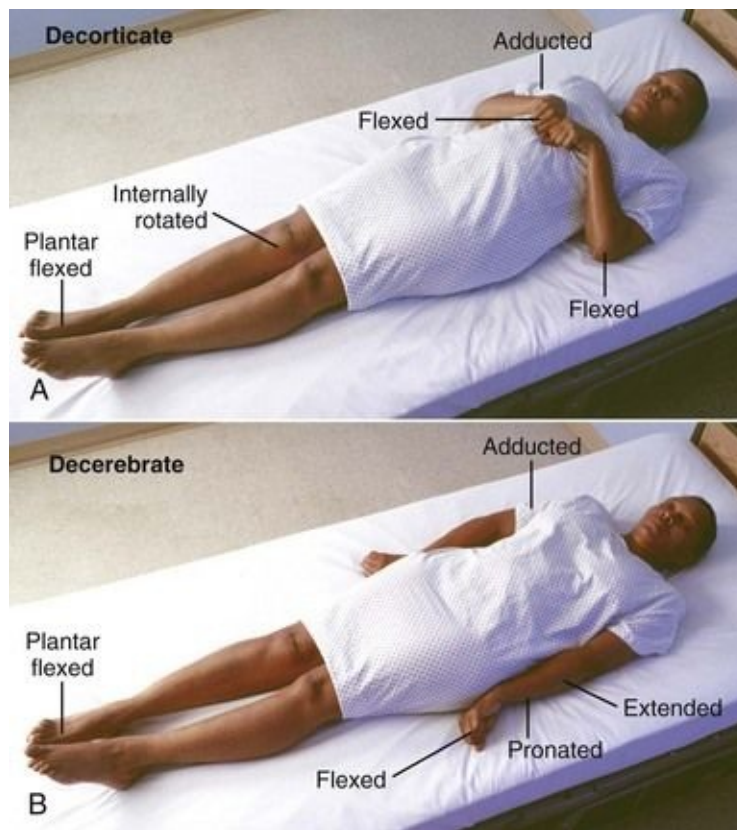


FIGURE 11-3 Types of posturing. **A**, Flexion (Decorticate). **B**, Extension (Decerebrate). (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

7. Document findings; report any deviations
8. Explain to and reassure client and family when assessments must be repeated frequently
9. Coordinate other care with frequent neurologic assessments to promote rest between assessments

Continuous Passive Motion (CPM) Device

A Definition

1. Machine that provides passive range of motion, most commonly for the knee
2. Moves joint without weight-bearing or straining muscles after orthopedic surgery
3. Stimulates regeneration of articular tissues or maintains/increases range of motion

B Nursing care

1. Align extremity in padded CPM device
2. Set foot cradle at the prescribed angle
3. Adjust device according to length of physical therapist extremity
4. Set flexion, extension, and speed dials as ordered; increased gradually as tolerated to maximize mobility
5. Demonstrate how to use control cord
6. Ensure pain control measures are implemented before procedure

Braces or Splints

A Definition

1. Immobilize and protect diseased or injured joint
2. Support and protect weakened muscles
3. Prevent and correct anatomic deformities

4. Aid in controlling involuntary muscle movements
5. Aid in ambulating for those with physical impairments

B Nursing care

1. Keep equipment in repair (e.g., oil joints, replace straps when worn)
2. Ensure adequate shoes (e.g., heels low and wide, high top to hold heel in shoe)
3. Examine skin daily for evidence of breakdown at pressure points
4. Check alignment of braces (e.g., leg brace: joints coincide with body joints; back brace: upright bars in center of back, brace should grip pelvis and trochanter firmly, lacing should begin from bottom)
5. Coordinate with physical therapist for appropriateness of assistive devices

Mobility: Assistive Devices

A Purposes

1. Relieve pressure on weight-bearing joints
2. Improve or maintain stability of client with a lower limb disability to prevent injury
3. Provide security while developing confidence in ambulating
4. Assist in increasing speed of ambulation with less fatigue
5. Provide for greater mobility and independence

B Nursing care: use of a cane

1. Ascertain ability to bear weight on affected extremity
2. Ensure ability to use upper extremity opposite affected lower extremity
3. Types: straight cane has one leg and provides least support; quad cane has 4 legs and has a broader base of support
4. Measure to determine length of cane required: highest point should be approximately level with greater trochanter; hand piece should allow 30 degrees of flexion at elbow, with wrist held in extension
5. Explain techniques when using a cane
 - a. Hold in hand opposite affected extremity and close to body
 - b. Advance cane and affected extremity simultaneously, and then unaffected leg
 - c. When climbing, step up with unaffected extremity and then place cane and affected lower extremity on step; when descending, reverse procedure
6. Walk on client's affected side
7. Observe for incorrect use of cane
 - a. Leaning the body over cane
 - b. Shortening the stride on unaffected side
 - c. Inability to develop the usual walking pattern
 - d. Persistence of an abnormal gait pattern after cane is no longer needed

C Nursing care: crutch walking

1. Teach exercises to strengthen triceps, finger flexors, and wrist and elbow extensors
2. Ensure correct fit of crutches
 - a. Measure distance from anterior fold of axilla to 15 cm (6 inches) out from heel
 - b. Axillary bars must be 5 cm (2 inches) below axillae and should be padded
 - c. Hand bars should allow almost complete extension of arm, with elbows flexed about 30 degrees when placing weight on hands
3. Ensure that rubber crutch tips are in good condition

4. Assist in use of correct technique, depending on ability to bear weight and to take steps with either one or both lower extremities
 - a. Four-point alternate crutch gait
 - (1) Right crutch, left foot, left crutch, right foot; always three points of support on floor
 - (2) Equal but partial weight-bearing on each limb; slow, stable gait
 - (3) Must be able to bear weight on and manipulate both extremities, and move one foot ahead of the other
 - b. Two-point alternate crutch gait
 - (1) Right crutch and left foot simultaneously, then left crutch and right foot simultaneously; always two points of support on floor
 - (2) More rapid version of four-point gait and requires more balance and strength
 - c. Three-point gait
 - (1) Advance both crutches and weaker lower extremity simultaneously, then stronger lower extremity
 - (2) Fairly rapid gait, but requires more balance and strength in arms and unaffected lower extremity
 - (3) Used when one leg can support total body weight and the other cannot take full weight-bearing
 - d. Swing crutch gaits: used when client has bilateral paralysis of legs and hips
 - (1) Swing-to gait: place both crutches forward, lift and swing body up to crutches, then place crutches in front of body and continue; always two points of support on floor; needs power in upper arms
 - (2) Swing-through gait: place both crutches forward, lift and swing body through crutches, then place crutches in front of body and continue; difficult gait that necessitates rolling pelvis forward and arching back to get center of gravity in front of hips; needs power in trunk and upper extremities, excellent balance, and self-confidence
 - e. Ascending stairs: transfer weight to crutches and move unaffected leg up to next step; transfer weight to unaffected leg; bring crutches and affected leg up to the step
 - f. Descending stairs: transfer weight to unaffected leg; move crutches and affected leg down a step; transfer weight to crutches; bring unaffected leg down to the step
5. Observe for incorrect use of crutches
 - a. Hiking hips with abduction gait (common with amputees)
 - b. Lifting crutches while still bearing down on them
 - c. Walking on ball of foot with foot turned outward and flexion at hip or knee level
 - d. Hunching shoulders (crutches usually too long) or stooping shoulders (crutches usually too short)
 - e. Looking downward while ambulating
 - f. Bearing weight under arms should be avoided to prevent injury to nerves in the brachial plexus; damage to these nerves can cause paralysis and is known as *crutch palsy*

D Nursing care: use of a walker

1. Assist in selecting a walker
 - a. Device should be used when unable to ambulate with a cane; partial weight-bearing required
 - b. Measurements are same as those for a cane
 - c. Requires strong elbow extensors and shoulder depressors and partial strength in hands and

wrist muscles to lift a standard walker; two- and four-wheeled walkers available

d. Cannot be used on steps

2. Assist in ambulating with a walker

a. Lift off floor and place forward a short distance, then advance between walker

b. Two-wheeled walkers: raise back legs off floor, roll walker forward, then advance to it

c. Four-wheeled walkers: push forward on floor and then walk to it

3. Observe for incorrect use of a walker

a. Keeping arms rigid and swinging through to counterbalance position of lower extremities

b. Tending to lean forward with abnormal flexion at hips

c. Tending to step forward with unaffected leg and shuffle affected leg up to walker

Mobility: Wheelchairs/Mobility Scooters

A Definition

1. Special chairs with wheels that support and move client; propelled by another, the client, or a motor

2. Provide mobility for those who cannot ambulate or those who can ambulate but whose ambulation is unsteady, unsafe, or too strenuous

3. Decrease oxygen demands and cardiac workload

4. Promote independence and stimulate activities

B Nursing care

1. Teach that prolonged sitting can cause flexion contractures of hips and knees and ischial pressure ulcers; encourage to use padded cushions and change body position and/or perform exercises (e.g., push-ups) every hour to relieve pressure

2. Ensure operating condition (e.g., wheel brakes, arm locks, seat belts, swing foot rests); inform about accessories (e.g., removable arms, lap boards, extra-long leg panels, battery or motor propulsion)

3. Assist with transfer; keep in close proximity to bed or chair when transferring; position on unaffected side if client has unilateral weakness (except clients on total hip precautions who often transfer toward affected side to avoid adduction)

Instillation of Eye Medications

A Definition

1. Introduction of prescribed medication in eye

2. Promotes therapeutic effect of medication at local site

B Nursing care

1. Position with head slightly backward

2. Pull lower eyelid down and instill solution in center of conjunctival sac; ointment applied from inner canthus outward

3. Instruct to close eyes gently and not to rub eyes

4. Apply pressure to nasolacrimal duct if liquid is instilled to reduce systemic effects

Irrigations of the Ear

A Definition

1. Introduction of fluid into external auditory canal

2. Usually done for cleansing but can be used to apply antiseptic solutions

B Nursing care

1. Verify tympanic membrane is intact
2. Assist to a sitting position with head tilted to affected side for irrigation to facilitate drainage; for instillations, assist to lie on unaffected side
3. Straighten canal to promote flow of fluid: gently pull on external ear up and back for an adult and pull down and back for a child younger than 3 years of age
4. Direct solution into ear canal without exerting excessive force; collect returns in a basin
5. Dry outer ear
6. Document procedure, type of drainage, client response

Major Disorders of the Neuromusculoskeletal System

Traumatic Brain Injuries

Data Base

A Etiology and pathophysiology

1. Motor vehicle collisions are most common cause; other causes are assaults, falls, and sport-related accidents
2. Sudden force to head
 - a. Acceleration injury: immobile head struck by moving object
 - b. Deceleration injury: head hits stationary object
 - c. Deformation injury: force disrupts integrity of skull
3. Fractures
 - a. Linear: simple break of bone
 - b. Depressed: break that results in fragments of bone penetrating brain tissue
 - c. Basilar: occurs over base of frontal and temporal lobes; ecchymosis is common over areas involved
4. Hemorrhages (secondary brain injury)
 - a. Epidural: hematoma forms between dura and skull; may result from laceration of middle meningeal artery
 - b. Subdural: hematoma forms between dura and arachnoid layers; generally follows venous damage
 - c. Intracerebral hematoma: collection of blood within brain parenchyma
5. Concussion: temporary disruption of synaptic activity; brief loss of consciousness (less than 5 minutes)
6. Contusions: bruising of brain tissue, with slight bleeding of small cerebral vessels into surrounding tissues at site of impact (coup) or opposite to site (contrecoup) as a result of rebound reaction
 - a. Cerebral contusions manifest depending on areas involved
 - b. Brainstem contusions result in unresponsiveness
7. Complications include cerebral edema, increased intracranial pressure, brain abscess, meningitis, diabetes insipidus, hydrocephalus (from blocked absorption of CSF), death

B Clinical findings

1. Subjective: lethargy; indifference to surroundings; altered sensory function (e.g., visual or auditory)
2. Objective
 - a. Signs of increased intracranial pressure (see [Brain Tumors](#))
 - b. Lack of orientation to time and place
 - c. Positive Babinski reflex
 - d. Seepage of CSF from nose or ears; usually indicative of basilar skull fracture

C Therapeutic interventions

1. Control of seizures with anticonvulsants
2. Intubation and mechanical ventilation if comatose to ensure airway and oxygenation; PaCO_2 maintained in low normal range to avoid vasodilation

3. Monitoring of intracranial pressure with external catheter such as ventricular catheter or subarachnoid screw
4. Reduction of cerebral edema with positioning and hypertonic saline
5. Maintenance of adequate fluid and electrolyte balance
6. Surgical intervention in cases of depressed skull fractures or hematomas
7. Antibiotics to prevent infection if indicated (e.g., basilar skull fracture)

Nursing Care of Clients with Traumatic Brain Injuries

Assessment/Analysis

1. Airway and breathing pattern
2. Neurologic status (see [Related Procedures](#), [Neurologic Assessment \[Including Glasgow Coma Scale\]](#))
3. Signs and symptoms of increased intracranial pressure (see [Brain Tumors](#))
4. Circumstances of injury
5. Presence of glucose in clear drainage from nose or ears, which indicates CSF

Planning/Implementation

1. Institute neurologic assessments including Glasgow Coma Scale every 15 minutes for several hours, progressing to every hour and then every 4 hours when condition stabilizes
2. Maintain airway by suctioning as necessary because coughing increases intracranial pressure; use an airway or endotracheal tube
3. Keep head elevated 30 to 45 degrees to reduce venous pressure within cranial cavity; maintain straight alignment of head and neck
4. Institute seizure precautions; protect from injury; administer prescribed anticonvulsants
5. Monitor for fluid or electrolyte imbalances; diabetes insipidus or syndrome of inappropriate antidiuretic hormone may occur
6. If eyes remain open, protect corneas with artificial tears, or ointment as prescribed
7. Support nutritional needs; administer tube feedings or assist with small, frequent meals
8. Reposition to prevent pressure ulcers
9. Perform range-of-motion exercises and use ordered splints to prevent contractures
10. Provide auditory and tactile stimulation
11. Assist to avoid activities that increase intracranial pressure (e.g., Valsalva maneuver, lifting, sneezing, neck flexion, straining at stool, isometric exercises); administer prescribed stool softeners
12. Recognize that confusion after return of consciousness may be a defense against stress or indication of a neurologic deficit
13. Maintain hypothermia as ordered to reduce temperature and metabolic demands
14. Encourage client and family to participate in planning and care
15. Provide opportunity for expression of feelings
16. Participate in preventive education (e.g., use of seat belts, helmets)

Evaluation/Outcomes

1. Maintains a patent airway

2. Improves level of consciousness
3. Remains free from complications of immobility
4. Participates in decisions about care

Brain Tumors

Data Base

A Etiology and pathophysiology

1. Either benign or malignant; intervention required because of rise in intracranial pressure, since skull cannot accommodate the increasing size of the tumor

2. Classifications

- a. Benign, malignant, or metastatic (from lung, breast, colon, pancreas, kidney)
- b. Location: supratentorial—within cerebral hemispheres; infratentorial—within brainstem structures and cerebellum
- c. Cellular or anatomical origin
 - (1) Gliomas: most common; originate in neural tissue; usually malignant (e.g., astrocytoma, glioblastoma, oligodendroglioma)
 - (2) Meningioma: arises from meninges that cover the brain; usually benign
 - (3) Acoustic neuroma: tumor of eighth cranial nerve

B Clinical findings

1. Subjective: headache that increases when supine or stooping; lethargy; nausea
2. Objective: signs of increased intracranial pressure; abnormal CT scan, MRI, electroencephalogram (EEG); vomiting; papilledema
3. Symptoms vary depending on location
 - a. Frontal lobe: personality changes, focal seizures, blurred vision, hemiparesis, altered thought processes
 - b. Temporal lobe: seizures, headache, papilledema, receptive aphasia, tinnitus
 - c. Parietal lobe: visual loss, motor and sensory focal seizures
 - d. Occipital region: focal seizures, visual hallucinations, homonymous hemianopsia
 - e. Cerebellar region: loss of coordination, tremors, nystagmus

C Therapeutic interventions

1. Radiation therapy and/or chemotherapy
2. Brachytherapy: surgically implanted radioactive source
3. Surgery for partial or complete removal of lesion
 - a. Craniotomy with removal of lesion and invaded tissue
 - b. Stereotactic radiosurgery: employs computer-directed radiation to eradicate tissue
4. Steroids, anticonvulsives, osmotic diuretics, and antiemetics to control signs and symptoms

Nursing Care of Clients with Brain Tumors

Assessment/Analysis

1. History to identify behavioral changes, coping skills, and neurologic deficits
2. Neurologic status (see [Related Procedures](#), [Neurologic Assessment \[Including Glasgow Coma Scale\]](#))

3. Signs of increased intracranial pressure
 - a. Decreased level of consciousness
 - b. Unilateral nonreactive and/or dilated pupil progressing to bilateral
 - c. Rapid rise in temperature; decreased pulse rate; changes in respiratory pattern
 - d. Increased systolic pressure; widening pulse pressure
 - e. Restlessness
 - f. Headache most common in morning after body has been horizontal for several hours; intensified by coughing, sneezing, or straining, which increase intracranial pressure
 - g. Weakness or paralysis
 - h. Visual and other sensory disturbances; papilledema
 - i. Vomiting
 - j. Seizures
4. Nutritional status

Planning/Implementation

1. Monitor neurologic status
2. Provide emotional support for client and family; refer to support groups and hospice if indicated
3. Administer prescribed corticosteroids and antiemetics
4. Offer small, frequent feedings, supplements, and oral hygiene
5. Provide care for client requiring brain surgery
 - a. Obtain consent for surgery and removal of hair
 - b. After surgery keep head elevated 30 degrees
 - c. Support respiratory function by encouraging deep breathing, appropriate positioning, and suctioning to maintain airway
 - d. Use strict aseptic technique with intracranial pressure monitoring
 - e. Observe dressings for CSF leakage or hemorrhage
 - f. Monitor I&O
 - g. Use hypothermia as ordered if febrile; fever increases metabolic needs of brain
6. Teach to avoid activities that increase intracranial pressure (e.g., Valsalva maneuver, lifting, straining at stool, isometric exercises)
7. Help focus on abilities rather than disabilities
8. Emphasize need for continued health care

Evaluation/Outcomes

1. Maintains adequate respiratory function
2. Performs activities of daily living (ADLs) with assistance
3. Establishes effective communication

Brain Attack/Cerebral Vascular Accident (CVA)

Data Base

A Etiology and pathophysiology

1. Destruction (infarction) of brain cells caused by effects of a reduction in oxygen supply
 - a. Ischemic attack results when brain tissues are blocked from oxygen supply by thrombus or

embolus; 83% of attacks are this type

b. Hemorrhagic attack results from bleeding into brain tissue or subarachnoid space

2. Effects depend on area of brain involved and extent of damage; may be masked or delayed because of compensatory collateral circulation through circle of Willis
3. Risk factors include hypertension, hyperlipidemia, obesity, smoking, cerebral arteriosclerosis, cerebral aneurysm, atrial fibrillation, diabetes mellitus, advanced age, African-American ancestry
4. Temporary cerebral dysfunction (transient ischemic attacks [TIAs]) may also occur without causing permanent damage; these last a few minutes to 24 hours; predictive of impending brain attack

B Clinical findings

1. Subjective: syncope; headache; changes in level of consciousness; unilateral paresthesias; mood swings
2. Objective
 - a. Hemiparesis (weakness on one side of body) or hemiplegia (paralysis on one side of body) on side opposite the lesion in the brain; initially flaccid, then spastic
 - b. Aphasia: brain unable to fulfill its communicative functions because of damage to input, integrative, or output centers
 - (1) Expressive (motor or Broca) aphasia: difficulty making thoughts known to others; speaking and writing are most affected
 - (2) Receptive (sensory or Wernicke) aphasia: difficulty understanding what others are trying to communicate; interpretation of speech and reading is most affected
 - (3) Global aphasia: affects both expression and reception
 - (4) Dysarthria: difficulty speaking because of paralysis of muscles needed for articulation
 - c. Dysphagia: difficulty swallowing
 - d. Visual changes
 - (1) Homonymous hemianopsia: loss of vision in half of same visual field in both eyes
 - (2) Agnosia: disturbance in ability to recognize objects and attach meaning to them
 - (3) Ptosis and paralysis of ocular muscles (Horner syndrome)
 - e. Alterations in reflexes
 - f. Altered bladder and bowel function (e.g., incontinence, retention)
 - g. CSF is bloody with cerebral or subarachnoid hemorrhage
 - h. Abnormal EEG, CT scan, MRI
 - i. Cerebral angiography may reveal vascular abnormalities (e.g., aneurysms, narrowing, or occlusions)
 - j. Signs of increased intracranial pressure (see [Brain Tumors](#))

C Therapeutic interventions

1. Modification of risk factors (e.g., weight loss, antiplatelet therapy for atrial fibrillation, low-fat diet and statins for hyperlipidemia, smoking cessation)
2. Complete bed rest with sedation as needed
3. Maintenance of oxygenation with oxygen therapy or mechanical ventilation
4. If ischemic type, thrombolytic therapy with recombinant tissue plasminogen activator (t-PA) within 3 hours of onset
5. Maintenance of nutrition by parenteral route or nasogastric feedings if unable to swallow
6. Anticoagulant/antiplatelet therapy if caused by a thrombus or embolus

7. Antihypertensives and anticonvulsants if indicated
8. Antiinflammatory or osmotic diuretics to reduce cerebral edema and intracranial pressure
9. Surgical intervention
 - a. Carotid endarterectomy or stent placement (may be done prophylactically) to improve cerebral blood flow when carotid arteries are narrowed by arteriosclerotic plaques
 - b. Performed to relieve pressure and control bleeding if hemorrhage is present

Nursing Care of Clients with Brain Attacks

Assessment/Analysis

1. Adequacy of airway and respiratory function
2. FAST assessment recommended by The National Stroke Association
 - a. **Face:** ask client to smile; does one side of face droop?
 - b. **Arms:** ask client to raise both arms; does one arm drift downward?
 - c. **Speech:** ask client to repeat a simple sentence; does the speech sound slurred or strange?
 - d. **Time:** if any of the signs are observed, call emergency services (e.g., 911), rapid response team
3. Neurologic status (see [Related Procedures, Neurologic Assessment \[Including Glasgow Coma Scale\]](#))
4. Signs of increased intracranial pressure (see [Brain Tumors](#))

Planning/Implementation

1. Perform neurologic assessments; identify signs of increased intracranial pressure
2. Monitor vital signs; avoid using affected extremity for blood pressure measurement because reading may be falsely lowered
3. Maintain patency of airway by positioning, suctioning, and inserting an artificial airway
4. Place in low semi-Fowler position to decrease intracranial pressure; turn to side to drain oral secretions and prevent aspiration; provide oxygen as necessary
5. Encourage deep breathing; use mechanical ventilation if ordered
6. Involve all health care team members when planning care
7. Encourage and assist client and family to set realistic goals
8. Accept and explore feelings of fear, anger, and depression; accept mood swings
9. Provide frequent oral hygiene; use artificial tears if blink reflex is absent
10. Institute seizure precautions
11. Apply elastic or pneumatic stockings
12. Prevent pressure ulcers ([Chapter 10, Nursing Care of Clients with Integumentary System Disorders, Pressure Ulcers](#))
13. Prevent muscle atrophy and contractures
 - a. Perform passive range-of-motion exercises initially; active range-of-motion and other exercises may be instituted later
 - b. Maintain functional alignment: use devices to prevent footdrop, flexion of fingers, external rotation of hips, adduction of shoulders and arms; turn every 1 to 2 hours; raise side rails for safety and to facilitate self-turning
 - c. Collaborate with physical therapist about rehabilitation plan

14. Administer tube feedings if ordered when swallowing and gag reflexes are depressed or absent
15. Provide food in a suitable form based on degree of dysphagia (e.g., mechanical soft, pureed, thickening products); encourage intake of nutrient-dense foods; when capable of chewing, introduce dietary fiber to promote bowel function
16. Assist with feeding (e.g., use a padded spoon handle; feed on unaffected side of mouth; feed in as close to a sitting position as possible); allow sufficient time for adequate chewing and swallowing
17. Encourage client with dysarthria or aphasia to communicate
 - a. Be aware of own reactions to the speech difficulty
 - b. Evaluate extent of ability to understand and express self
 - c. Reinforce exercises learned in speech therapy; provide positive feedback
 - d. Convey that problem is with communication, not intelligence; try to reduce anxiety related to communication
 - e. Be patient when communicating with client; avoid pushing client to point of frustration
 - f. Minimize distractions that interfere with message reception and interpretation
 - g. Face client directly when communicating; speak slowly, clearly, and in short sentences; do not raise voice; connect words with objects
 - h. Use alternative means of communication; develop a system of cues
 - i. Involve client in social interactions
 - j. Be alert for clues and gestures when speech is garbled
18. Make a definite transition between tasks to prevent or reduce confusion
19. Attempt to prevent fecal impaction and/or urinary tract problems
 - a. Assess for signs of urinary retention (e.g., suprapubic distention, frequently urinating small amounts)
 - b. Maintain adequate fluid intake
 - c. Provide a diet with roughage of sufficient quantity and consistency to promote bowel elimination
 - d. Stimulate elimination by exercise
 - e. Teach to avoid straining at stool because it can raise intracranial pressure; administer stool softeners as ordered because a full rectum puts pressure on the bladder, which promotes urinary incontinence
 - f. Use physical and psychologic techniques to stimulate elimination
 - g. Avoid preoccupation with elimination; avoid encouragement of incontinence
 - h. Help develop regular bowel and bladder patterns
 - i. Be respectful; provide for privacy and individuality of routine
20. Create environment that keeps sensory monotony to a minimum; orient to time and place; increase social contacts; provide visual stimuli; place objects and self within client's visual field
21. Promote self-esteem; encourage wearing own clothes, self-care activities, decision making
22. Instruct to report further neurologic deficits immediately so treatment can be initiated to prevent a brain attack

Evaluation/Outcomes

1. Maintains respiratory function
2. Remains alert and oriented
3. Communicates effectively
4. Remains free of complications of immobility

5. Family and client participate in decisions and care

Epilepsy (Seizure Disorders)

Data Base

A Etiology and pathophysiology

1. Abnormal discharge of electric impulses by nerve cells in brain from idiopathic or secondary causes, resulting in loss of consciousness; seizures; motor, sensory, behavioral changes
2. Onset of idiopathic epilepsy generally before age 30; seizures can be associated with brain tumor, brain attack, Alzheimer disease, hypoglycemia, head trauma, fluid shifts in the brain
3. Types of seizures
 - a. Partial seizures (seizures beginning locally)
 - (1) Simple: focal motor or sensory effect; no loss of consciousness
 - (2) Complex: cognitive, psychosensory, psychomotor, or affective effect; brief loss of consciousness
 - b. Generalized seizures (bilaterally symmetric and without local onset)
 - (1) Absence (petit mal): brief transient loss of consciousness with or without minor motor movements of eyes, head, or extremities; most common in childhood and adolescence
 - (2) Myoclonic: brief, transient rigidity or jerking of extremities, singly or in groups
 - (3) Tonic-clonic (grand mal): aura, loss of consciousness, rigidity followed by tonic-clonic movements, interruption of respirations, loss of bladder and bowel control; may last 2 to 5 minutes
 - (4) Atonic: loss of muscle control; loss of consciousness may be brief
 - c. Status epilepticus: prolonged repetitive seizures without recovery between attacks; may result in complete exhaustion, cerebral injury, or death

B Clinical findings (tonic-clonic seizures)

1. Subjective: often preceded by an aura or warning sensation such as seeing spots or feeling dizzy; lethargy following return to consciousness (postictal phase)
2. Objective
 - a. Shrill cry as seizure begins and air is forcefully exhaled
 - b. Loss of consciousness during seizure
 - c. Tonic-clonic movement of muscles
 - d. Incontinence
 - e. Abnormal EEG, MRI

C Therapeutic interventions

1. Anticonvulsant therapy usually continued throughout life (see [Related Pharmacology, Anticonvulsants \[Antiseizure, Antiepileptic Medications\]](#))
2. Diazepam (Valium) or lorazepam (Ativan) given IV to treat status epilepticus (see [Chapter 16, The Practice of Mental Health/Psychiatric Nursing, Related Pharmacology: Psychotropic Medications, Antianxiety/Anxiolytic Medications](#))
3. Sedatives used to reduce emotional stress
4. Neurosurgery is sometimes indicated if source of seizures is localized; vagal nerve stimulation, which involves implantation of an electrical impulse generator, is a palliative treatment if therapy has been unsuccessful

Nursing Care of Clients with Epilepsy

Assessment/Analysis

1. History of type, frequency, and duration of seizures; precipitating factors
2. Sensations associated with the seizure that may constitute an aura

Planning/Implementation

1. Protect from injury during and after a seizure; nothing should be forced into the mouth because it may cause tongue to occlude the airway; attempts to restrain should be avoided because this may cause injury from muscle contractions; position on side if possible to facilitate drainage of oral secretions
2. Teach how to protect self if an aura occurs indicating an imminent seizure
3. Encourage wearing a medical alert tag
4. Help plan a schedule that provides adequate rest and reduction of stress
5. Teach client and family to determine and report the presence of an aura, the initial point of seizure, type of seizure, level of consciousness, progression of seizure, incontinence, and postictal condition
6. Encourage expression of feelings about illness and necessary changes in lifestyle
7. Assist client and family to accept the diagnosis and develop understanding of the disease
8. Refer for job counseling as necessary
9. Encourage client and family to attend local epilepsy association meetings
10. Refer to state laws regarding driving
11. Teach about anticonvulsants and need for continued medical supervision (see [Related Pharmacology](#), [Anticonvulsants \[Antiseizure, Antiepileptic Medications\]](#))

Evaluation/Outcomes

1. Remains free from injury
2. Adheres to medical regimen

Bell Palsy (Facial Paralysis)

Data Base

A Etiology and pathophysiology

1. Paralysis occurring on one side of face resulting from an inflamed seventh cranial (facial) nerve; lasts about 2 to 8 weeks but may last longer in older adults
2. Cause unknown; possibly viral, ischemic, or autoimmune link
3. Most common between ages 20 and 50 years

B Clinical findings

1. Subjective: facial pain; altered taste; impaired ability to chew and swallow
2. Objective: distortion of face; drooping of mouth on affected side; difficulty with articulation; diminished blink reflex; inability to close eye; increased or decreased lacrimation

C Therapeutic interventions

1. Diagnostic evaluation to rule out (eliminate) brain attack as the cause
2. Corticosteroids (e.g., PredniSONE) antiviral (e.g., acyclovir [Zovirax]), and/or anticonvulsant (e.g.,

gabapentin [Neurontin]) therapy

3. Heat, massage, and electric stimulation to maintain circulation and muscle tone

4. Prevention of corneal irritation with eye drops and protective eye shield

Nursing Care of Clients with Bell Palsy

Assessment/Analysis

1. Presence or absence of blink reflex and ability to close eye

2. Facial pain; extent of facial paralysis and altered sensation

3. Nutritional intake; ability to chew and swallow

Planning/Implementation

1. Teach prevention of corneal irritation (e.g., using artificial tears, manually closing eye, applying an eye shield, wearing wraparound sunglasses)

2. Teach importance of keeping face warm

3. Teach gentle massage of face; simple exercises such as blowing through pursed lips when acute phase is over

4. Encourage expression of feelings

5. Teach importance of small, frequent feedings; encourage favoring unaffected side while eating

Evaluation/Outcomes

1. Maintains corneal integrity

2. Expresses a positive body image

3. States pain is reduced

Trigeminal Neuralgia (Tic Douloureux)

Data Base

A Etiology and pathophysiology

1. Disorder of fifth cranial (trigeminal) nerve characterized by intense knifelike pain along branches of the nerve

2. May result from abnormalities of ganglion, tumors, vascular anomalies, or dental infection

3. Incidence higher in people with multiple sclerosis, particularly men

B Clinical findings

1. Subjective: unilateral burning or knifelike pain lasting 1 to 15 minutes, usually in lip, chin, or teeth; pain precipitated by brushing hair, eating, cold drafts; exhaustion from prolonged/chronic pain

2. Objective: sudden closure of an eye; twitching of mouth and cheek

C Therapeutic interventions

1. Anticonvulsants such as carbamazepine (Tegretol) to relieve and prevent acute attacks

2. Skeletal muscle relaxants such as baclofen (Lioresal) may help control symptoms

3. Surgical intervention

a. Microscopic relocation of arterial loop that may cause vascular compression of trigeminal nerve; preserves facial sensation, but pain relief lasts about 2 years

b. Percutaneous radio frequency trigeminal gangliolysis: destroys nerve, providing permanent

- relief for most clients; alters facial sensation and corneal reflex
- c. Percutaneous balloon microcompression provides microvascular decompression of trigeminal nerve

Nursing Care of Clients with Trigeminal Neuralgia

Assessment/Analysis

1. Description of pain and factors that precipitate attacks
2. Effect on activities (e.g., eating, shaving, washing face, brushing teeth) because of fear of precipitating an attack

Planning/Implementation

1. Teach factors to limit triggering an attack
 - a. Avoid foods that are too cold or too hot
 - b. Chew soft foods on unaffected side
 - c. Use cotton pads to gently wash face and for oral hygiene
 - d. Keep room free of drafts; avoid jarring
 - e. Instruct to use scarves and hats to protect face from drafts and the cold
2. Teach clients who have sensory loss as a result of treatment
 - a. Inspect eye for irritation and foreign bodies
 - b. Perform warm normal saline irrigation of affected eye two or three times a day to help prevent corneal infection
 - c. Have dental checkups every 6 months because caries will not produce pain
3. Teach about anticonvulsants and the need for continued medical supervision (see [Related Pharmacology, Anticonvulsants \[Antiseizure, Antiepileptic Medications\]](#))

Evaluation/Outcomes

1. Reports decreased severity of pain and number of attacks
2. Consumes nutritionally balanced diet
3. Develops mechanisms to cope with fear of attacks

Parkinson Disease (Paralysis Agitans)

Data Base

A Etiology and pathophysiology

1. Progressive disorder with destruction of nerve cells in the basal ganglia and substantia nigra of the brain, which results in dopamine deficiency and subsequent generalized degeneration of muscular function
2. Risk factors: advanced age; family history

B Clinical findings ([Figure 11-4](#): Parkinson disease: clinical findings)

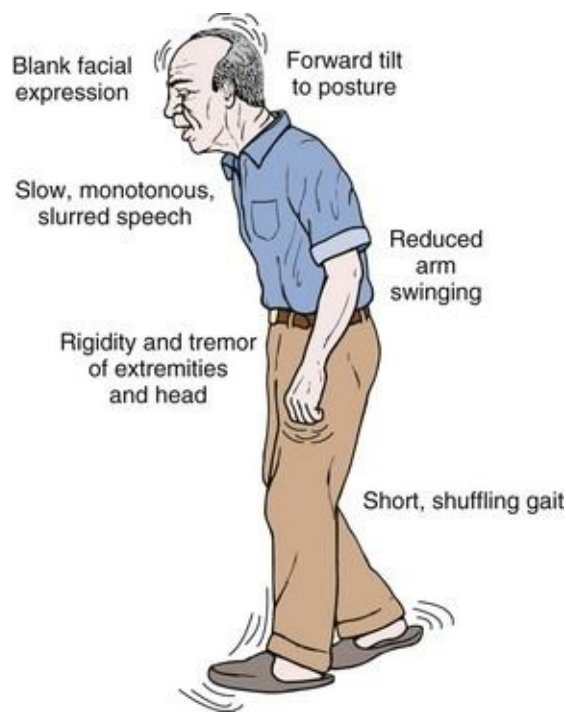


FIGURE 11-4 Parkinson disease: clinical findings. (Modified from Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011, Mosby.)

1. Subjective: fatigue; mild, diffuse, muscular pain; stiffness and rigidity, particularly of large joints; depression
2. Objective
 - a. Diminished voluntary motion resulting in increased difficulty in performing usual activities: dressing, eating, swallowing, walking (e.g., reduced arm swing, bent posture, difficulty rising from a sitting position, shuffling propulsive gait); cogwheel motion when limbs are passively moved; small handwriting (micrographia)
 - (1) Bradykinesia: slowness of voluntary movement
 - (2) Hypokinesia: decreased movement
 - (3) Akinesia: inability to move
 - b. Resting tremor (nonintention tremor) commonly accompanied by “pill-rolling” movements of thumb against fingers; usually reduced by purposeful movements
 - c. Masklike facial expression, unblinking eyes
 - d. Dysphonia: low-pitched, slow, poorly modulated, poorly articulated speech
 - e. Drooling; difficulty in swallowing saliva
 - f. Various autonomic signs (e.g., lacrimation, constipation, incontinence, decreased sexual capacity, excessive perspiration)
 - g. Dementia and confusion in approximately 60% of individuals, especially older adults
- C Therapeutic interventions
 1. Medical regimen is palliative rather than curative
 2. Pharmacologic intervention (see [Related Pharmacology](#), [Antiparkinson Agents](#))
 3. Physiotherapy to reduce rigidity of muscles and prevent contractures
 4. Role of surgical intervention is limited
 - a. Deep brain stimulation by implanted electrode attached to pulse generator (similar to a pacemaker)
 - b. Destruction of thalamus or globus pallidus for intractable tremor and rigidity using

stereotactic nerve stimulation

c. Neural transplant and gene transfer techniques are being studied

Nursing Care of Clients with Parkinson Disease

Assessment/Analysis

1. History of onset and progression of symptoms
2. Use of antiparkinson medications
3. Observations of tremors, posture, gait, facial expression
4. Nutritional status
5. Elimination status
6. Horizontal and vertical blood pressures to identify postural hypotension

Planning/Implementation

1. Provide a safe environment
2. Teach client or family to cut food into small bite-sized pieces or alter consistency to prevent choking; encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and prevent possible drug-induced deficiencies
3. Suction secretions as needed to maintain an adequate airway; usually necessary in advanced stages
4. Encourage adequate intake of roughage and fluids to prevent constipation
5. Teach activities to limit postural deformities (e.g., use firm mattress without a pillow, periodically lie prone, keep head and neck as erect as possible, avoid leaning forward when walking)
6. Teach activities to maintain appropriate gait and maintain safety; use cane or walker as necessary
7. Teach and encourage daily physical therapy to limit rigidity and prevent contractures (e.g., warm baths, passive and active exercises)
8. Avoid rushing as stress intensifies symptoms
9. Encourage continuation of medications even though results may be minimal
10. Teach client and family about antiparkinson agents (see [Related Pharmacology](#), [Antiparkinson Agents](#))
11. Assist in setting achievable goals to improve self-esteem

Evaluation/Outcomes

1. Maintains patent airway
2. Participates in daily exercise program
3. Adheres to prescribed medical regimen
4. Remains free from injuries

Multiple Sclerosis (Disseminated Sclerosis)

Data Base

A Etiology and pathophysiology

1. Destruction of myelin in the CNS by sensitized T and B lymphocytes, causing randomly scattered plaques of sclerotic tissue on demyelinated axons; frequently affected areas include optic nerves, cerebrum, brainstem, cerebellum, and spinal cord

2. Considered a chronic, debilitating, progressive disease with periods of remission and exacerbation
3. Types
 - a. Relapsing-remitting (RR): acute episodes with almost a complete recovery between attacks
 - b. Primary progressive (PP): steady degenerative progression without exacerbation
 - c. Secondary progressive (SP): initially RR followed by steady deterioration later in disease process
 - d. Progressive-relapsing (PR); progressive but with periodic acute exacerbations
4. Cause unknown; viral, environmental, and immunologic causes are implicated
5. Onset in early adult life (20 to 40 years); higher incidence in females, Caucasians, those living in temperate climates, and those with trigeminal neuralgia
6. Fatigue, stress, and heat tend to increase symptoms

B Clinical findings

1. Subjective
 - a. Numbness; altered position sense
 - b. Difficulty swallowing (dysphagia)
 - c. Weakness; fatigue
 - d. Blurred vision; diplopia
 - e. Emotional lability (e.g., depression, apathy, euphoria)
2. Objective
 - a. Charcot triad: intention tremor; nystagmus; scanning (clipped) speech
 - b. Ataxia; shuffling gait; increased deep tendon reflexes; spastic paralysis
 - c. Impaired bowel and bladder function
 - d. Impotence
 - e. Cognitive loss in advanced stage
 - f. Pallor of optic discs; blindness
 - g. Increased immunoglobulin G (IgG) levels in the CSF
 - h. MRI indicates demyelination and presence of multiple sclerosis plaques

C Therapeutic interventions

1. Generally palliative
2. Disease-modifying therapy
 - a. Interferon beta-1a (Avonex) given IM, (Rebif) given Sub-Q
 - b. Interferon beta-1b (Betaseron) given Sub-Q
 - c. Glatiramer acetate (Copaxone) given Sub-Q
 - d. Mitoxantrone (Novantrone) given IV every 3 months
3. Additional drugs: corticosteroids to shorten duration of relapses, baclofen (Lioresal) for spasticity, carbamazepine (Tegretol) for trigeminal neuralgia, ascorbic acid to acidify urine, immunosuppressive agents
4. Physical therapy and psychotherapy

Nursing Care of Clients with Multiple Sclerosis

Assessment/Analysis

1. History of onset and progression of motor and sensory loss
2. Factors that intensify symptoms

3. Neurologic status (see [Related Procedures, Neurologic Assessment \[Including Glasgow Coma Scale\]](#))

Planning/Implementation

1. Explain disease process to both client and family
2. Spend time listening to both client and family; encourage ventilation of feelings
3. Explain to client and family that mood swings and emotional alterations are part of the disease
4. Refer client and family to local chapter of the National Multiple Sclerosis Society
5. Help client maintain self-esteem
6. Do not encourage false hopes during periods of remission
7. Encourage counseling and rehabilitation
8. Teach to take medications as prescribed; reinforce injection technique; explain Interferon beta-1a (Avonex) may cause flulike symptoms
9. Teach client to:
 - a. Plan frequent rest periods
 - b. Avoid hot baths, which can increase symptoms
 - c. Be active within limitations; use assistive devices for ADLs
 - d. Implement a bowel and bladder regimen; teach urinary self-catheterization if appropriate
 - e. Compensate for problems with gait: walk with feet farther apart to broaden base of support; use low-heeled shoes; use assistive devices when necessary (e.g., tripod cane, walker, wheelchair)
 - f. Compensate for loss of sensation: use a thermometer to test water temperature; avoid constricting stockings; use protective clothing in cold weather; change position frequently
 - g. Compensate for difficulty in swallowing: take small bites; chew well; use a straw with liquids; eat foods of more solid consistency
 - h. Eat a diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and compensate for nutrient interactions of corticosteroid medications; some health care providers advise avoidance of “night shade” foods (e.g., tomatoes, peppers, eggplant) and adherence to a low-fat diet
10. Provide skin care to prevent formation of pressure ulcers; turn frequently
11. Prevent dysfunctional contractures; provide range-of-motion exercises; splints

Evaluation/Outcomes

1. Maintains a patent airway
2. Remains free from injury
3. Establishes exercise/activity and rest/sleep routine that avoids fatigue
4. Maintains bowel and bladder function
5. Remains free from urinary tract infection
6. Copes with changes in physical abilities and lifestyle changes

Myasthenia Gravis

Data Base

A Etiology and pathophysiology

1. Chronic, progressive, neuromuscular disorder with remissions and exacerbations; disturbance in transmission of impulses at myoneural junction, resulting in profound weakness
2. Dysfunction caused by reduced acetylcholine receptors (AChR) and altered postsynaptic membrane of muscle end plates
3. Autoimmune theory: antibodies to AChR cause accelerated destruction and blockage of AChR
4. Highest incidence in young adult women ages 20 to 40; peak incidence in men ages 60 to 70
5. Myasthenic crisis
 - a. Sudden, severe exacerbation of signs and symptoms of myasthenia gravis; precipitated by conditions such as disease exacerbation, infection, and inadequate amount of anticholinesterase drugs
 - b. Signs and symptoms: increased pulse, respirations, and blood pressure; respiratory distress with cyanosis; loss of cough and swallowing reflexes; increased respiratory secretions; diaphoresis; increased lacrimation; dysarthria; restlessness; bowel and bladder incontinence
6. Cholinergic crisis
 - a. Overmedication of anticholinesterase medication; sudden onset
 - b. Signs and symptoms: drooping eyelids (ptosis); weakness; difficulty swallowing, chewing, speaking, and breathing; abdominal cramps and diarrhea; increased respiratory secretions; diaphoresis, increased lacrimation; fasciculations; blurred vision

B Clinical findings

1. Subjective: extreme muscle weakness; becomes progressively worse with use, but improves with rest; dyspnea; transient respiratory insufficiency; dysphagia (difficulty chewing and swallowing); dysarthria (difficulty speaking); diplopia
2. Objective
 - a. Physical: ptosis; strabismus; weak voice (dysphonia); myasthenic smile (snarling, nasal smile); ineffective cough; enlarged thymus
 - b. Diagnostic measures: spontaneous relief of symptoms with IV administration of edrophonium (Enlon, Tensilon); edrophonium also used to distinguish myasthenic crisis from cholinergic crisis (toxic effects of excessive neostigmine)

C Therapeutic interventions

1. Medications that block cholinesterase at myoneural junction (see [Related Pharmacology, Cholinesterase Inhibitors](#))
2. Radiation therapy or surgical removal of thymus gland may cause partial remission by producing antigen-specific immunosuppression
3. Corticosteroids to suppress antibody production
4. Intubation with mechanical ventilation as necessary in myasthenic crisis
5. Plasmapheresis and immunosuppressives to reduce circulating antibody titer
6. Tube feedings if experiencing dysphagia

Nursing Care of Clients with Myasthenia Gravis

Assessment/Analysis

1. History of onset and progression of motor and sensory loss
2. Neurologic status (see [Related Procedures, Neurologic Assessment \[Including Glasgow Coma Scale\]](#))

3. Respiratory status: vital signs, depth of respirations, breath sounds, oxygen saturation, arterial blood gases

Planning/Implementation

1. Administer medications on strict time schedule to prevent onset of symptoms; medication may need to be administered during night
2. Monitor for signs and symptoms of myasthenic and cholinergic crises; administer short-acting cholinesterase inhibitor per protocol to distinguish between the two; signs and symptoms will temporarily improve with myasthenic crisis and intensify with cholinergic crisis
3. Keep head of bed elevated
4. Plan activity to avoid fatigue based on tolerance; collaborate with client to develop individualized energy-saving strategies
5. Teach client and family to wash hands frequently and to avoid people with upper respiratory tract infections because pneumonia may develop as a result of respiratory impairment
6. Encourage carrying medical alert information
7. Avoid administering morphine to clients receiving cholinesterase inhibitors; these drugs potentiate effects of morphine and may cause respiratory depression
8. Provide emotional support
9. Schedule meals to coincide with peak drug action; administer tube feedings as ordered
10. Tape eyelids closed for short periods and administer artificial tears to keep cornea moist if client has difficulty closing eyes
11. Encourage client and family to participate in planning care
12. Teach client and family signs and symptoms of myasthenic crisis and cholinergic crisis
13. Maintain a patent airway; suction client's secretions as necessary; maintain mechanical ventilation as ordered
14. Anticipate all needs during exacerbations because client is too weak to turn, drink, or even request assistance
15. Refer client and family to Myasthenia Gravis Foundation and local self-help groups

Evaluation/Outcomes

1. Maintains a balance between activity and rest
2. Maintains effective respiratory function
3. Identifies signs and symptoms of crises

Guillain-Barré Syndrome (Polyradiculoneuritis)

Data Base

A Etiology and pathophysiology

1. Autoimmune response that destroys peripheral nerve myelin
2. May follow respiratory or gastrointestinal viral infection, vaccination, pregnancy, or surgery
3. Recovery may take 2 years after initial and plateau periods; although most fully recover, some experience residual deficits or die of complications

B Clinical findings

1. Subjective: ascending weakness that begins in lower extremities; paresthesia; dysphagia; diplopia

2. Objective

- a. Areflexia and paralysis beginning in lower extremities and progressing upward; maximal deficit usually by 4 weeks
- b. Respiratory paralysis
- c. Autonomic neuropathy (e.g., hypertension, bradycardia, tachycardia, diaphoresis)
- d. Abnormal CSF and electrophysiologic studies

C Therapeutic interventions

1. IV therapy with IgG
2. Plasmapheresis to facilitate removal of antibodies
3. Support of vital functions

Nursing Care of Clients with Guillain-Barré Syndrome

Assessment/Analysis

1. Respiratory function including airway, respiratory rate, breath sounds, oxygen saturation, and arterial blood gases
2. Neurologic status (see [Related Procedures, Neurologic Assessment \[Including Glasgow Coma Scale\]](#)); does not affect level of consciousness or cognition
3. History of recent illness, particularly viral infections
4. History of onset and progression of symptoms

Planning/Implementation

1. Monitor vital signs, breath sounds, and oxygen saturation
2. Maintain airway; provide pulmonary physiotherapy; suction as necessary; be prepared for intubation and mechanical ventilation
3. Monitor gag and swallow reflexes; maintain gastrostomy tube feedings as necessary; monitor bowel sounds (paralytic ileus may occur); monitor urinary output
4. Provide emotional support for client and family because of severity of physiological manifestations and lengthy convalescent period
5. Prevent complications of immobility (e.g., skin care; range-of-motion exercises; position changes; coughing and deep breathing; antiembolism stockings)
6. Refer client and family to Guillain-Barré Foundation for additional information and community resources

Evaluation/Outcomes

1. Maintains effective respiratory function
2. Remains free from complications of immobility
3. Discusses feelings with family and other health care team members

Amyotrophic Lateral Sclerosis (ALS)

Data Base

A Etiology and pathophysiology

1. Progressive, degenerative process involving motor neurons of spinal cord, medulla, and cortex;

both upper and lower motor neurons are affected

2. Cause unknown; autoimmune diseases and genetic causes are implicated
3. Occurs more frequently in men than women in fifth and sixth decades
4. Death from respiratory complications frequently occurs within 3 to 5 years
5. Often called Lou Gehrig's disease

B Clinical findings

1. Subjective: muscular weakness; malaise; fatigue
2. Objective
 - a. Fasciculations (irregular spasmodic twitching of small muscle groups); spasticity; atrophy
 - b. Overactive deep tendon reflexes
 - c. Difficulty in breathing, chewing, swallowing, speaking
 - d. Outbursts of laughter or crying
 - e. Abnormal electromyography

C Therapeutic interventions

1. Physiotherapy and skeletal muscle relaxants to relieve spasticity
2. Respiratory function support with mechanical ventilation
3. Riluzole (Rilutek) to inhibit glutamate accumulation, possibly preventing injury or death of neurons

Nursing Care of Clients with Amyotrophic Lateral Sclerosis

Assessment/Analysis

1. History of onset and progression of symptoms
2. Neurologic status (see [Related Procedures, Neurologic Assessment \[Including Glasgow Coma Scale\]](#))
3. Respiratory status (e.g., vital signs, respiratory depth, oxygen saturation)

Planning/Implementation

1. Encourage to remain active as long as possible, employing supportive devices
2. Encourage range-of-motion exercises
3. Monitor swallowing ability; place in semi- or high-Fowler position when eating; adjust consistency of food to prevent aspiration; provide enteral feedings via percutaneous endoscopic gastrostomy (PEG) tube as vital capacity drops
4. Provide alternate means of communication as speech declines
5. Encourage client and family to discuss feelings; explore advance directives while client is still able to speak
6. Maintain respiratory function (e.g., increased fluids, positioning, chest physiotherapy, coughing and deep-breathing exercises, suctioning, and mechanical ventilation)
7. Support natural defense mechanisms; encourage a diet consisting of nutrient-dense foods, especially those rich in immune-stimulating nutrients selenium and vitamins A, C, and E
8. Teach to avoid situations that may contribute to infection
9. Refer client and family to ALS Association

Evaluation/Outcomes

1. Maintains effective respiratory function
2. Maintains nutritional status
3. Discusses feelings with family and other health care team members

Arthritis

Data Base

A Etiology and pathophysiology

1. Rheumatoid arthritis (RA)
 - a. Altered immune response; enzymes destroy collagen; synovial membrane proliferates, forming pannus, which destroys cartilage and bone; HLA-DR4 antibody usually present
 - b. Other effects: fever, weight loss, anemia, Raynaud phenomenon, arteritis, neuropathy, pericarditis, ankylosis, and Sjögren syndrome
 - c. Etiology unclear; apparent genetic predisposition; incidence higher in women
2. Osteoarthritis (OA, degenerative arthritis, degenerative joint disease)
 - a. Characterized by degeneration of articular cartilage
 - b. Noninflammatory joint disease with no systemic effects
 - c. Risk factors: age; obesity; injury; repetitive trauma from sports, occupation, or other activity; presence of *ank* gene
3. Gouty arthritis (GA)
 - a. Purine metabolism disorder, leading to increased uric acid in blood and deposition of uric acid crystals (tophi) in tissues, especially joints; followed by an inflammatory response
 - b. Incidence highest in males; familial tendency
 - c. Renal urate lithiasis (kidney stones) may result from precipitation of uric acid if there is a low urinary pH

B Clinical findings

1. Subjective
 - a. Joint pain
 - (1) OA: insidious onset of asymmetric pain in hips, knees, fingers, or spine that increases with weight-bearing activity and is relieved by rest
 - (2) RA: symmetrical pain in small joints of hands and feet; knees, shoulders, hips, elbows, and ankles affected as disease progresses; not relieved by rest
 - (3) GA: sudden onset of asymmetric joint pain usually in metatarsophalangeal joint of the great toe
 - b. Morning stiffness: lasts less than 1 hour with OA; more than 1 hour with RA
 - c. Anorexia, fatigue, and malaise (RA, GA)
2. Objective
 - a. Decreased range of motion
 - b. Signs of inflammation (e.g., swelling, heat, redness) in involved joints (RA, GA)
 - c. Deformities ([Figure 11-5](#): Arthritic hand deformities)

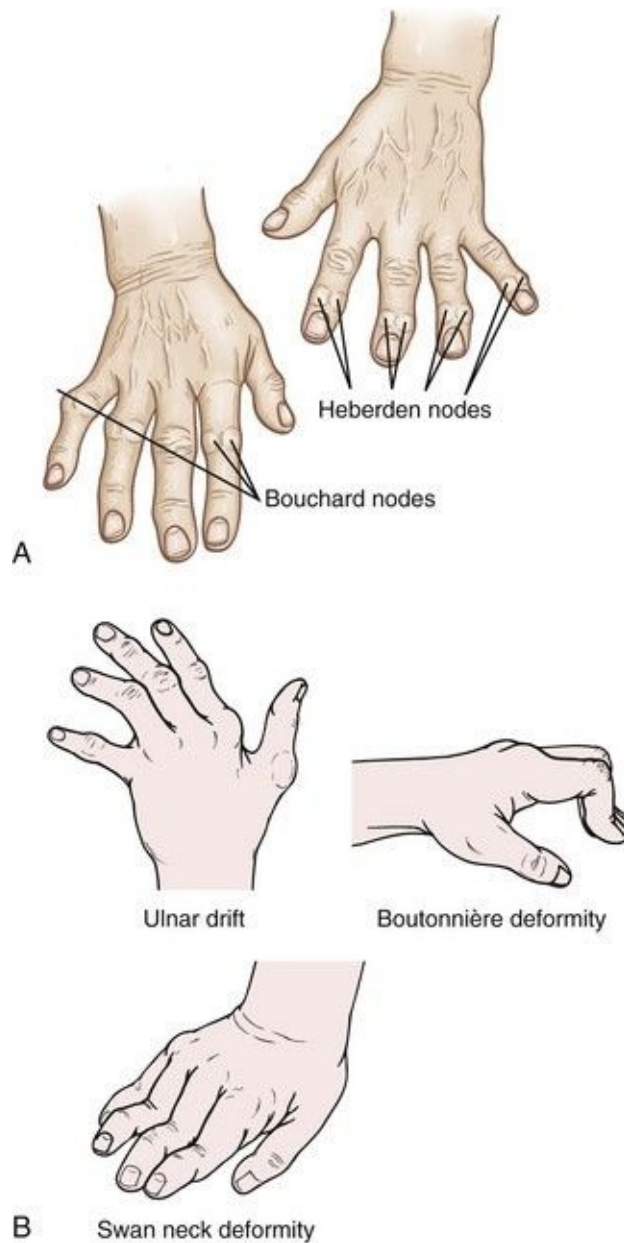


FIGURE 11-5 Arthritic hand deformities. **A**, Characteristics of osteoarthritis. **B**, Characteristics of rheumatoid arthritis. (**A**, from Mourad L: *Orthopedic disorders*, St. Louis, 1991, Mosby. **B**, from Lewis SL et al: *Medical-surgical nursing: assessment and management of clinical problems*, ed 8, St. Louis, 2011, Mosby.)

- (1) Ulnar drift, Boutonnière deformity, swan neck deformity, rheumatoid nodules (RA), bony ankylosis
- (2) Heberden and Bouchard nodes (bony hypertrophy) symmetrically occurring on fingers (OA)
- (3) Tophi in outer ear, hands, feet, elbows, or knees (GA)

d. Crepitus when joint is moved (OA)

e. Fever (RA, GA)

f. Laboratory findings

- (1) RA: presence of rheumatoid factor (RF), elevated erythrocyte sedimentation rate (ESR), decreased RBC count, and positive C-reactive protein and antinuclear antibody (ANA) tests; joint fluid analysis demonstrates inflammation
- (2) GA: elevated serum uric acid

C Therapeutic interventions

1. Pharmacologic management

- a. Acetaminophen (Tylenol) (OA)
 - b. Nonsteroidal antiinflammatory drugs (RA, OA, GA) (see [Related Pharmacology, Nonsteroidal Antiinflammatory Drugs \[NSAIDs\]](#))
 - c. Tumor necrosis factor inhibitors: etanercept (Enbrel), infliximab (Remicade), adalimumab (Humira)
 - d. Disease-modifying antirheumatic drugs (DMARDs) such as anakinra (Kineret), azathioprine (Imuran), cycloSPORINE (Sandimmune), hydroxychloroquine (Plaquenil), injectable gold compounds, leflunomide (Arava), methotrexate (Rheumatrex Dose Pack), sulfasalazine (Azulfidine) (RA)
 - e. Viscosupplementation with hyaluronic acid joint injections (OA)
 - f. Antigout agents (see [Related Pharmacology, Antigout Agents](#)) (GA)
 - g. Corticosteroids to reduce inflammation (RA and resistant GA)
 - h. While research has not supported the efficacy of glucosamine and chondroitin, some clients report reduced pain with these supplements (OA); glucosamine has a glucose base that interferes with antidiabetic medications
2. Weight loss if indicated
 3. Physical therapy to preserve joint function; application of heat/cold
 4. Splints and assistive devices
 5. Surgical intervention (RA, OA); often done in a laminar air flow room
 - a. Synovectomy: removal of enlarged synovial membrane before bone and cartilage destruction occurs
 - b. Arthrodesis: fusion of a joint when joint surfaces are severely damaged; this results in no range of motion of affected joint
 - c. Arthroplasty (e.g., total hip, knee, and shoulder replacement): surgical repair of joint or replacement with a prosthetic device (see [Fracture of the Hip](#))
 6. Extracorporeal immunoadsorption (ECI); apheresis treatment with protein A immunoadsorption column (Prosorba), which binds RA antibodies before blood is returned to client (RA); performed when other treatments have been ineffective

Nursing Care of Clients with Arthritis

Assessment/Analysis

1. Extent of range of motion of involved joints; presence of bony deformities
2. History of onset and progression of signs and symptoms, identifying degree to which pain interferes with daily activities
3. Risk factors such as obesity

Planning/Implementation

1. Assist with activities that require using affected joints; allow for rest periods
2. Maintain functional alignment of joints
3. Provide range-of-motion exercises up to point of pain, explain that some discomfort is always present; apply heat or cold before exercises if ordered
4. Relieve discomfort and edema with medications or application of heat/cold (warm compresses between 98.6° and 105° F)

5. Allow time to verbalize feelings regarding limited motion and changes in lifestyle; help set realistic goals, focusing on strengths
6. Encourage participation in a weight-loss program if indicated
7. Encourage to follow physical therapist's instruction regarding regular exercise and use of supportive devices to maintain independence; encourage muscle strengthening and stretching to increase joint stability
8. Administer and teach about prescribed pharmacologic therapy (e.g., injectable gold compounds can cause nephrotoxicity and blood dyscrasias; hydroxychloroquine can cause visual disturbances)
9. Provide dietary instructions
 - a. Encourage diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) and vitamin and mineral intake to improve and maintain nutritional status and compensate for nutrient interactions of corticosteroid and other treatment medications (RA, GA); avoid high-purine foods such as organ meats, anchovies, sardines, and shellfish (GA)
 - b. Increase fluid intake to 2000 to 3000 mL daily to prevent formation of calculi; alkaline-ash diet to increase pH of urine, which will reduce precipitation of uric acid and enhance action of drugs such as probenecid (GA)
10. Provide care for client with RA or OA requiring joint replacement (see [Nursing Care of Clients with Fractures of the Extremities](#), [Nursing Care of Clients with Fractures of the Hip](#))
11. Refer client and family to the Arthritis Foundation

Evaluation/Outcomes

1. Reports reduction in pain
2. Completes ADLs using supportive devices as needed
3. Accepts and adjusts to deformities

Osteomyelitis

Data Base

A Etiology and pathophysiology: bone infection by direct or indirect invasion, usually by *Staphylococcus aureus*; may be acute or chronic

1. Indirect entry: via blood from another site; usually in young males; most often occurs in growing long bones; associated with local trauma
2. Direct entry: extends from open wound to bone via arterial blood; ischemia results in formation of sequestrum (dead bone tissue), leading to chronic osteomyelitis; not age related

B Clinical findings

1. Subjective: bone pain and tenderness; malaise; headache
2. Objective: signs of sepsis or tissue infection such as fever; edema and erythema over bone; drainage if chronic; positive culture from bone biopsy and positive radionuclide bone scan; MRI useful in confirmation of diagnosis

C Therapeutic interventions

1. Intravenous antibiotic therapy for 4 to 6 weeks followed by oral antibiotics for 2 to 3 months; antibiotic-impregnated beads may be placed in wound
2. Incision and drainage of bone abscess
3. Sequestrectomy: surgical removal of dead, infected bone and cartilage; muscle or bone grafts may

be needed

4. Closed suction irrigation system may be applied to wound to eliminate debris
5. Preventive measures include prophylactic antibiotics before and 24 hours after orthopedic surgery; early removal of invasive lines

Nursing Care of Clients with Osteomyelitis

Assessment/Analysis

1. History of trauma, infections, or surgery
2. Involved tissue for signs of inflammation
3. Onset and characteristics of pain

Planning/Implementation

1. Monitor neurovascular status of extremity
2. Administer prescribed analgesics, antibiotics, and warm soaks
3. Use surgical asepsis for wound care
4. Maintain functional body alignment and promote comfort
5. Use room deodorizer if a foul odor is apparent
6. Allow expression of feelings about length of recovery
7. Encourage nutrient-dense diet to compensate for impact of long-term antibiotic therapy on nutritional status

Evaluation/Outcomes

1. Reports reduction in pain
2. Recovers from infectious process

Multiple Myeloma

Data Base

A Etiology and pathophysiology

1. Malignant overgrowth of plasma cells in bone and bone marrow produce a specific nonfunctional immunoglobulin (monoclonal [M] protein); osteoclast activating factor produced by plasma cells and other substances cause bone breakdown; cause unknown
2. Risk factors: exposure to ionizing radiation and occupational chemicals; genetic and viral factors are being studied
3. Incidence is highest in older men

B Clinical findings

1. Subjective: bone pain (back and ribs); progressive weakness
2. Objective
 - a. CRAB
 - (1) **C**alcium: hypercalcemia from bone destruction
 - (2) **R**enal insufficiency: hyperuricemia associated with renal damage
 - (3) **A**nemia; platelet deficiency; weight loss
 - (4) **B**one lesions: punched-out appearance of bones on radiograph; idiopathic bone

fractures

- b. Increased total protein
- c. Serum electrophoresis for monoclonal protein level to monitor extent of disease
- d. Presence of Bence Jones protein in urine
- e. Diagnosis confirmed by bone marrow biopsy

C Therapeutic interventions

1. Chemotherapeutic agents, especially dexamethasone (Decadron); melphalan (Alkeran), bortezomib (Velcade); thalidomide (Thalomid)
2. Radiation therapy
3. Bone marrow transplantation or peripheral blood stem-cell transplantation
4. Analgesics and opioids for pain
5. Supportive therapy such as transfusions, vertebroplasty with orthopedic cement, bisphosphonates such as pamidronate (Aredia) to strengthen bone

Nursing Care of Clients with Multiple Myeloma

Assessment/Analysis

1. History of onset and progression of symptoms
2. Signs of myelosuppression
3. Renal function; precipitation of protein, calcium, and uric acid in urine

Planning/Implementation

1. Encourage expression of feelings about the disease and related therapies
2. Help control pain by relaxation, imagery, distraction, and prescribed analgesics
3. Assist with movement to prevent pathologic fractures; apply back brace if ordered
4. Increase fluid intake to prevent renal damage
5. Administer prescribed medications; teach female client receiving thalidomide to use contraception because it is associated with severe birth defects if taken when pregnant
6. Encourage diet high in nutrient-dense foods, especially those rich in immune-stimulating nutrients selenium and vitamins A, C, and E, as well as protein
7. Provide care to client receiving radiation or chemotherapy (see [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients with Neoplastic Disorders)

Evaluation/Outcomes

1. Reports decrease in pain
2. Remains free from injury (e.g., fractures, renal damage)

Degenerative Disk Disease

Data Base

A Etiology and pathophysiology

1. Herniation and protrusion of nucleus pulposus into spinal canal with subsequent compression of cord or nerve roots; usually results from aging or trauma
2. Most common site is lumbosacral area (between L4 and L5), but herniation can occur in cervical

region (between C5 and C6 or between C6 and C7)

B Clinical findings

1. Subjective

a. Lumbosacral disk

- (1) Acute pain or paresthesias in lower back, radiating across buttock and down leg (sciatic pain); pain increases with activities that raise intraspinal pressure
- (2) Pain on affected side when raising extended leg
- (3) Weakness of foot

b. Cervical disk

- (1) Neck pain that may radiate to hand
- (2) Paresthesias and weakness of affected upper extremity

2. Objective

- a. Impairment of peripheral reflexes and muscle function
- b. Defect evident on MRI, myelogram, or CT scan

C Therapeutic interventions

1. Bed rest initially during acute phase; physical therapy for muscle strengthening and flexibility
2. Back brace for support; cervical collar or traction
3. Local application of heat or cold
4. NSAIDs, muscle relaxants, analgesics
5. Surgical intervention (for progressive deficit)
 - a. Laminectomy: excision of ruptured portion of nucleus pulposus through an opening created by removal of part of a vertebra
 - b. Discectomy: removal of herniated disk; cervical discectomy may be performed through an anterior and/or posterior incision; bone grafts and hardware may be used
 - c. Microdiscectomy: magnifying lens facilitates removal of pieces of disk that press on nerve; incision generally is 1 inch
 - d. Laminotomy: incision into lamina
 - e. Spinal fusion: if two or more disks are involved, the affected vertebrae are permanently fused to stabilize spine with bone graft

Nursing Care of Clients with Degenerative Disk Disease

Assessment/Analysis

1. Characteristics and radiation of pain
2. Contributing factors such as trauma, obesity, degenerative joint disease, scoliosis
3. Posture and gait alterations
4. Extent of muscle strength and sensory function of involved extremities

Planning/Implementation

1. Administer prescribed skeletal muscle relaxants, analgesics, and other medications
2. Provide a firm mattress and/or bed board
3. Ensure that traction and/or braces are applied correctly and maintained and that weights hang freely
4. Assist onto a fracture bedpan to avoid client's need to lift hips
5. Provide frequent back care to relax muscles and promote circulation

6. Support body alignment at all times
7. Use log-rolling to turn: instruct to fold arms across chest, bend knee on side opposite direction of turn, and then roll over
8. Transfer safely; verify order, teach client, assess client's abilities, administer prescribed analgesics, position in functional alignment before transfer, log roll client, use assistive devices
9. Teach importance of weight loss, low-heeled shoes, and body mechanics; to avoid activities that increase intraspinal pressure (e.g., coughing, lifting, straining on defecation)
10. Encourage fluid intake and diet rich in nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) to improve and maintain nutritional status and prevent constipation; administer prescribed stool softeners to prevent straining
11. Provide care for client undergoing disk surgery
 - a. Explain that pain may persist postoperatively because of edema
 - b. Protect airway, particularly after cervical spine surgery
 - c. Place bedside table, phone, and call bell within reach to prevent twisting
 - d. Observe dressing for signs of hemorrhage and spinal fluid leakage
 - e. Monitor for adequate ventilation in clients who have undergone a cervical laminectomy, discectomy, or fusion
 - f. Assess for changes in neurologic function (e.g., motor or sensory changes in extremities)
 - g. Assist with back brace or cervical collar if ordered; instruct to wear cervical brace as directed to prevent spinal cord injury
 - h. Instruct that pain and muscle spasm will improve gradually
12. Foster independence
13. Encourage prescribed exercises and use of firm mattress and/or bed board

Evaluation/Outcomes

1. Reports reduction in pain
2. Remains free from injury
3. Increases mobility

Fractures of the Extremities

Data Base

A Etiology and pathophysiology

1. Break in bone continuity, accompanied by localized tissue response and muscle spasm
2. Caused by trauma or bone pathology (e.g., osteoporosis, multiple myeloma, neoplasms)
3. Types
 - a. Complete fracture: bone separated into two parts; transverse or spiral
 - b. Incomplete fracture: only part of width of bone broken
 - c. Comminuted fracture: bone broken into several fragments
 - d. Greenstick fracture: splintering on one side of bone, with bending of other side; occurs only in pliable bones, usually in children
 - e. Simple (closed) fracture: bone broken but skin is intact
 - f. Compound (open) fracture: break in skin at time of fracture with or without protrusion of bone
4. Stages of healing: formation of a hematoma; fibrocartilage formation; callus formation;

ossification; consolidation and remodeling of callus

B Clinical findings

1. Subjective: pain aggravated by motion; tenderness; neurovascular changes and numbness
2. Objective
 - a. Loss of motion; crepitus (grating sound) heard when affected limb is moved
 - b. Edema; ecchymosis
 - c. X-ray examination reveals break in continuity of bone
 - d. Shortening of extremity caused by change in bone alignment
 - e. Muscle spasm
 - f. Loss of function
 - g. Impaired local circulation (e.g., cool, dusky color, diminished pulses) if arteries are damaged
 - h. Shock when accompanied by blood loss

C Therapeutic interventions

1. Traction may be used to reduce fracture or to maintain alignment of bone fragments until surgery or healing occurs
 - a. Skin traction: weights pull on device (e.g., foam boot) applied to an extremity to exert a straight pull on limb (e.g., Buck extension/traction; often used temporarily to immobilize leg while awaiting surgery for fractured hip)
 - b. Skeletal traction: weights pull on pins surgically attached to bone (e.g., Steinmann pin, Kirschner wire, skeletal tongs, halo traction for cervical fractures)
2. Surgical intervention to align bone (open reduction), often with plates, screws, nails (e.g., intramedullary nails) to hold fracture in alignment (internal fixation)
3. Manipulation to reduce fracture (closed reduction)
4. Application of cast to maintain alignment and immobilize limb; may be plaster or fiberglass
5. External fixation device when fractures accompany soft tissue injury
6. Bone graft and electrical stimulation may be used for nonunion of fractures

Nursing Care of Clients with Fractures of the Extremities

Assessment/Analysis

1. Ability of client to move extremity
2. Altered appearance of involved body part
3. Factors precipitating injury
4. Neurovascular assessment: 5 Ps—**P**ain, **P**ulselessness, **P**allor, **P**aresthesias, **P**aralysis; soft tissue injury or edema may compromise circulatory or neurologic functioning

Planning/Implementation

1. Provide emergency care
 - a. Evaluate general physical condition; treat for shock (e.g., place in supine position, keep warm)
 - b. Splint extremity in position found before moving; consider all suspected fractures as fractures until radiography is performed
 - c. Cover open wound with sterile dressing if available
2. Monitor for signs of fat emboli after fracture of long bones or pelvic bones: severe chest pain, dyspnea, pallor, diaphoresis, petechiae (on neck, upper arms, chest, abdomen), fever, and decreased

oxygen saturation

3. Monitor for compartment syndrome

- a. Result of excessive tissue pressure within fascial compartment of an extremity that compromises circulation to the area resulting in ischemia
- b. Clinical findings: unrelenting pain; edema; hard, shiny skin; sensory deficits; weak or absent pulses
- c. Tissue pressure monitoring device may be used for detection

4. Provide care for a client with a cast

- a. Observe for signs of circulatory and neurological impairment: change in skin temperature or color, numbness or tingling, decrease in peripheral pulse, inability to move toes/fingers, swelling, prolonged blanching of toes/fingers after compression, increasing unrelieved pain; notify health care provider
- b. Protect cast from damage until dry: elevate extremity with cast on pillow; handle with palms of hands only
- c. Promote drying by leaving it uncovered; use a fan to increase circulation of air
- d. Maintain bed rest until cast is dry and ambulation is permitted
- e. Observe for signs of hemorrhage and circle extent of drainage on cast
- f. Observe for irritation caused by rough cast edges, and pad as necessary for comfort and to prevent soiling
- g. Administer prescribed analgesics and report unrelieved pain
- h. Observe for signs of infection (e.g., elevated temperature, odor from cast, swelling)
- i. Teach isometric exercises to prevent muscle atrophy

5. Provide care for a client in traction

- a. Ensure that weights are hanging freely and that affected limb is in position so that the pull of traction is not impeded; never interrupt traction
- b. Maintain affected extremity in functional alignment; encourage use of trapeze or side rails to facilitate movement; teach how to use trapeze to lift body during linen change to avoid shearing force, which contributes to skin breakdown
- c. Observe for footdrop with Buck extension/traction, because this may indicate nerve damage
- d. Observe site of insertion of skeletal traction for irritation or infection; use surgical asepsis when cleansing site of insertion of skeletal traction (an antiseptic ointment may be prescribed)

6. Encourage high-protein, high-vitamin diet to promote healing; high-calcium diet is not recommended when on prolonged bed rest because bone decalcification will continue until activity is restored; a high calcium intake may lead to formation of renal calculi

7. Encourage fluids to maintain hydration and help prevent constipation, renal calculi, and urinary tract infection

8. Reposition every 1 to 2 hours, use pressure-relieving devices, and provide skin care to prevent pressure ulcers

9. Teach isometric exercises to promote muscle strength and tone

10. Teach appropriate crutch-walking technique; non-weight-bearing (three-point swing-through); weight-bearing (four point) progressing to use of cane (see [Related Procedures, Mobility: Assistive Devices](#))

Evaluation/Outcomes

1. Remains free from infection

2. Maintains neurovascular functioning
3. Remains free from complications
4. Regains mobility and function after healing

Fracture of the Hip

Data Base

A Etiology and pathophysiology

1. Fractures of head or neck of femur (intracapsular) or trochanteric area (extracapsular); loss of blood supply to head of femur will result in aseptic necrosis
2. Incidence highest in older females because osteoporosis and degenerative joint disease increase risk of sustaining a fracture from a fall

B Clinical findings

1. Subjective: pain; changes in sensation
2. Objective: affected leg appears shorter; external rotation of affected limb; x-ray examination reveals lack of bone continuity

C Therapeutic interventions

1. Buck extension/traction as a temporary measure to limit soft tissue injury and relieve pain of muscle spasm; leg is kept extended with slight internal rotation and client's body weight acts as counter-traction; rarely used
2. Open reduction and internal fixation (ORIF)
3. Hemiarthroplasty (replacement of the femoral head) or total hip replacement (THR) when fracture site or joint degeneration will not permit internal fixation; both require total hip precautions

Nursing Care of Clients with Fracture of the Hip

Assessment/Analysis

1. Shortening and external rotation of leg
2. Degree and nature of pain
3. Neurovascular assessment; 5 Ps—**P**ain, **P**ulselessness, **P**allor, **P**aresthesias, **P**aralysis
4. Other health problems that may affect recovery

Planning/Implementation

1. See [Nursing Care of Clients with Fractures of the Extremities](#)
2. Encourage use of trapeze to facilitate movement and prevent shearing force on skin; lift pelvis by using trapeze and unaffected leg
3. Assist onto a fracture bedpan to avoid client's need to lift hips; use elevated commode when allowed out of bed because flexing hip more than 90 degrees must be avoided
4. Provide postoperative care for THR
 - a. Monitor neurovascular status
 - b. Maintain portable wound suction drainage device (e.g., Hemovac); anticipate up to 500 mL in first 24 hours; usually removed by second postoperative day when daily drainage decreases to approximately 30 mL
 - c. Administer prescribed analgesics; patient-controlled analgesia (PCA) and/or continuous

regional analgesia (e.g., ropivacaine [Naropin])

- d. Determine if health care provider wants client to turn from side to side or avoid turning on operative side; place pillow between legs when turning on unaffected side; use pillow to maintain abduction after hip replacement and instruct to avoid crossing legs to prevent dislodging prosthesis
- e. Encourage quadriceps setting exercises
- f. Assist client to ambulate; first with a walker and progressing to a cane; support on unaffected side; follow orders for extent of weight-bearing permitted on affected extremity because this depends on type of surgery and type of device inserted
- g. Avoid activities that may dislocate prosthesis (see [Figure 11-6: Total hip replacement: do's and do not's related to body mechanics](#))



FIGURE 11-6 Total hip replacement: do's and do not's related to body mechanics. Home-going instructions illustrating do's and do not's for clients with a total hip replacement. Clients are to avoid extreme flexion (past 90 degrees), adduction, and internal rotation of operated hip—any of which may cause dislocation of the prosthesis. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

- h. Prevent complication of thromboembolism (e.g., administer anticoagulants, apply antiembolism stockings, encourage dorsiflexion of feet, monitor coagulation profile); observe dressing and under client for bleeding
- i. Prevent pulmonary complications: encourage coughing and deep breathing; teach how to use incentive spirometer; assist with frequent position changes; assess for clinical manifestations of pulmonary embolus (e.g., chest pain, shortness of breath)
- j. Encourage weight reduction if needed
- k. Collaborate with other health professionals for physical therapy and rehabilitation

Evaluation/Outcomes

1. Maintains alignment of affected leg
2. Demonstrates improved mobility
3. Avoids complications of immobility

Spinal Cord Injury

Data Base

A Etiology and pathophysiology resulting from trauma

1. Fractures of vertebrae can cut, compress, or completely sever spinal cord
2. Signs and symptoms depend on location (e.g., lumbar, thoracic, cervical) and extent of damage (e.g., complete transection, partial transection, compression) and may be temporary or permanent; sensation and mobility of areas supplied by nerves below level of lesion are affected
3. Highest incidence between ages 16 and 30 years

B Clinical findings

1. Subjective: paresthesias or loss of sensation below level of injury; pain (e.g., cutting, burning, piercing, radiating, tightening) may occur when there is intact sensation
2. Objective
 - a. Inability to move body below level of injury
 - b. Early signs of spinal shock
 - (1) Sudden loss of reflexes below level of injury; particularly bowel and bladder, which may lead to paralytic ileus and urinary retention
 - (2) Flaccid paralysis (immobility accompanied by weak, soft, flabby muscles) below level of injury
 - (3) Neurogenic shock: absence of sympathetic innervation leads to peripheral vasodilation and venous pooling, hypotension, bradycardia, and inability to perspire
 - c. Later signs of spinal cord injury
 - (1) Reflex hyperexcitability (spastic paralysis): muscles below site of injury become spastic and hyperreflexic
 - (2) Diminished reflex excitability (flaccid paralysis) below site of injury follows reflex hyperexcitability in all instances of total cord damage and may occur in some instances of partial cord damage
 - (3) Total cord damage: both upper and lower motoneurons are destroyed; signs and symptoms depend on location of injury; loss of motor and sensory function present at time of damage usually is permanent
 - (a) Sacral region: paralysis (usually flaccid) of lower extremities (paraplegia) accompanied by atonic (autonomous) bladder and bowel with impairment of sphincter control
 - (b) Lumbar region: paralysis of lower extremities that may extend to pelvic region (usually flaccid) accompanied by a spastic (automatic) bladder and loss of bladder and anal sphincter control
 - (c) Thoracic region: same signs as those for lumbar region except paralysis extends to trunk below level of diaphragm
 - (d) Cervical region: same signs as those for thoracic region except paralysis

extends from neck down and includes paralysis of all extremities (quadriplegia); if injury is above C4, there is an absence of independent respirations

- (4) Partial cord damage: either upper or lower motoneurons, or both, may be destroyed; signs depend not only on location but also on type of neurons involved; destruction of lower motoneurons results in atrophy and flaccid paralysis of involved muscles, whereas destruction of upper motoneurons causes spasticity
- (5) Autonomic dysreflexia (hyperreflexia): exaggerated autonomic response to factors such as a distended bowel or bladder when lesion is above T6; leads to bradycardia, hypertension, headache, piloerection (goose bumps), diaphoresis, and nasal congestion (Figure 11-7: Autonomic dysreflexia: causes and clinical findings)

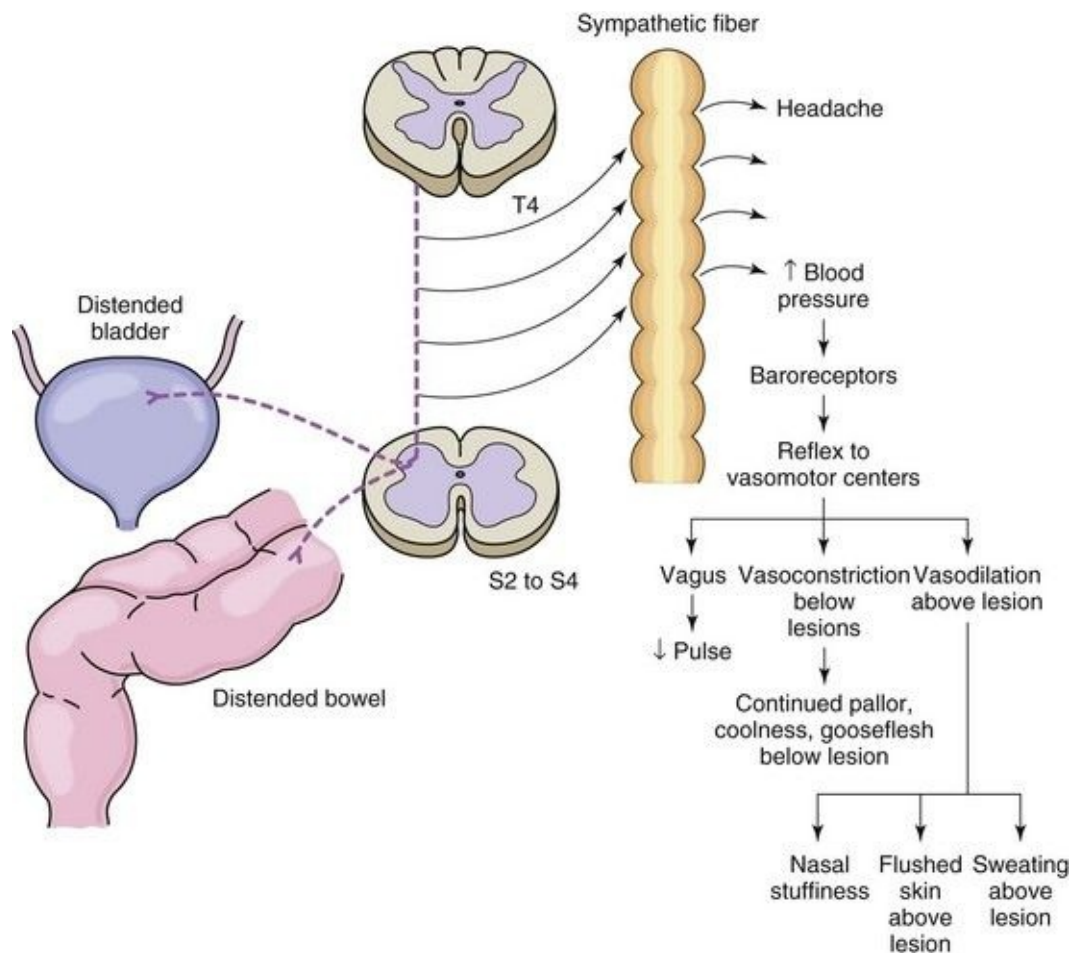


FIGURE 11-7 Autonomic dysreflexia (hyperreflexia): causes and clinical findings. (From Monahan FD et al: *Phipps' medical-surgical nursing: health and illness perspectives*, ed 8, St. Louis, 2007, Mosby.)

C Therapeutic interventions

1. Maintenance of vertebral alignment

- a. At site of injury, maintain individual in position found until emergency services arrive with a head and back stabilizer for transport
- b. Bed rest with supportive devices or with total immobilization
- c. Skeletal traction (e.g., Crutchfield or Vinke tongs; halo device)
- d. Corsets, braces, and other devices when mobility is permitted

2. Surgery to reduce pain or pressure and/or stabilize spine (e.g., laminectomy, spinal fusion)

3. Respiratory therapy, mechanical ventilation as needed
4. Temperature control via hypothermia
5. High doses of steroids to reduce inflammatory process at site of injury
6. Extensive rehabilitation therapy

Nursing Care of Clients with Spinal Cord Injuries

Assessment/Analysis

1. Respiratory status
2. Neurologic status (see [Related Procedures, Neurologic Assessment \[Including Glasgow Coma Scale\]](#))
3. Abdomen for bladder or bowel distention
4. Extent and characteristics of pain if present
5. Skin integrity
6. Health problems that impact recovery
7. Coping skills and support systems

Planning/Implementation

1. Monitor cardiovascular, respiratory, and neurologic functioning
2. Maintain spinal alignment at all times; use log-rolling method to turn
3. Maintain in functional alignment; prevent dysfunctional contractures
4. Maintain surgical asepsis with skeletal traction or spinal surgery
5. Institute measures to prevent thrombophlebitis
6. Institute active and passive range-of-motion exercises as soon as approved; exercises may be performed in water
7. Encourage verbalization and accept feelings
8. Include in decision-making process; encourage independence when possible
9. Involve client, family, and entire health team in developing a plan of care
10. Help with adjustment to altered body image, lifestyle, and self-concept
11. Set realistic short-term goals so success can be achieved, promoting motivation
12. Examine skin for signs of pressure from positioning, braces, or splints; use techniques to prevent pressure; provide skin care; use pressure-relieving devices or beds; reposition every 1 to 2 hours
13. Provide opportunities to touch, grasp, and manipulate objects of different sizes, weights, and textures to stimulate tactile sensation
14. Protect affected limbs during transfer
15. Teach how to use unaffected extremities to manipulate, move, and stabilize affected parts
16. Attempt to establish a scheduled pattern of bowel function
 - a. Compare bowel habits before illness to current pattern; establish specific times for bowel movement; schedule evacuation after a meal to utilize gastrocolic reflex (peristaltic wave in colon induced by entrance of food into fasting stomach)
 - b. Determine if client senses need to defecate (e.g., feeling of fullness or pressure in rectum, flatus, bowel sounds [borborygmi])
 - c. Encourage assumption of a position most near the physiologic position for defecation
 - d. Use assistive measures to induce defecation

- (1) Teach bearing down while contracting abdominal muscles (this technique while closing the glottis [Valsalva maneuver] should be avoided, especially by those with cardiac problems)
- (2) Teach leaning forward to increase intraabdominal pressure by compressing abdomen against thighs
- (3) Use digital stimulation
- (4) Administer prescribed suppository
- (5) Administer ordered enemas; usually as last resort

e. Provide diet with bowel-stimulating properties, with emphasis on fruits, vegetables, cereal grains, and legumes, because these are rich sources of dietary fiber; fiber absorbs water, swells, and stretches the bowel, promoting peristalsis

f. Encourage sufficient fluid intake: 2000 to 3000 mL per day

g. Encourage activities to develop tone and strength of muscles that can be used

h. Provide adaptive equipment as necessary (e.g., elevated toilet seat, grab bars, padded backrest)

i. Teach bowel training program to client and family

17. Attempt to establish bladder function

a. Determine type of bladder problem

(1) Neurogenic bladder: any disturbance in bladder functioning caused by a lesion of nervous system

(2) Spastic bladder (reflex or automatic): caused by a spinal cord lesion above bladder reflex center, in conus medullaris; loss of conscious sensation and cerebral motor control; bladder empties automatically when detrusor muscle is sufficiently stretched (about 500 mL) to prevent overdistention

(3) Flaccid bladder (atonic, nonreflex, or autonomous): caused by a spinal cord lesion at level of the sacral conus or below; bladder continues to fill, becomes distended, and periodically overflows; bladder muscle does not contract forcefully and bladder does not empty except with conscious effort

b. Review bladder habits before illness as well current pattern of elimination; record output, voiding times, and times of incontinence

c. Encourage activity

d. Encourage sufficient fluid intake (3000 to 4000 mL per 24-hour period)

e. Encourage glass of water with each attempt to void; restrict fluid after 6 PM to limit amount of urine in bladder during night

f. Determine whether client is aware of need to void (e.g., fullness or pressure, flushing, chilling, goose pimples, cold sweats)

g. Encourage assumption of a position most near the physiologic position for urinating

h. Teach measures to induce urination

(1) Use Credé maneuver: manual expression of urine from bladder with moderate external pressure, downward and backward, from umbilicus to over suprapubic area

(2) Bend forward to increase intraabdominal pressure

(3) Stimulate "trigger points": areas that will instigate urination (e.g., stroke thigh, pull pubic hair, touch meatus)

i. Provide adaptive equipment as necessary (e.g., elevated toilet seats, commode, urinals, drainage systems)

j. Establish voiding schedule

- (1) Begin trial voiding at time just before incontinence most often occurs
- (2) Encourage voiding every 2 hours all day and two to three times at night
- (3) Time intervals between voidings; should be shorter in morning than later in day
- (4) Lengthen time between attempts as ability to maintain control improves
- (5) Maintain consistency of routine

18. Discuss need for sexual expression and options available; include discussion of penile implants

19. Care for client experiencing autonomic dysreflexia

- a. Place in a high-Fowler position
- b. Ensure patency of urinary drainage system
- c. Assess for fecal impaction
- d. Eliminate other stimuli such as drafts
- e. Notify health care provider; administer prescribed antihypertensives

20. When permitted, encourage and support use of tilt table to imitate weight-bearing and reduce loss of calcium from bones caused by immobility

21. Refer client to National Spinal Cord Injury Association

Evaluation/Outcomes

1. Maintains respiratory functioning
2. Avoids complications of immobility
3. Establishes program to maintain bowel function
4. Establishes program to maintain bladder function
5. Adjusts to changes in lifestyle
6. Functions satisfactorily sexually

Amputation

Data Base

A Etiology and pathophysiology

1. Surgical removal of an extremity
2. Intervention for conditions (e.g., malignant tumor, arterial insufficiency, extensive trauma, congenital malformation)

B Clinical findings (see [Chapter 6](#), Nursing Care of Clients with Circulatory System Disorders, Vascular Disease: Thrombophlebitis, Varicose Veins, and Peripheral Vascular Disease)

C Therapeutic interventions

1. Below-the-knee amputation (BKA) common in peripheral vascular disease; facilitates successful adaptation to prosthesis because of retained knee function
2. Above-the-knee amputation (AKA) necessitated by severe trauma or extensive disease (e.g., malignant tumors, congenital malformation)

Nursing Care of Clients with Amputations

Assessment/Analysis

1. History to determine causative factors and health problems that can compromise recovery
2. Neurovascular status of involved extremity

3. Understanding of consequences of surgery
4. Coping skills and support systems

Planning/Implementation

1. Provide care preoperatively
 - a. Teach exercises to strengthen muscles of extremities in preparation for crutch walking
 - b. Teach coughing and deep-breathing exercises
 - c. Provide emotional support for anticipated alteration in body image
2. Monitor vital signs and dressing for signs of hemorrhage or infection
3. Elevate foot of bed briefly (usually first 24 hours) if ordered by health care provider to decrease edema; avoid elevation of residual limb on a pillow to prevent hip flexion contractures
4. Provide residual limb care
 - a. Maintain elastic bandage to reduce edema and subcutaneous fat and shape residual limb in preparation for prosthesis
 - b. Care for incision after it is healed (e.g., wash daily, avoid using oils that may cause maceration)
 - c. Apply pressure with progressively firmer surfaces to toughen end of residual limb
 - d. Encourage moving affected limb while keeping it in functional alignment
 - e. Place client with lower extremity amputation in prone position twice daily to stretch flexor muscles and prevent hip flexion contractures; teach to avoid flexing hip and keeping it in abduction when ambulating
5. Teach about phantom limb pain/sensation caused by severed nerves
 - a. Pain/sensation may be constant or intermittent; varies from numbness and tingling to severe pain; may be burning, squeezing, shooting; gradually decreases over 2 years
 - b. Employ techniques that may provide relief (e.g., have client look at residual limb or close eyes and put limb through range-of-motion as if extremity were still there)
 - c. Therapies are available if severe pain persists
 - (1) Transcutaneous electric nerve stimulation (TENS), local anesthetic agents, ultrasound, antidepressants
 - (2) Surgical revision of residual limb
6. Consider special needs related to an upper extremity amputation
 - a. Mastery of an upper extremity prosthesis is more complex than that of a lower extremity prosthesis
 - b. Bilateral shoulder exercises are necessary to prepare for fitting the prosthesis
 - c. Artificial arms cannot be used above head or behind back because of harnessing
 - d. An artificial hand cannot duplicate the fine movements of fingers and thumb; development of electronic limbs are addressing these functions
 - e. Loss of sensory feedback necessitates visual control (a blind person could not adequately use a functional prosthesis)
7. Support client through fitting, applying, learning, using, and caring for the prosthesis
8. Encourage expression of emotions; encourage family to participate in care

Evaluation/Outcomes

1. Remains safe from injury

2. Verbalizes acceptance of altered body image
3. Uses prosthesis effectively
4. Maximizes independence
5. Copes with phantom limb sensation/pain

Cataract

Data Base

A Etiology and pathophysiology

1. Opacity of crystalline lens or its capsule
2. Results from aging, injury, infection, cigarette smoking, obesity, diabetes mellitus, exposure to sun, corticosteroids

B Clinical findings

1. Subjective: distortion of vision (e.g., haziness, cloudiness, diplopia); photophobia
2. Objective: progressive loss of vision; black pupil appears clouded, progressing to milky white appearance

C Therapeutic interventions

1. Corrective lenses as vision deteriorates
2. Surgical intervention to remove opaque lens
 - a. Surgery most frequently performed in an ambulatory surgery setting
 - b. Extracapsular extraction: removal of anterior capsule and lens through small incision after lens has been fragmented through a phacoemulsification technique; most common procedure
 - c. Intracapsular extraction: removal of entire lens as a unit
 - d. Intraocular lens implantation usually done at time of cataract extraction
 - e. Corrective lenses after cataract surgery
 - f. Antiemetics, analgesics, and stool softeners postoperatively

Nursing Care of Clients with Cataracts

Assessment/Analysis

1. History of onset and progression of symptoms
2. Visual acuity
3. Characteristics of lens

Planning/Implementation

1. Provide orientation to environment
2. Place call bell, phone, and other items on unaffected side
3. Ensure that there are no glaring lights; encourage wearing dark glasses
5. Ensure that there are no environmental hazards
6. Provide care after cataract removal
 - a. Instruct to prevent pressure on eye (e.g., avoid touching, rubbing, tightly closing eyes, sneezing, bending from waist, coughing, rapid head movements, straining at stool, lifting, lying on affected side)
 - b. Teach about prescribed analgesics, antiemetics, and stool softeners

- c. Teach to self-administer ophthalmic medications (see [Related Pharmacology, Ophthalmic Agents](#), Nursing Care); take multiple medications exactly as prescribed
- c. Reduce amount of light and encourage use of sunglasses when eye patch is removed
- d. Teach signs of increased intraocular pressure (e.g., pain, restlessness, increased pulse rate) and infection (e.g., pain, changes in vital signs)
- e. Explain that vision may be altered but will clear; prescription glasses may still be necessary

Evaluation/Outcomes

1. Remains free from injury
2. Demonstrates increased visual acuity

Glaucoma

Data Base

A Etiology and pathophysiology

1. Pressure within eyeball is higher than expected range of 10 to 21 mm Hg, causing optic nerve damage; increased incidence in older adults
2. Open-angle glaucoma
 - a. Aqueous fluid does not drain adequately from eye; related to pathologic changes in trabecular meshwork or Schlemm canal
 - b. Intraocular pressure increases and destroys retinal nerve fibers, causing progressive vision loss in affected areas
 - c. Most common type of glaucoma
3. Angle-closure glaucoma
 - a. Iris lies close to drainage channels, creating mechanical blockage of trabecular meshwork that interferes with exit of aqueous humor from anterior chamber
 - b. Trapped aqueous humor causes intraocular pressure to increase suddenly
 - c. Occurs more commonly in African-Americans and people older than 60 years

B Clinical findings

1. Open-angle glaucoma
 - a. Subjective: halos around lights
 - b. Objective: gradual loss of peripheral vision; increased intraocular pressure (24 to 32 mm Hg) as measured by a tonometer
2. Angle-closure glaucoma
 - a. Subjective: nausea; halos around lights; severe frontal headache
 - b. Objective: loss of peripheral vision; steamy cornea; redness and swelling of conjunctiva; increased intraocular pressure (50 to 70 mm Hg) as measured with a tonometer

C Therapeutic interventions

1. Reducing intraocular pressure with topical alpha-adrenergics, prostaglandins, beta blockers, and cholinergics; oral carbonic anhydrase inhibitors
2. Surgical intervention to facilitate aqueous humor drainage: laser iridotomy or trabeculectomy; laser trabeculoplasty; filtering procedures

Nursing Care of Clients with Glaucoma

Assessment/Analysis

1. History of onset and progression of symptoms
2. Visual acuity; peripheral vision
3. Characteristics of sclera, pupil, and anterior chamber

Planning/Implementation

1. Teach importance of regular, comprehensive eye examinations including intraocular pressure and visual field mapping to identify and treat forms of glaucoma
2. Explain importance of continued use of prescribed eye medications to prevent further visual loss
3. Teach to avoid increasing intraocular pressure (e.g., exertion, stooping, straining at stool, coughing, or heavy lifting); inform health care providers about presence of glaucoma if atropine therapy is being considered
4. Instruct to report severe eye or brow pain and nausea

Evaluation/Outcomes

1. Maintains present level of visual acuity
2. Remains free from injury
3. Continues medical therapy and supervision

Detached Retina

Data Base

A Etiology and pathophysiology

1. Retina separates from choroid and vitreous humor seeps behind retina
2. May result from trauma, aging, or cataract surgery; also occurs in clients with myopia greater than -6 or diabetes mellitus

B Clinical findings

1. Subjective: flashes of light; floaters; sensation of a veil in line of sight
2. Objective: loss of vision; retinal separation detected by ophthalmoscopy

C Therapeutic interventions

1. Bed rest, with area of detachment in dependent position to promote healing
2. Tranquilizers for rest and to reduce anxiety
3. Surgical intervention
 - a. Cryosurgery: supercooled probe causes retinal scarring to reattach retina
 - b. Photocoagulation: laser beam through pupil produces a retinal burn, which causes scarring of involved area
 - c. Scleral buckling: depressing sclera to force choroid closer to retina
 - d. Pneumatic retinopexy: injection of a gas bubble or other substance into vitreous cavity to apply pressure on detached portion of sensory retina, keeping it in contact with retinal pigment epithelium; used with cryosurgery or photocoagulation
 - e. Vitrectomy: Small incision into sclera to allow for specialized instruments; vitreous gel is suctioned from inside eye and replaced with gas to reposition retinal layers; body naturally replaces fluid over time as gas is absorbed; may be combined with scleral buckling

Nursing Care of Clients with Detached Retina

Assessment/Analysis

1. History of onset and progression of symptoms; identification of contributing factors such as trauma or recent eye surgery
2. Visual acuity
3. Status of retina via ophthalmoscopic examination

Planning/Implementation

1. Provide accurate information in a calm voice; client's anxiety is high as a result of sudden, unexpected vision loss
2. Maintain bed rest in position as ordered
3. Provide a call bell and answer promptly
4. Maintain protective eye patch
5. Instruct to avoid activities that increase intraocular pressure (e.g., exertion, stooping, straining at stool, coughing, or heavy lifting)
6. Monitor for signs and symptoms of hemorrhage postoperatively (e.g., severe pain, restlessness)
7. Diminish lights in room
8. Position clients who have had pneumatic retinoplasty so that gas bubble is in best location to seal detachment

Evaluation/Outcomes

1. Reports improved vision
2. Remains free from injury

Otosclerosis

Data Base

A Etiology and pathophysiology

1. Fixation of stapes caused by growth of bone, preventing transmission of vibrations and resulting in a progressive conductive hearing loss
2. Cause unknown, but incidence higher in females; autosomal dominant trait

B Clinical findings

1. Subjective: hearing loss; possible tinnitus
2. Objective: response to tuning fork indicates bone conduction better than air conduction (Rinne test); spongy bone in labyrinth

C Therapeutic interventions

1. Hearing aids to amplify sound
2. Stapedectomy: removal of affected portion of stapes and replacement with prosthetic implant to conduct vibrations from middle to inner ear

Nursing Care of Clients with Otosclerosis

Assessment/Analysis

1. History of onset and progression of symptoms
2. Extent of hearing loss via audiometry
3. Rinne test to evaluate loss of air conduction

Planning/Implementation

1. Position postoperatively as ordered: lying on operated side facilitates drainage; lying on nonoperated side helps prevent displacement of graft
2. Instruct to alter position gradually to prevent vertigo
3. Monitor for pain, headache, vertigo, or unusual sensations in ear
4. Instruct to avoid sneezing, blowing nose, swimming, showering, and flying until permitted by health care provider; if client must sneeze, instruct to keep mouth open to equalize pressure in ear
5. Explain that hearing will be diminished because of edema from surgery and packing in ear; hearing eventually will improve

Evaluation/Outcomes

1. Reports improved hearing ability
2. Remains free from injury
3. Establishes effective communication

Ménière Disease (Endolymphatic Hydrops)

Data Base

A Etiology and pathophysiology

1. Chronic, inner ear disease that incapacitates because of sudden, severe attacks of vertigo
2. Caused by endolymph in vestibular and semicircular canals
3. Incidence highest in males between 20 and 60 years

B Clinical findings

1. Subjective: vertigo; nausea; headache; tinnitus; sensitivity to loud sounds; sensory hearing loss, usually unilateral; aural fullness
2. Objective: vomiting; diaphoresis; nystagmus during attacks; Weber test and auditory testing document unilateral hearing loss

C Therapeutic interventions

1. Low-sodium diet
2. Pharmacologic therapy: meclizine (Antivert); diuretics; antihistamines; diazepam (Valium)
3. Destruction of vestibular nerve to control vertigo, which can cause deafness depending on therapeutic approach
4. Insertion of endolymphatic drainage shunt may relieve symptoms without loss of hearing

Nursing Care of Clients with Ménière Disease

Assessment/Analysis

1. History of onset and progression of symptoms; situations that precipitate attacks

2. History of allergies or infections that may complicate the condition
3. Extent of hearing loss via audiometry
4. Weber test to determine auditory loss

Planning/Implementation

1. Support emotionally
2. Encourage avoidance of rapid movements to limit onset of symptoms
3. Teach self-protection from injury during attack (e.g., pull off road if driving, lie down); maintain bed rest with severe vertigo
4. Teach avoidance of foods high in sodium (e.g., processed meats and fish, cheese, condensed milk, condiments)

Evaluation/Outcomes

1. Reports a reduction in frequency and intensity of vertigo
2. Remains free from injury
3. Establishes effective communication



CHAPTER 12

Nursing Care of Clients with Urinary/Reproductive System Disorders

Overview

Review of Anatomy and Physiology of the Urinary System

Functions of the Urinary System

A Secrete urine

B Eliminate urine from body

1. Excrete expected and abnormal metabolic wastes
2. Regulate blood pressure and composition and volume of blood; maintain fluid, electrolyte, and acid-base balance

Structures of the Urinary System

(Figure 12-1: Structures of the male and female urinary systems)

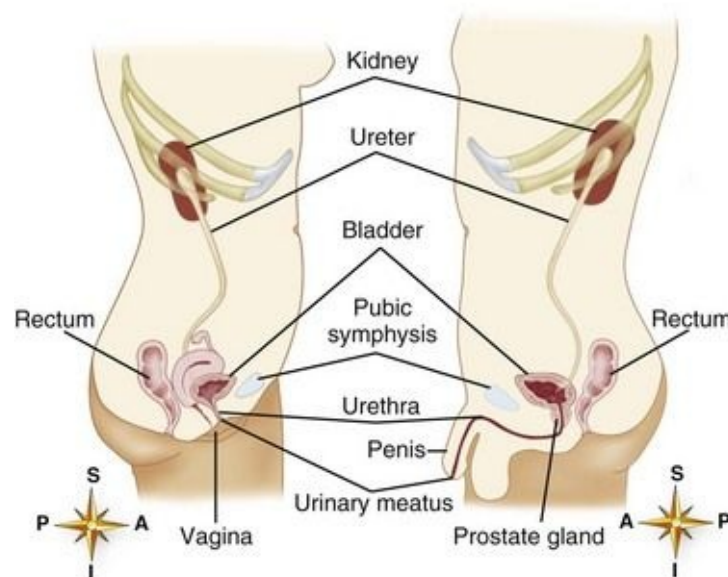


FIGURE 12-1 Structures of the male and female urinary systems. Sagittal section of the female urinary system (*left*) and male urinary system (*right*), each showing a partially distended bladder. (From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010, Mosby.)

Kidneys

A Located behind peritoneum at level of last thoracic and first three lumbar vertebrae

B Receive 20% of cardiac output during rest; reduced to 2% to 4% during physical or emotional stress

C Nephron

1. Anatomic and functional unit of kidney; approximately 1 million per kidney
2. Function via principles of filtration, reabsorption, and secretion (Figure 12-2: Overview of urine formation)

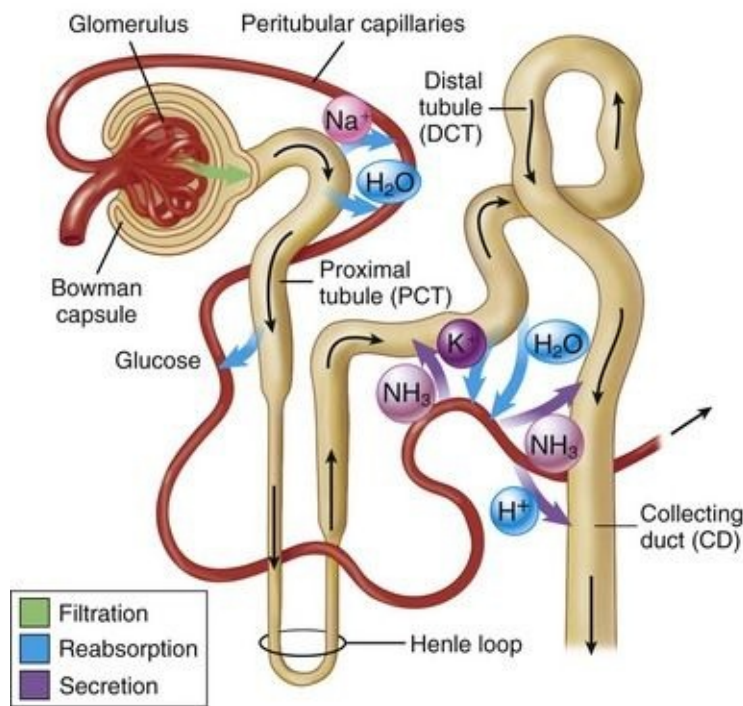


FIGURE 12-2 Overview of urine formation. (From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010, Mosby.)

- a. Glomerulus: urine formation starts with filtration; water and solutes (except cellular elements of blood, albumins, fibrinogen, and other blood proteins) filter out of capillaries through glomerular-capsular membrane into the Bowman capsule
- b. Bowman capsule: filtrate collects here before flow to tubules
- c. Tubular reabsorption and secretion

(1) Proximal tubule

- (a) Reabsorption of glucose and other nutrients mainly by active transport
- (b) Reabsorption of electrolytes from tubule filtrate to blood in peritubular capillaries; forms network of capillaries around tubules; cations (notably sodium) reabsorbed by active transport, stimulated by aldosterone; anions (notably chloride and bicarbonate) are reabsorbed by diffusion
- (c) Reabsorption of about 80% of water from tubular filtrate to blood by osmosis

(2) Loop of Henle: osmotic condition promotes water reabsorption and transports chloride ions from filtrate, thus passively removing sodium ions with chloride

(3) Distal tubule

- (a) Reabsorption of electrolytes, particularly sodium; influenced by the mineralocorticoid aldosterone
- (b) Reabsorption of water into blood by osmosis; controlled by antidiuretic hormone
- (c) Secretion of hydrogen, potassium, and ammonia from blood in peritubular capillaries to tubular filtrate, via active transport

D Collecting tubules: final osmotic reabsorption of most of remaining water in urine; under antidiuretic hormone influence

E Urine description/composition

1. 1.5 L/day average (30 mL/hr)

2. Light yellow to dark amber
3. Aromatic odor: food and drugs alter odor and color
4. Specific gravity of 1.005 to 1.030; varies depending on fluid intake and quantity of solutes; lower specific gravity the more dilute the urine; higher specific gravity the more concentrated the urine
5. Acidic (4.5 to 7.5) pH
6. Urea/uric acid: waste products of protein and amino acid metabolism
7. Creatinine: waste product of muscle metabolism
8. Electrolytes: potassium, sodium, calcium, and chloride
9. Hormones and their breakdown products
10. Abnormal constituents: glucose, protein, red blood cells (RBCs), ketone bodies, bilirubin, calculi, and white blood cells (WBCs)

F Urine volume control

1. Glomerular filtration rate (GFR): usually constant (about 125 mL/min); in certain pathologic conditions GFR may change markedly and alter urine volume (e.g., in shock GFR decreases, causing oliguria; decrease in plasma proteins lowers colloid oncotic pressure, increasing GFR)
2. Solutes in tubular filtrate: increase in tubular solutes causes decreased osmosis of water from proximal tubule into blood resulting in increased urine volume (e.g., with diabetes, excess glucose in tubular filtrate leads to increased urine volume [polyuria, diuresis])
3. Aldosterone mechanism: stimulates kidney tubules to reabsorb sodium; water follows the sodium
4. Antidiuretic hormone (ADH): produced in hypothalamus and secreted into blood by posterior pituitary gland; secretion stimulated by increase in osmotic pressure of extracellular fluid or decrease in volume of extracellular fluid; ADH acts on distal and collecting tubules, causing water to move via osmosis from tubular filtrate into blood; increased water reabsorption increases total volume of body fluid by decreasing urine volume

G Control of amount of blood flow through kidneys

1. Reduced renal blood flow results in renal excretion of the hormone renin
2. Renin interacts with blood proteins, producing angiotensin II
3. Angiotensin II causes vasoconstriction and aldosterone secretion, resulting in increased blood pressure and renal blood flow

Ureters

- A Located behind parietal peritoneum; tube from each kidney connects to urinary bladder
- B Collect urine secreted by kidney and propel it to bladder by peristaltic waves

Urinary Bladder

- A Located behind symphysis pubis, below parietal peritoneum; three openings—two from ureters and one into urethra
- B Reservoir for urine until sufficient amount accumulates for expulsion via urethra

Urethra

- A Tube with mucous membrane lining that ends at urinary meatus, its exterior opening
 1. Female: behind symphysis pubis, anterior to vagina
 2. Male: extends through prostate gland, fibrous sheath, and penis
- B Functions

1. Female: passageway for expulsion of urine
2. Male: passageway for expulsion of urine and semen

Review of Anatomy and Physiology of the Reproductive System

Structures of the Male Reproductive System

(Figure 12-3: Male reproductive organs)

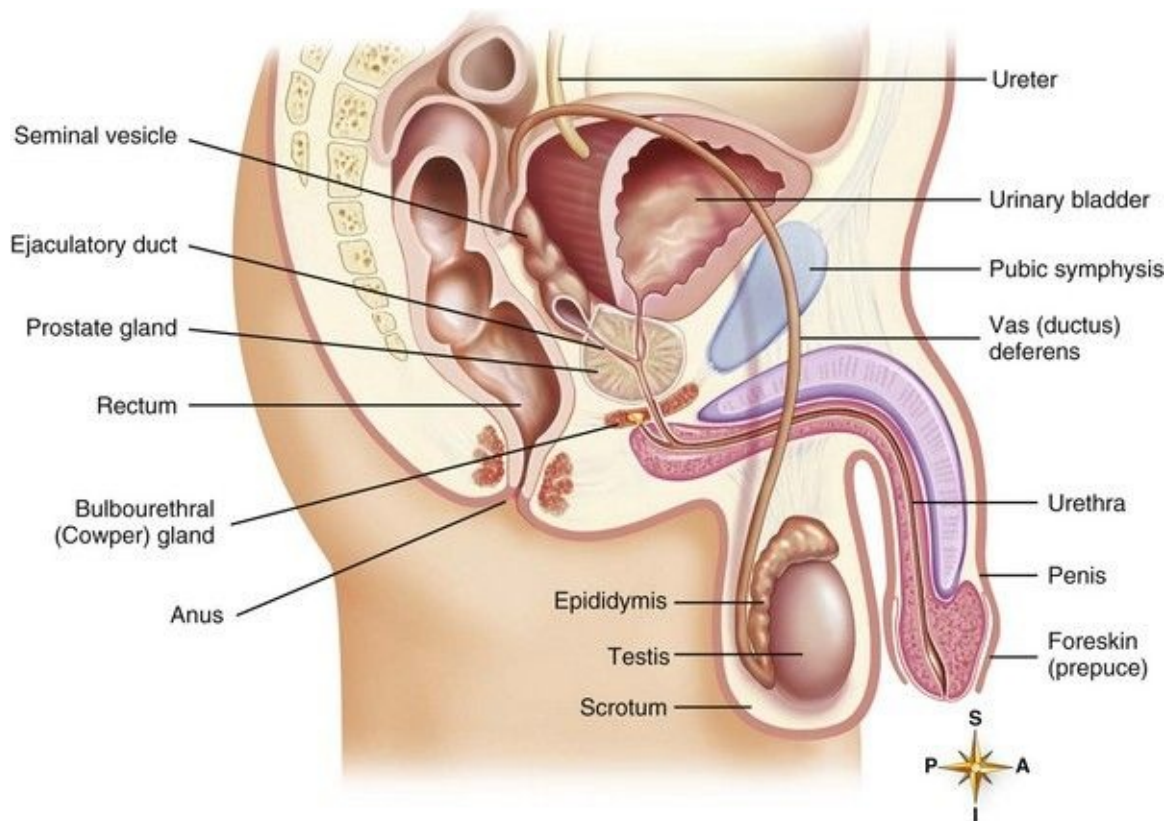


FIGURE 12-3 Male reproductive organs. (From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010, Mosby.)

Glands

A Testes: male sex glands (gonads)

1. Located in scrotum, one testis in each compartment
2. Functions
 - a. Seminiferous tubules form spermatozoa (male sex cells or gametes); process called spermatogenesis (occurs at puberty)
 - b. Interstitial cells secrete testosterone, main androgen; increases protein synthesis, induces growth of secondary sex characteristics

B Accessory glands

1. Seminal vesicles: secrete fluid that constitutes about 30% of semen
2. Prostate gland: secretes about 60% of semen; secretion is alkaline, which increases sperm motility; contains the enzyme acid phosphatase; this enzyme increases in metastasizing cancer of prostate

3. Bulbourethral glands (Cowper glands): secrete fluid that lubricates urethra before ejaculation

Ducts

A Epididymis: conducts semen from testes to vas deferens; sperm mature while semen is stored before ejaculation

B Vas deferens (seminal ducts): conduct sperm and fluid from each epididymis to an ejaculatory duct

C Ejaculatory ducts: ejaculate semen into urethra

D Urethra: see description under [Structures of the Urinary System](#)

Supporting Structures

A External: scrotum and penis

1. Scrotum: contains testes, epididymis, and first part of seminal duct; sperm develop at 2 to 3 degrees below body temperature (ideal for sperm development)

2. Penis: contains urethra; contains vascular spaces that when filled with blood cause erection

B Internal: fibrous tubes (spermatic cords) located in each inguinal canal; torsion of testes twists cords, destroys sperm, interrupts blood supply, and can result in cell death and gangrene

Structures of the Female Reproductive System

([Figure 12-4](#): Female reproductive organs)

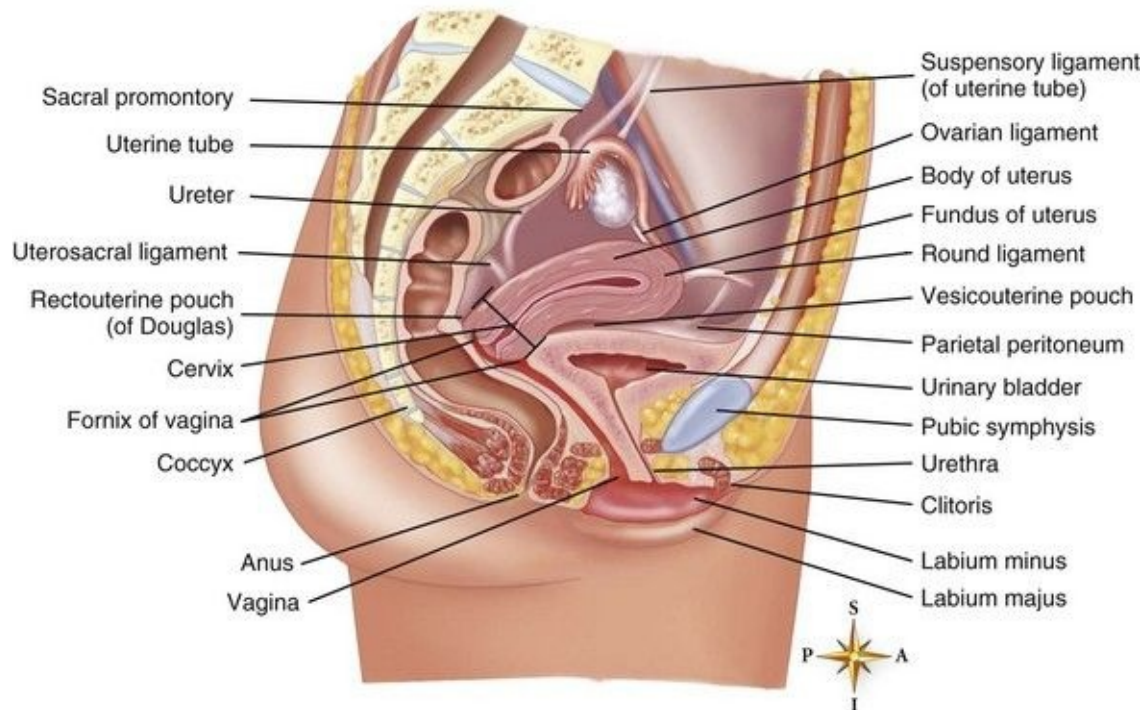


FIGURE 12-4 Female reproductive organs. (From Patton KT, Thibodeau GA: *Anatomy and physiology*, ed 7, St. Louis, 2010, Mosby.)

See [Chapter 23, Female Reproductive System](#)

Review of Microorganisms

Bacterial Pathogens

A *Enterobacter aerogenes*: gram-negative bacillus; causes urinary tract infections

B *Haemophilus ducreyi*: gram-negative bacillus; causes venereal ulcer called chancroid (soft chancre)

C *Neisseria gonorrhoeae*: gram-negative diplococcus; causes gonorrhea; transmitted sexually

D *Pseudomonas aeruginosa*: gram-negative bacillus; infection characterized by blue-green pus; common secondary invader of wounds, burns, outer ear, and urinary tract; transmitted by catheters and other hospital instruments if contaminated

E *Treponema pallidum*: motile spirochete; causes syphilis; transmitted sexually

F *Chlamydia trachomatis*: parasite characterized as bacteria because of cell wall composition and process of reproduction; reproduce only within cells; causes genital infections in men and women; transmitted sexually

Protozoal Pathogen

A *Trichomonas vaginalis*: flagellated protozoan; causes trichomonas vaginitis; transmitted sexually

Viral Pathogens

A Human immunodeficiency virus (HIV): causes acquired immunodeficiency syndrome (AIDS); primarily transmitted sexually and by blood and other body fluids

B Herpesvirus hominis: causes herpes genitalis; transmitted via genital or oral-genital routes

C Human papillomavirus (genital or venereal warts [condylomata acuminata]): characterized by papillary or cauliflower-like masses in or on genitourinary structures; may be precursor to cancer of cervix; vaccine available

Related Pharmacology

Kidney-Specific Antiinfectives

A Description

1. Antibacterial effect on renal tissue, ureters and bladder
2. Used to treat local urinary tract infections
3. Available in oral and parenteral (IV) preparations

B Examples: nitrofurantoin (Macrobid, Macrochantin)

C Major side effects: anorexia, nausea, vomiting (irritation of gastric mucosa); pseudomembranous colitis; photosensitivity; peripheral neuropathy; blood dyscrasias; hemolytic anemia; hypersensitivity reactions; pneumonitis; chest pain

D Nursing care

1. Administer with meals to reduce gastrointestinal (GI) irritation
2. Monitor blood work, cultures, and urinary output
3. Encourage increased fluid intake to promote drug excretion
4. Nitrofurantoin: dilute oral suspensions in milk or juice to prevent staining of teeth; instruct that urine will appear brown

Sulfonamides

See [Chapter 3, Related Pharmacology, Sulfonamides](#)

Urinary Spasmolytics

A Description

1. Affect smooth muscle of urinary tract
2. Used for symptomatic relief of incontinence

B Examples: flavoxate, oxybutynin (Ditropan, Oxytrol), tolterodine (Detrol); darifenacin (Enablex)

C Major side effects related to anticholinergic effect: tachycardia, palpitations, dry mouth, constipation, drowsiness, blurred vision, urinary retention, allergic reaction

D Nursing care

1. Do not administer if GI obstruction is present
2. Administer cautiously to clients with glaucoma
3. Advise to avoid driving and other hazardous activities; avoid hot environments
4. Monitor urinary output

Androgens

A Description

1. Hormones that promote secondary sex characteristics in men; have anabolic properties; stimulate building and repair of body tissue
2. Used in debilitating conditions and inoperable breast cancer; restore hormone levels in males; treat fibrocystic breast disease, dysmenorrhea, and severe postpartum breast engorgement in nonbreastfeeding mothers
3. Available in oral, parenteral (intramuscular [IM], subcutaneous [Sub-Q]), and buccal preparations

B Examples: fluoxymesterone, danazol

C Major side effects

1. Weight gain, edema (sodium and water retention); changes in libido (androgen effect); hoarseness, deep voice (virilism—androgen effect); gastroenteritis; emotional lability
2. Fluoxymesterone: hepatocellular carcinoma, acne, dyspepsia, jaundice, hypoglycemia, hypercalcemia

D Nursing care

1. Assess for virilization in females; gynecomastia in men
2. Encourage diet high in calories and proteins to aid in building body tissues and low in sodium to limit edema
3. Administer with meals to reduce GI irritation
4. Monitor blood pressure
5. Assess for potentiation of anticoagulant effect when receiving concomitant anticoagulant therapy

Estrogens

See [Chapter 23, Related Pharmacology, Estrogens](#)

Progestins

See [Chapter 23, Related Pharmacology, Progestins](#)

Related Procedures

Urinary Catheterization

A Definitions

1. Sterile introduction of catheter through urethra into bladder
2. Intermittent (straight) catheterization: to drain urine, obtain urine specimen, or determine residual volume (amount of urine left in bladder after voiding)
3. Indwelling (retention) catheterization: inflated balloon holds catheter in place; attached to collecting bag; urine is continually emptied by gravity

B Nursing care

1. Explain procedure; provide privacy
2. Position client: female—supine with knees flexed and abducted; male—supine with knees slightly abducted
3. Use sterile technique; test balloon by inflating and deflating before insertion
4. Place sterile fenestrated drape over external genitalia, exposing meatus
5. Cleanse urinary meatus using cotton balls saturated with suitable solution
 - a. Female: separate labia minora with thumb and forefinger and cleanse from anterior to posterior using one pledget for each stroke (keep labia separated during cleansing)
 - b. Male: hold penis between thumb and forefinger perpendicular to body and cleanse from meatus to shaft using one pledget for each stroke (retract foreskin during procedure and replace after procedure)
6. Insert lubricated catheter into bladder
 - a. Female: about 3 inches (7.5 cm) or slightly past point at which urine returns
 - b. Male: about 7 to 10 inches (17 to 25 cm) or well past point at which urine returns
 - c. Attempt balloon inflation; if resistance is met, deflate balloon, insert catheter farther, and reattempt inflation
7. Drain urine slowly by gravity
 - a. Intermittent catheterization: remove catheter when bladder is empty
 - b. Retention catheterization: inflate balloon with sterile solution and place closed collection system below level of bladder; hang bag from bed frame, not siderails
8. Assist to comfortable position and document procedure
9. Ensure patency of catheter (e.g., eliminate kinks, dependent loops, and clogs); secure catheter to client's leg to prevent telescoping action in urethra
10. Wash genital area with soap and water daily and as necessary
11. Keep system closed at all times; collect urine specimen from port along tubing using sterile technique
12. Monitor output hourly if critically ill
13. Prepare for removal of indwelling catheter by intermittently clamping tubing to restore muscle tone; dribbling and incontinence may occur temporarily after catheter is removal due to flaccidity of urinary sphincter; monitor for urinary output of sufficient quantity (200 mL or more) within 6 to 8 hours after removal

Continuous Bladder Irrigation (CBI)

A Definition

1. Instillation of sterile isotonic solution into bladder through triple-lumen catheter: one for instillation of fluid into balloon tip, one for instillation of fluid into bladder, and one for return of fluid and urine from bladder ([Figure 12-5](#): Continuous bladder irrigation)

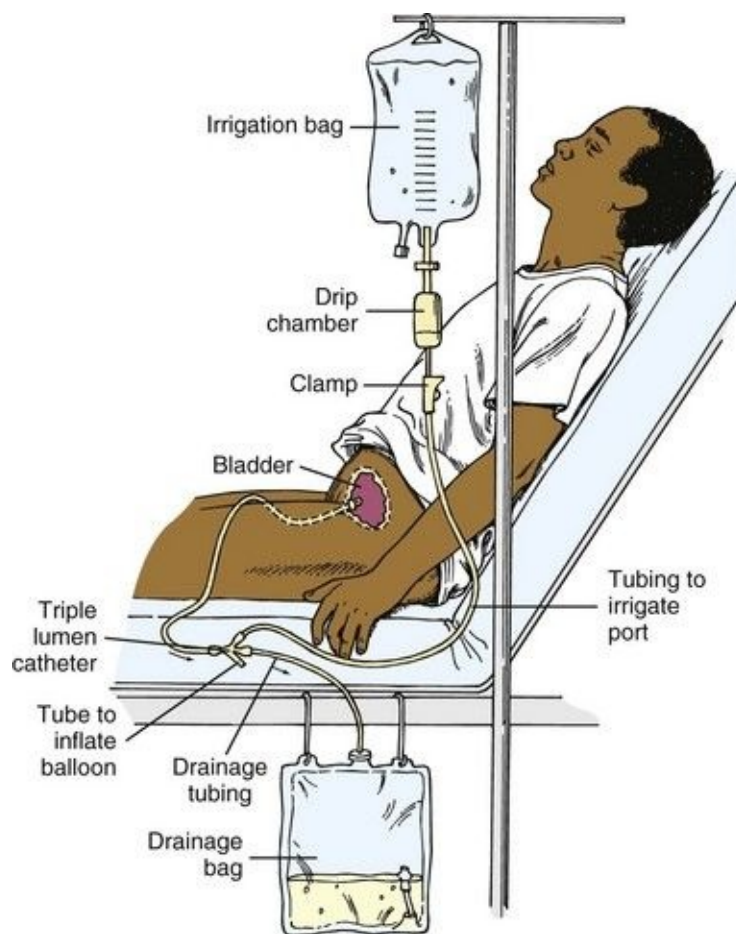


FIGURE 12-5 Continuous bladder irrigation (CBI). (From Potter PA, Perry AG: *Fundamentals of nursing*, ed 7, St. Louis, 2009, Mosby.)

2. Prevents occlusion of catheter by clots; used to administer local antibiotic treatment

B Nursing care

1. Connect catheter port to irrigant via intravenous tubing using sterile technique
2. Set rate of infusion as ordered (e.g., flow should be sufficient to keep drainage pink); if red, bloody drainage or clots occur, CBI should be increased to achieve pink drainage; assess for occlusion if urinary output stops abruptly
3. Maintain infusion continuously, observing color, clarity, and amount of drainage
4. Assess for clinical findings of dilutional hyponatremia
5. Deduct irrigant from total urinary output to calculate actual urine output

Major Disorders of Urinary/Reproductive Systems

For additional disorders see [Chapter 24, Nursing Care Related to Major Disorders Affecting Women's Health](#)

Urinary Tract Infections (UTIs)

Data Base

A Etiology and pathophysiology

1. Cystitis: inflammation of bladder wall usually caused by ascending bacterial infection (*Escherichia coli* most common)
 - a. Females: more common because of shorter urethra, childbirth, anatomic proximity of urethra to rectum
 - b. Males: secondary to epididymitis, prostatitis, renal calculi
2. Urethritis: inflammation of urethra caused by staphylococci, *E. coli*, *Pseudomonas* species, and streptococci
 - a. Although inflammation is present, clinical findings are similar to gonorrheal urethritis, sexual contact is not the cause
 - b. May cause prostatitis and epididymitis
3. Urosepsis: caused by gram-negative bacteria
 - a. May result from indwelling urinary catheter or untreated urinary tract infection
 - b. Can lead to septic shock and death

B Clinical findings

1. Subjective: urgency; frequency; pain when initiating, during, and completion of urination; males—prostate tenderness with rectal exam
2. Objective: nocturia, hematuria, pyuria, cloudy urine, positive urine culture; males—prostate enlargement with rectal exam

C Therapeutic interventions

1. Urine culture: to identify causative organism
2. Pharmacologic therapy: antibiotics, urinary antiseptics, antispasmodics
3. Diet: directed toward altering properties of urine (e.g., cranberry juice—contributes to hostile environment for bacterial growth; elimination of caffeine, which causes bladder irritability)
4. Additional fluids: dilute urine
5. Warm sitz baths: provides comfort
6. Antiseptic solution: installation via urethral catheter
7. Urosepsis: IV therapy with aminoglycosides; beta-lactam antibiotics, aztreonam (Azactam); used with probenecid to increase therapeutic level of drug

Nursing Care of Clients with Urinary Tract Infections

Assessment/Analysis

1. Urine for color, clarity, odor, blood, or mucus; dysuria; burning; discharge
2. Suprapubic area for bladder distention

Planning/Implementation

1. Obtain urine specimen for culture and sensitivity before administering prescribed antibiotics; refrigerate specimen if it cannot be sent to laboratory immediately
2. Administer aminoglycoside medication; monitor for nephrotoxicity and respiratory paralysis; encourage increased fluid intake to avoid nephrotoxicity, neurotoxicity and ototoxicity.
3. Teach to seek medical attention at first sign of clinical findings and to take medications as directed
4. Encourage intake of additional fluids
5. Teach preventive measures (e.g., perineal care, avoiding tub baths, voiding after intercourse, wearing cotton underwear)
6. Teach those at risk for recurrent UTIs that frequent follow-up care with culture and sensitivity testing of urine if indicated

Evaluation/Outcomes

1. Expresses relief of pain on urination
2. Resumes expected urinary patterns
3. Describes methods to prevent recurrence of infection

Urolithiasis and Nephrolithiasis

Data Base

A Etiology and pathophysiology: formation of stones in urinary tract; composed of calcium phosphate, uric acid, or oxalate; tend to recur and may cause obstruction, infection, and/or hydronephrosis

B Clinical findings

1. Subjective: severe pain in kidney area radiating down flank to pubic area (renal colic); frequency; urgency; nausea; history of associated health problems (e.g., gout, hyperparathyroidism, immobility, dehydration, UTIs)
2. Objective: diaphoresis, pallor, grimacing, vomiting, hematuria, and pyuria if infection is present

C Therapeutic interventions

1. Opioids: morphine (Astramorph, Duramorph) drug of choice for parenteral use
2. Nonsteroidal antiinflammatory drugs (NSAIDs) for pain: ketorolac (Toradol, Acular); only NSAID approved for parenteral use in United States.
3. Antispasmodics to reduce renal colic
4. Antiemetics: metoclopramide (Reglan)
5. Allopurinol (Zyloprim, Aloprim) to reduce uric acid excretion
6. Antibiotics to reduce infection
7. Intake and output (I&O); strain urine
8. Diet therapy
 - a. Large fluid intake to produce dilute urine
 - b. Diet altered according to type of stone
 - (1) Calcium stones: low-calcium diet (400 mg daily), elimination of dairy products; phosphate involvement: limitation of high-phosphorus foods (e.g., dairy products, meat); oxalate involvement: avoidance of oxalate-rich foods (e.g., tea, almonds, cashews, chocolate, cocoa, beans, spinach, rhubarb); acid-ash diet to create acidic

urinary tract: include whole grains, eggs, and cranberry juice while excluding vegetables, fruit, milk, and cheese; supplements of riboflavin, vitamins A and C, and folic acid

(2) Uric acid stones: metabolic product of purines; limitation of purine foods (e.g., meat [especially organ meats], meat extracts, and to a lesser extent whole grains and legumes); alkaline-ash diet because stone composition is acetic

(3) Cystine stones (rare): decreased methionine intake because methionine is the essential amino acid from which cystine is formed; limitation of protein foods (e.g., meat, milk, eggs, cheese); alkaline-ash diet to create alkaline urinary tract: include fruits and vegetables while restricting milk, meat, fish, eggs, cereal, and cheese

9. Surgery if stone is not passed or complications are present (e.g., nephrolithotomy, ureterolithotomy, cystolithectomy)

10. Percutaneous ultrasonic lithotripsy (PUL)

a. Nephroscope inserted through skin into kidney

b. Ultrasonic waves disintegrate stones; removed by suction and irrigation

c. Less traumatic alternative to surgery

11. Laser lithotripsy: utilizes lasers with ureteroscope

12. Extracorporeal shock wave lithotripsy (ESWL): client is exposed to shock waves that disintegrate stones, which are passed with urine

Nursing Care of Clients with Urolithiasis and Nephrolithiasis

Assessment/Analysis

1. Vital signs, particularly temperature, for baseline data

2. Urine for color, clarity, pH, odor

3. Urine for presence of stones (strain all urine); I&O

Planning/Implementation

1. Administer analgesics as prescribed

2. Encourage to set own pattern of activity; provide periods for undisturbed rest

3. Encourage fluid intake of 3000 to 4000 mL daily

4. Administer antibiotics as prescribed to prevent infection

5. Encourage to remain on diet; teach to read labels on food for presence of contraindicated additives (e.g., calcium, phosphate)

6. Encourage daily weight-bearing exercise, when not contraindicated, to prevent hypercalciuria caused by release of calcium from bones

7. Provide care after nephrolithotomy or PUL

a. Maintain patency of urethral catheter to prevent hydronephrosis; call health care provider if urine output is less than 50 mL/hr

b. Encourage use of incentive spirometry and coughing and deep breathing to prevent atelectasis

c. Nephrolithotomy: change dressings frequently during first 24 hours postoperatively

Evaluation/Outcomes

1. States relief of pain

2. Establishes expected urine flow
3. Describes strategies for prevention of stone formation

Acute Kidney Failure

Data Base

A Etiology and pathophysiology

1. Sudden and almost complete loss of glomerular and/or tubular function
2. Progression from anuric or oliguric phase through diuretic phase to convalescent phase (takes up to 6 to 12 months) before return of function; may progress to chronic renal failure
3. Acidosis, potassium intoxication, pulmonary edema, or infection may result in death
4. Causes: trauma to kidneys; overwhelming physiologic stress (e.g., burns, septicemia, nephrotoxic drugs and chemicals, hemolytic blood transfusion reaction, severe shock, renal vascular occlusion); results in decreased blood flow to glomeruli or nephrons

B Clinical findings

1. Subjective: irritability; headache; anorexia; nausea; circumoral numbness; tingling of extremities (hypocalcemia); lethargy; drowsiness that can progress from stupor to coma
2. Objective
 - a. Sudden drop in urinary output apparent a few hours after causative event; output less than 400 mL but more than 100 mL/24 hours (oliguria); output less than 100 mL/24 hours (anuria)
 - b. Restlessness, twitching, seizures
 - c. Vomiting
 - d. Skin pallor, anemia, increased bleeding time: can progress to epistaxis and internal hemorrhage
 - e. Ammonia (urine) odor to breath; perspiration; can progress to uremic frost on skin and pruritus
 - f. Generalized edema, hypervolemia, hypertension, increased venous pressure; can progress to pulmonary edema and heart failure
 - g. Deep, rapid respirations to compensate for metabolic acidosis
 - h. Elevated serum levels of blood urea nitrogen (BUN), creatinine, potassium, and phosphorus; decreased blood pH, carbon dioxide combining power, and serum levels of calcium and sodium
 - i. Albumin in urine, decreased urine specific gravity

C Therapeutic interventions

1. Correct underlying cause of acute renal failure (e.g., treat shock, eliminate drugs and toxins, treat transfusion reactions, restore integrity of urinary tract)
2. Complete bed rest
3. Diet therapy
 - a. Calories: (2000 to 2500) and protein adequate for maintenance and to prevent tissue breakdown; low to moderate protein (30 to 50 g) according to tolerance; high carbohydrate for energy (300 to 400 g); moderate fat (70 to 90 g)
 - b. Sodium: controlled according to serum levels and excretion tolerance (400 to 2000 mg)
 - c. Potassium: controlled according to serum levels and excretion capacities (1300 to 1900 mg)
 - d. Water: controlled according to excretion (800 to 1000 mL)
 - e. Calcium: 1000 mg to prevent or delay progression of renal osteodystrophy or

demineralization of bone resulting from chronic acidosis and altered vitamin A metabolism

- f. Calcium supplements: when serum phosphate level is under control to decrease risk of precipitation of calcium phosphate in kidney
 - g. Phosphorus: less than 600 mg/day to delay progression of renal insufficiency; restriction of milk (1 cup or less per day), meats, poultry, fish, eggs, and cereal grain products; avoidance of soft drinks and beer
 - h. Renal diet: low in water-soluble vitamins, iron, and zinc
 - i. Vitamin and mineral supplements because of dietary restrictions; daily supplements of vitamin B₆ (5 to 10 mg), vitamin C (70 to 100 mg), and folic acid (1 mg) for dialyzed clients
 - j. Total parenteral nutrition (TPN) and parenteral intralipid therapy
4. Packed RBCs, electrolytes, and glucose IV as necessary
 5. Exchange resins to decrease serum potassium level
 6. Antibiotics to reduce possibility of infection
 7. Peritoneal dialysis, hemodialysis, or hemofiltration

Nursing Care of Clients with Acute Kidney Failure

Assessment/Analysis

1. Daily weight, fluid balance, electrolytes, BUN, and creatinine levels
2. Clinical findings of hyperkalemia and hyponatremia
3. History of clinical findings and potential causative factors

Planning/Implementation

1. Monitor I&O and hourly urine/output; assess for overhydration (e.g., pitting, dependent, sacral, or periorbital edema; crackles or dyspnea; headache, distended neck veins, hypertension)
2. Promote fluid and electrolyte balance by monitoring, replacing, or limiting fluids and electrolytes as ordered
3. Provide periods of undisturbed rest to conserve energy and oxygen
4. Protect from injury caused by bleeding tendency, possibility of seizures, and clouded sensorium
5. Monitor for complications (e.g., hemorrhage, seizures, cardiac problems, pulmonary edema, infection)
6. Provide special skin care to prevent breakdown and remove uremic frost if present
7. Encourage intake of ordered diet; allow choices in selection of food while recognizing that little variation is possible
8. Support client receiving peritoneal dialysis, hemodialysis, or hemofiltration

Evaluation/Outcomes

1. Maintains fluid and electrolyte balance within acceptable limits
2. Adheres to treatment protocols
3. Maintains nutritional status
4. Remains free from injury

Chronic Kidney Failure/End-Stage Renal Disease

Data Base

A Etiology and pathophysiology

1. Result from chronic kidney infections, developmental abnormalities, vascular disorders, and destruction of kidney tubules
2. Progressive deterioration of renal function results in uremia

B Clinical findings

1. Subjective: lethargy, drowsiness, headache, nausea, pruritus
2. Objective
 - a. Oliguria, anuria, vomiting, anemia, hypertension, anasarca, uremic frost, urochromatic pigmentation (bronze pigmentation)
 - b. Decreased serum calcium level (causing tetany) and pH (metabolic acidosis), increased serum phosphate and potassium levels, azotemia, renal osteodystrophy as seen on radiograph
 - c. Kussmaul respirations, mental clouding, seizures, coma, death

C Therapeutic interventions

1. Fluid and sodium restriction
2. Antihypertensive medications
3. Epoetin alpha (Epogen) to manage anemia
4. Dietary management
 - a. Very low protein (20 g); minimal essential amino acids causes body to use own excess urea nitrogen to synthesize nonessential amino acids needed for tissue protein production
 - b. Control intake of electrolytes, especially potassium (1500 mg)
 - c. See [Acute Kidney Failure](#) for additional diet therapy information
5. Continuous arteriovenous hemofiltration (CAVH); some elements in plasma cross semipermeable membrane due to differences in hydrostatic pressure; previously established fistulas or externally placed access points used; driving force is client's blood pressure
6. Peritoneal dialysis: dialyzing solution is introduced via catheter inserted in peritoneal cavity; peritoneal membrane is used as dialyzing membrane to remove toxic substances, metabolic wastes, and excess fluid
 - a. Intermittent: involves 6 to 48 hours several times a week
 - b. Continuous ambulatory peritoneal dialysis (CAPD): involves approximately three or four exchanges daily; can be administered at home
 - c. Continuous cycler-assisted peritoneal dialysis (CCPD): uses machine to fill and empty abdomen three to five times during night while sleeping. Morning exchange lasts all day; additional exchange may be done in afternoon to increase waste removal
 - d. Combination of CAPD and CCPD implemented during day and or night to achieve most effective exchange
7. Hemodialysis: performed via surgically created arteriovenous fistula or loop graft (see [Figure 12-6: Types of access for hemodialysis](#)); machine pumps blood along semipermeable membrane; dialyzing solution is on other side of membrane, and osmosis and/or diffusion of client's wastes, toxins, and fluid occurs

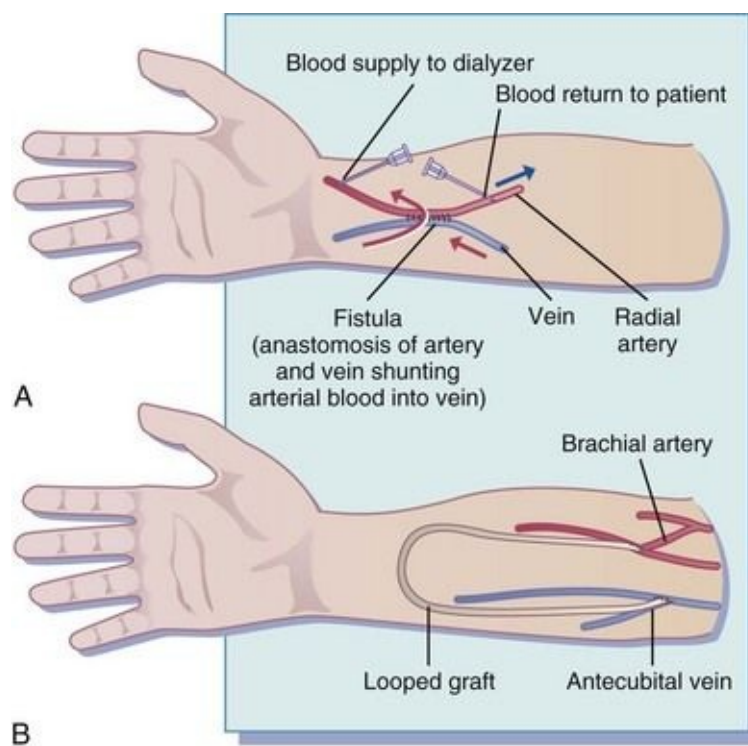


FIGURE 12-6 Types of access for hemodialysis. **A**, Arteriovenous fistula. **B**, Artificial loop graft. (From Mahan LK, Escott-Stump S: *Krause's food and nutrition therapy*, ed 12, St. Louis, 2008, Saunders.)

8. Kidney transplantation from compatible donor
 - a. Human leukocyte antigen (HLA) tests and tissue and blood typing decrease risk for rejection; least risk for rejection if donor and recipient are identical twins
 - b. Client's kidney is not removed unless it is infected or enlarged; new kidney is placed in iliac fossa retroperitoneally and donor's ureter is attached to bladder to prevent reflux of urine
 - c. Steroids and immunosuppressives: cycloSPORINE (Sandimmune, Gengraf); everolimus (Zortress)

Nursing Care of Clients with Chronic Kidney Failure/End-Stage Renal Disease

Assessment/Analysis

1. Urinary elimination: hourly output; characteristics (e.g., color, consistency, odor, amount)
2. Vital signs
3. Electrolyte status
4. Neurologic status: attention span, weakness, neuropathies
5. Breath for ammonia odor
6. Skin for color and uremic frost
7. Complications: bleeding because of impaired platelet function; infections associated with dialysis (e.g., pneumonia, infected vascular access site)
8. Emotional status of client and significant others

Planning/Implementation

1. Monitor vital signs, I&O
2. Provide skin care

3. Evaluate understanding of restricted diet; encourage adherence
4. Provide general care associated with dialysis
 - a. Explain procedure and answer questions; assure that staff member is available at all times
 - b. Weigh before and after procedure
 - c. Take vital signs before and after and every 15 minutes during procedure; assess for hypotension and hemorrhage
 - d. Use surgical asepsis to prepare site (e.g., abdomen or area of fistula); if abdominal catheter is not in place for peritoneal dialysis, have client void before catheter is inserted
 - e. Check tubes for patency
 - f. Provide back care to promote comfort; diversional activities to help pass time during prolonged procedure
 - g. Refer for nutrition counseling; stress importance of lifelong dietary modifications
 - h. Monitor for electrolyte imbalances particularly those associated with potassium and sodium
5. Provide specific care associated with peritoneal dialysis
 - a. Keep accurate flow chart
 - b. Instill dialysate at slow steady rate over 10 to 20 minutes
 - c. Monitor for respiratory distress; drain abdomen if respiratory distress occurs
 - d. Reposition to promote drainage from abdomen
 - e. Wash catheter site with soap and water during daily shower
 - f. Protect site with gauze dressing
 - g. Monitor for peritonitis
 - h. Monitor serum glucose levels
6. Provide specific care associated with hemodialysis
 - a. Monitor for patency of internal fistula between treatments by palpating for thrill and auscultating for bruit
 - b. Monitor site for clotting; check clotting time; administer heparin as prescribed
 - c. Protect access device from trauma, manipulation, and contamination (e.g., avoid taking blood pressure or blood from arm with arteriovenous fistula, use sterile technique)
7. Provide care associated with kidney transplantation
 - a. Prepare client and family emotionally for possible outcomes of surgery
 - b. Maintain patency of drainage tubes, including retention catheter; urine is expected; gross hematuria or clots are not expected
 - c. Monitor fluid balance; initial output is increased because of sodium diuresis; sharp decrease may signal rejection
 - d. Monitor serum electrolytes, BUN, and creatinine
 - e. Monitor weight and vital signs, particularly temperature; isolation may be necessary to prevent infection
 - f. Teach how to prevent infection: avoid crowds; use aseptic technique, especially thorough hand hygiene
 - g. Monitor for opportunistic infections (e.g., candidiasis, cytomegalovirus, and *Pneumocystis jiroveci* pneumonia)
 - h. Administer steroids and immunosuppressives as prescribed to prevent rejection; explain need for lifelong immunosuppressive therapy; monitor for nephrotoxicity and hepatotoxicity
 - i. Monitor for and teach clinical manifestations of rejection (e.g., malaise, fever, flank pain or tenderness, decreasing urinary output)

Evaluation/Outcomes

1. Maintains fluid and electrolyte balance within expected limits
2. Remains free from infection
3. Adheres to dietary and fluid restrictions
4. Verbalizes feelings
5. Describes clinical findings of transplant rejection

Adenocarcinoma of the Kidney

Data Base

A Etiology and pathophysiology

1. Most common cancer affecting kidneys; incidence higher in males
2. Common sites of metastasis include lungs, liver, and long bones

B Clinical findings

1. Subjective: may be absent until metastasis occurs, dull back pain, weakness
2. Objective: weight loss, anemia, increased temperature, painless hematuria, and enlarged kidney palpable during physical examination

C Therapeutic interventions

1. Radical nephrectomy
2. Partial nephrectomy (heminephrectomy) when neoplasm is bilateral or if only one kidney is functioning
3. Radiation therapy if tumor is sensitive
4. Chemotherapy
 - a. Hormonal therapy: medroxyPROGESTERone (Provera)
 - b. Multikinase inhibitors: decrease renal cell tumor growth and angiogenesis; e.g., sorafenib (Nexavar)
 - c. Protein-tyrosine kinase inhibitors: interfere with tumor receiving blood and nutrients needed for tumor growth; e.g., sunitinib (Sutent)
 - d. Mammalian target of rapamycin (mTOR) antagonists: enzyme inhibitors; e.g., temsirolimus (Torisel); everolimus (Afinitor); used when sunitinib and sorafenib fail.
5. Palliative care if condition is terminal

Nursing Care of Clients with Adenocarcinoma of the Kidney

Assessment/Analysis

1. Hematuria, pain
2. Flank regions for asymmetry

Planning/Implementation

1. Monitor intake and output I&O; increase fluids
2. Administer analgesics as prescribed
3. Observe urine for color, amount, and abnormal components
4. Support natural defenses (e.g., encourage intake of foods rich in immune-stimulating nutrients, especially vitamins A, C, and E, and selenium)

5. Provide care after nephrectomy
 - a. Encourage coughing and deep breathing while splinting incision
 - b. Examine dressing and linen under client; more serosanguineous drainage is expected after partial nephrectomy than total nephrectomy
 - c. Maintain integrity of urinary drainage system; avoid kinking of tubes; output should exceed 30 mL/hr

Evaluation/Outcomes

1. States reduction in pain
2. Discusses feelings related to prognosis
3. Maintains expected urine output

Glomerulonephritis

Data Base

A Etiology and pathophysiology

1. Damage from filtration and trapping of antigen-antibody complexes within glomeruli; inflammatory and degenerative changes affect all renal tissue
2. Often follows streptococcal infection (e.g., tonsillitis)
3. May be acute or chronic; decreases life expectancy if renal damage progresses
4. Complications: hypertensive encephalopathy, heart failure, infection

B Clinical findings

1. Subjective: flank pain, costovertebral tenderness, headache, visual disturbances, malaise, weakness, fatigue, anorexia, dyspnea resulting from salt and fluid retention
2. Objective: fever, tachycardia, hypertension, oliguria, periorbital and facial edema; blood, protein and casts in urine; elevated plasma, BUN, and creatinine levels; anemia

C Therapeutic interventions

1. Antibiotics to treat underlying infection
2. Dietary restriction of sodium, fluids, and protein based on clinical status
3. Diuretics and angiotensin-converting enzyme (ACE) inhibitors or angiotensin II receptor agonists to treat high blood pressure
4. Corticosteroids may relieve some symptoms; immunosuppressants depending on cause of condition
5. Rest; regular activity when hematuria and proteinuria resolve
6. Temporary dialysis
7. Plasmapheresis (removes antibodies from blood) when condition is due to immune-related causes
8. Dialysis for end-stage renal disease while awaiting transplantation or when it is not possible due to health status

Nursing Care of Clients with Glomerulonephritis

Assessment/Analysis

1. History of recent upper respiratory tract or skin infections, or invasive procedures
2. Blood pressure for baseline data

3. Urine for blood, protein
4. Presence of dyspnea, edema, neck vein engorgement

Planning/Implementation

1. Monitor I&O, daily weight, urine specific gravity
2. Monitor vital signs, particularly temperature; protect from infection
3. Provide prophylactic skin care to prevent skin breakdown
4. Monitor for complications (e.g., renal failure, heart failure, and hypertensive encephalopathy)
5. Monitor urinalysis, serum electrolytes, BUN, and creatinine levels
6. Encourage continued medical supervision
7. Refer for case management as needed; long-term prognosis may create economic and familial problems

Evaluation/Outcomes

1. Maintains fluid balance within acceptable limits
2. Maintains nutritional status
3. Describes clinical findings of complications

Bladder Tumors

Data Base

A Etiology and pathophysiology

1. Staging:
 - a. I: found deep in lining of bladder, no spread to bladder muscle
 - b. II: spread to bladder muscle
 - c. III: spread to tissue surrounding bladder, may involve prostate in men and vagina in women
 - d. IV: extends to wall of abdomen/pelvis, may involve lymph nodes and parts of body far away from bladder (e.g., lungs)
2. Common sites of metastasis: lymph nodes, bone, liver, lungs
3. Risk factors: smoking, radiation, exposure to certain chemicals over prolonged time, schistosomiasis
4. Most frequent in men older than 50 years of age

B Clinical findings

1. Subjective: frequency and urgency of urination, dysuria
2. Objective: painless hematuria, direct visualization by cystoscopic examination with bladder washings

C Therapeutic interventions

1. Surgical intervention
 - a. Resection of tumor
 - b. Cystectomy may be partial (results in a decreased capacity) or radical (requires urinary diversion)
 - (1) Ileal conduit: section of ileum is resected and attached to ureters; one end of ileal segment is sutured closed and other is brought to skin as an ileostomy to drain urine; technique most widely used to divert urine; appliance needed to collect continuous

flow of urine

- (2) Continent ileal urinary reservoir (e.g., Indiana, Florida, Koch, or Charleston pouch) similar to ileal conduit, but nipple-like valve allows for draining when a catheter is inserted
- (3) Nephrostomy: catheter inserted in kidney through an incision
- (4) Ureterostomy: ureters implanted in abdominal wall to drain urine
- (5) Neobladder: new bladder is created internally; urethra and external anatomy are unchanged

2. Radiation therapy; may be done to shrink tumor before surgery; may be external or internal

3. Chemotherapy

- a. Superficial bladder cancer: intravesical chemotherapy via catheter through urethra; liquid drugs are instilled for several hours once a week for several weeks or several times monthly up to a year.
- b. Later stage bladder cancer: systemic chemotherapy

4. Intravesical biological therapy: bacille Calmette Guérin (BCG) solution contains live weakened bacteria that stimulate immune response to destroy cancer cells in bladder; once a week for 6 weeks

Nursing Care of Clients with Bladder Tumors

Assessment/Analysis

- 1. Abdomen for bladder distention
- 2. Urine for hematuria

Planning/Implementation

- 1. Allow time to verbalize fears about surgery, cancer, death, and body image alterations
- 2. Assess color and amount of urine (at least 50 mL/hr); maintain patency of drainage system; turn and position to promote urine flow
- 3. Prepare bowel preoperatively with laxatives, antibiotics, and enemas as prescribed
- 4. Care associated with ileal conduit
 - a. Cleanse skin around stoma and under drainage bag with soap and water; inspect for excoriation
 - b. Dry skin, apply skin adhesive to area around stoma, apply collection device
 - c. Maintain urinary drainage bag; ensure it is fitted snugly around but not touching stoma
 - d. Encourage self-care; teach to change appliance
- 5. Care associated with continent ileal urinary reservoir:
 - a. Teach to insert catheter through nipple valve to drain urine
 - b. Teach to drain urine at prescribed times to prevent absorption of metabolic wastes from urine as well as urine reflux into ureters
- 6. Expect variety of psychologic manifestations (e.g., denial, anger, depression)
- 7. Arrange visit from member of ostomy club
- 8. Support client's natural defenses (e.g., encourage intake of foods rich in immune-stimulating nutrients, especially vitamins A, C, and E, and selenium)

Evaluation/Outcomes

1. Discusses feelings
2. Demonstrates effective care of stoma and appliance

Benign Prostatic Hyperplasia

Data Base

A Etiology and pathophysiology

1. Slow enlargement of prostate gland; constricts urethra with subsequent interference in urination; predisposes to hydronephrosis
2. Common in men older than 40 years of age

B Clinical findings

1. Subjective: frequency, urgency, difficulty initiating stream (hesitancy), feeling of incomplete emptying of bladder after urination
2. Objective: nocturia, hematuria, decreased force of stream, urinary retention; enlarged prostate on digital rectal examination or transurethral ultrasound; biopsy reveals hyperplasia rather than malignancy

C Therapeutic interventions

1. Watchful waiting if no obstruction and growth is slow
2. Relief of acute obstruction by insertion of indwelling or suprapubic cystostomy catheter
3. Pharmacologic management
 - a. 5- α -Reductase inhibitors: block uptake and utilization of androgens by prostate, reducing glandular hyperplasia; finasteride (Proscar), dutasteride (Avodart)
 - b. α_1 -Adrenergic receptor blocking agents: terazosin (Hytrin)
 - c. Urinary antiseptics and antibiotics to prevent infection from stasis of urine
4. Laser treatment
 - a. Interstitial laser coagulation: heat energy conducted through fiberoptic probe coagulates obstructing prostate tissue; requires urinary catheter for 1 to 3 days; clinical manifestations resolve over 6 to 12 weeks as tissue is absorbed
 - b. Photoselective vaporization of prostate (PVP): high-energy laser vaporizes excess prostate tissue via endoscope device inserted into urethra; may require catheterization for 24 hours; usually can resume regular activity the next day; provides immediate and long-lasting results
 - c. Holmium laser ablation of prostate (HoLAP): laser vaporization of obstructive prostatic tissue; used when prostate is smaller than 60 cubic centimeters; urinary catheter removed same day or morning after intervention
 - d. Holmium laser enucleation of prostate (HoLEP): entire removal of prostate with holmium laser; seals blood vessels; shorter catheterization time than with surgical removal of prostate
5. Microwave treatment
 - a. Delivers transurethral microwave energy to heat and destroy excessive prostate tissue
 - b. Examples: Cooled thermo Therapy (TUMT); Core Therm; TherMatrx; Prolieve thermolatilation system
6. Additional minimally invasive therapies
 - a. AquaTherm: uses water-induced thermotherapy (WIT) to destroy obstructive prostatic tissue; urethral catheter is necessary for 4 to 7 days after procedure
 - b. Prostiva RF Therapy: low level radio frequency energy to destroy excess prostatic tissue via

two electrodes inserted into prostate through urethra; used for men older than 50 years of age; urethral catheter may be necessary 3 to 5 days after procedure

- c. Transurethral vaporization of the prostate (TUVF): direct application of heat to prostate tissue with grooved roller-bar instrument; provides quick improvement of clinical manifestations

7. Surgery

- a. Transurethral: instruments inserted through urethra; transurethral ultrasound-guided laser incision of prostate (TULIP), transurethral incision of prostate (TUIP), and transurethral resection of prostate (TURP)
- b. Suprapubic: requires incision of abdomen and bladder
- c. Retropubic: requires abdominal incision
- d. Perineal: requires perineal incision; highest risk for incontinence, impotence, and wound contamination

8. CBI after surgery to promote hemostasis and limit clots that block catheter

9. Transurethral dilatation of prostate: reduction of obstruction of urethra via balloon catheter, stent, or coils

Nursing Care of Clients with Benign Prostatic Hyperplasia

Assessment/Analysis

- 1. Urinary function for frequency, urgency, hesitancy; size and force of stream
- 2. Suprapubic area for bladder distention

Planning/Implementation

- 1. Encourage increased fluid intake (2400 to 3000 mL/day)
- 2. Administer antiseptics and antibiotics as prescribed to prevent or treat urinary tract infections after urine for culture is obtained
- 3. Instruct to avoid anticholinergics and antihistamines because they can cause urinary retention
- 4. Encourage/assist to standing position to void; moist heat or warm shower may relax urinary sphincter
- 5. Provide care after prostate surgery
 - a. Monitor for hemorrhage (e.g., change in vital signs, pain, clinical findings of shock, frank bleeding)
 - b. Maintain patency of catheter (e.g., unobstructed gravity flow, adequate fluid intake, CBI, sterile irrigation as ordered); bladder distention and pain may indicate catheter obstruction
 - c. Monitor output; volume of irrigant must be subtracted from drainage when CBI is used (see [Continuous Bladder Irrigation](#) under Related Procedures)
 - d. Prevent hemorrhage (e.g., administer prescribed stool softeners to prevent straining and pressure on operative site, advise to avoid prolonged sitting)
 - e. Maintain suprapubic and cystostomy catheters after suprapubic prostatectomy; change dressings frequently after removal of catheter because of urine leakage
 - f. Encourage to discuss concerns about sexual functioning
 - g. Provide as much privacy as possible
 - h. Instruct to perform perineal exercises to regain urinary control (initially dribbling is common); notify health care provider if urinary stream decreases because it may indicate urethral stricture

Evaluation/Outcomes

1. Verbalizes concerns about urinary and sexual functioning
2. Achieves expected pattern of urinary elimination

Cancer of the Prostate

Data Base

A Etiology and pathophysiology

1. Slow, malignant change in prostate gland; spreads by direct invasion of surrounding tissues; metastasizes to bony pelvis and spine
2. Risk factors: aging; family history; prostate-specific antigen (PSA) level more than 2 ng/mL at 60 years of age

B Clinical findings

1. Subjective: frequency; urgency; difficulty initiating stream; back, groin, or lower abdominal pain
2. Objective
 - a. Decreased force of stream, urinary retention
 - b. Elevated levels of acid phosphatase, carcinoembryonic antigen (CEA), and PSA; alkaline phosphatase level rises with bone metastasis
 - c. Digital rectal examination (DRE) reveals enlarged hardened prostate; transurethral ultrasound (TRUS) reveals mass, detects nonpalpable masses
 - d. Radiolabeled monoclonal antibody capromab pendetide with indium-111 (ProstaScint): antibody attracted to prostate-specific membrane antigen on prostate cancer cells; radioactive element is then visualized on scanning; detects metastasis before or after treatment
 - e. Biopsy demonstrates malignancy; Gleason grading system classifies stage and grade of prostate cancer

C Therapeutic interventions

1. Watchful waiting for clients with low Gleason score, low PSA levels, and nonpalpable tumors
2. Type of surgery depends on extent of lesion, client's physical condition, and client's acceptance of outcome (e.g., risk of impotence following radical prostatectomy)
3. Radical prostatectomy: open or laparoscopic approach; removes seminal vesicles, portion of bladder neck, nearby lymph nodes, and nerve bundles if necessary
4. Radiation therapy: reduces size of lesion and limits metastases; alone or in conjunction with surgery preoperatively or postoperatively
 - a. External: high doses of external-beam radiotherapy
 - b. Internal: seeds, wires or catheter deliver radioactive substance directly into or near cancer cells
5. Hormone therapy
 - a. Luteinizing hormone-releasing hormone agonists: prevent testes from producing testosterone; leuprolide (Lupron Depo, Eligard), goserelin (Zoladex)
 - b. Antiandrogens
 - (1) Block action of androgens: flutamide, nilutamide (Nilandron)
 - (2) Prevent adrenal glands from making androgens: used in advanced prostatic cancer; ketoconazole (Nizoral)
 - c. Estrogens: prevent testes from producing testosterone; rarely used because of serious side

effects

6. Chemotherapy: DOXOrubicin (Doxil), estramustine (Emcyt), etoposide (Toposar), mitoxantrone (Novantrone), paclitaxel (Taxol), docetaxel (Taxotere), vinBLAStin (Velban)
7. Cryosurgery and cryotherapy: needles apply freezing gases to prostate
8. Autologous cellular immunotherapy: sipuleucel-T (Provenge “vaccine”) stimulates immune system to fight prostate cancer
9. Orchiectomy: limits production of testosterone; slows progression

Nursing Care of Clients with Cancer of the Prostate

Assessment/Analysis

1. Progression of urinary clinical findings; presence, extent, and location of pain
2. Alterations in urinary functioning
3. Clinical manifestations of metastasis to bone, lungs, liver, or kidneys

Planning/Implementation

1. Provide care similar to that for client who has undergone prostate surgery for benign prostatic hyperplasia (see [Nursing Care under Benign Prostatic Hyperplasia](#))
2. Explain development of secondary female characteristics result from estrogen therapy, not surgery
3. Allow time and opportunity to discuss concerns about diagnosis of cancer and impotence; support client’s male image
4. Monitor for evidence of metastasis
5. Provide care for client receiving radiation (see [Chapter 3, Neoplastic Disorders, Radiation and General Nursing Care of Clients with Neoplastic Disorders](#))

Evaluation/Outcomes

1. Verbalizes concerns regarding sexuality and prognosis
2. Maintains expected pattern of urinary elimination
3. Maintains satisfying sexual expression

Cancer of the Testes

Data Base

A Etiology and pathophysiology

1. Most are germ cell tumors (e.g., seminomas, embryonal carcinomas, teratomas, and chorio sarcomas)
2. Metastasizes to retroperitoneal nodes, lungs, and central nervous system (CNS)
3. Etiology unknown; contributing factors include infection, cryptorchidism, genetic predisposition, and altered hormone levels
4. Leading cause of death from cancer in men 20 to 35 years old

B Clinical findings

1. Subjective: heaviness or dull ache in scrotal area; backache or abdominal pain
2. Objective
 - a. Weight loss, enlarged testes, palpable mass, hydrocele

b. Elevated tumor markers: alpha-fetoprotein, beta–human chorionic gonadotropin

c. Computed tomography (CT) scan of chest and abdomen may show metastasis

C Therapeutic interventions

1. Intervention based on cellular classification and staging
2. Orchiectomy (removal of the testis): radical inguinal orchiectomy and high ligation of spermatic cord is classic intervention
3. Retroperitoneal lymph node dissection (RPLND)
4. Radiation; internal or external
5. Combination chemotherapy regimens: involve complex cycles and day intervals; bleomycin, etoposide, cisplatin (BEP); cisplatin, vinBLAStine, bleomycin (PVB); paclitaxel, ifosfamide, cisplatin (TIP); etoposide, ifosfamide, cisplatin, mesna (VIP) regimen for clients with underlying lung disease.
6. Palliative chemotherapy: gemcitabine/oxaliplatin (GEMOX)
7. Stem cell transplantation
8. Semen cryopreservation: done before start of radiographic diagnostic evaluation and therapy
9. Follow-up monitoring: serum markers for response to therapy alpha-fetoprotein (AFP) and human chorionic gonadotropin (hCG); periodic abdominal CT scans and monthly chest x-rays for 2 to 3 years

Nursing Care of Clients with Cancer of the Testes

Assessment/Analysis

1. Palpation of testes for enlargement
2. Evidence of metastasis (e.g., back pain, dyspnea, cough, dysphagia, altered mental state, visual changes)

Planning/Implementation

1. Discuss banking sperm before treatment because of risk for sterility
2. Encourage discussion of feelings
3. Provide care related to chemotherapy or radiation (see [Chapter 3, Neoplastic Disorders, Radiation and General Nursing Care of Clients with Neoplastic Disorders](#))

Evaluation/Outcomes

1. Verbalizes feelings about sexuality, treatment, and prognosis
2. Maintains satisfying sexual expression



CHAPTER 13

Overview

See [Chapter 3](#), Infection, for additional information

Related Procedures: Standard and Transmission-Based Precautions

See [Chapter 3](#), [Table 3-1](#): Precautions to Prevent the Spread of Microorganisms

Major Infectious Diseases

Gas Gangrene

Data Base

A Etiology and pathophysiology

1. Anaerobic gram-positive clostridium (e.g., *Clostridium perfringens*, *Clostridium welchii*, *Clostridium novyi*) enters through a deep wound
2. Bacilli colonize in muscle tissue around wound; occurs 2 to 5 days after injury

B Clinical findings

1. Subjective: pain, chills, anorexia, apprehension
2. Objective
 - a. Bronzed or blackened wound tissue; crepitus; sweetish, foul-smelling watery exudate; muscle swelling; necrosis of muscle tissues
 - b. Pallor, diarrhea, vomiting, elevated temperature (may be slight)
 - c. Presence of *Clostridia* on culture, low hemoglobin level

C Therapeutic interventions

1. Multiple incisions for decompression and drainage
2. Complete removal (extirpation) and debridement of involved tissue followed by copious irrigations
3. Antibiotics: penicillin G, tetracycline, chloramphenicol, or erythromycin, depending on culture and sensitivity (C&S) results
4. Analgesics as necessary
5. Anticoagulants to prevent blood clots
6. Electrolytes IV to replenish deficiencies
7. Amputation of affected body part
8. Hyperbaric oxygenation
9. Whole blood, packed RBCs, or plasma transfusions to combat hemolysis and profound anemia
10. Antitoxin therapy may be started

Nursing Care of Clients with Gas Gangrene

Assessment/Analysis

1. Wound for specific clinical manifestations
2. Systemic clinical manifestations
3. Results of culture and sensitivity tests

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Prevent further infection from fecal contamination (organism found in feces)
3. Use standard and contact precautions
4. Monitor fluid, electrolyte, and cardiovascular status
5. Administer medications as prescribed

Evaluation/Outcomes

1. Remains free of complications
2. Resolves and remains free of infection

Toxoplasmosis

Data Base

A Etiology and pathophysiology

1. Protozoan (*Toxoplasma gondii*) contracted by eating raw meat containing cysts or exposure to contaminated cat feces
2. Prenatal transmission can cause congenital anomalies or fetal death; mother may be asymptomatic
3. Most common opportunistic central nervous system (CNS) infection of those with AIDS
4. Leading cause of encephalitis in immunosuppressed clients

B Clinical findings

1. Subjective: malaise, fatigue, headache, sore throat, muscle aches and pains
2. Objective: fever, seizures, rash, cognitive and motor impairment, lymphadenopathy, positive cultures, brain abscesses

C Therapeutic interventions

1. Pharmacological therapy for pregnant women and immunosuppressed clients: spiramycin (can be obtained with special permission from the U.S. Food and Drug Administration [FDA]); pyrimethamine (Daraprim); sulfADIAZINE (SSD); folinic acid; azithromycin (Zithromax); clindamycin HCl (Cleocin); leucovorin calcium preservative free
2. Usually no treatment required for otherwise healthy adults

Nursing Care of Clients with Toxoplasmosis

Assessment/Analysis

1. Objective and subjective clinical manifestations
2. Presence of pregnancy
3. Culture results

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Use standard precautions
3. Encourage diet rich in nutrient-dense foods
4. Teach clients who are pregnant or have a weakened immune system how to decrease risk of infection (e.g., avoid cleaning cat litter pans; avoid gardening where exposed to cat feces; appropriately handle, prepare, and store meat; wash fruits and vegetables)

Evaluation/Outcomes

1. Remains free from infection
2. Continues with follow-up supervision as necessary

Malaria

Data Base

A Etiology and pathophysiology

1. Protozoan (e.g., *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium ovale*, *Plasmodium malariae*) enters body from bite by infected Anopheles mosquito, use of dirty needles, transfusion from infected donor
2. Parasite enters bloodstream and invades RBCs; destroys RBCs, blocks capillaries, and causes irreversible damage to spleen and liver
3. Blackwater fever: rare complication with mortality of 20% to 30%; causes intravascular hemolysis, hemoglobinuria, and acute kidney failure
4. Sickle cell trait provides natural resistance

B Clinical findings

1. Subjective: malaise, headache, muscle aches, chills, thirst
2. Objective
 - a. High fever, anemia, enlarged spleen, dehydration, renal failure
 - b. Blackwater fever: jaundice, dark red or black urine

C Therapeutic interventions

1. Antimalarial drugs: pyrimethamine/sulfadoxine (Fansidar), mefloquine, primaquine, quinine
2. Aspirin
3. Prevention: chemoprophylaxis 1 week before visiting endemic areas and regularly while in area; avoidance of stagnant pools; use of insect repellents and protective clothing to prevent mosquito bites

Nursing Care of Clients with Malaria

Assessment/Analysis

1. Objective and subjective clinical manifestations
2. Clinical manifestation of progression to blackwater fever

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Monitor fluid and electrolyte balance; maintain hydration
3. Use therapeutic measures to decrease fever (e.g., fluids, tepid bath, light clothing, hypothermia blanket if ordered)
4. Maintain bed rest until fever and other clinical manifestations have ceased
5. Support natural defense mechanisms; encourage intake of nutrient-dense foods (e.g., fruits, vegetables, whole grains, and legumes) and foods high in immune-stimulating nutrients (e.g., selenium and vitamins A, C, and E)
6. Reinforce importance of medication regimen; when receiving quinine: teach to take medication with meals to reduce GI irritation and monitor for symptoms of cinchonism (e.g., tinnitus, vertigo, and deafness) (quinine made from cinchona bark)

Evaluation/Outcomes

1. Continues prophylaxis as necessary
2. Understands that organism is always present in blood

Rabies (Hydrophobia)

Data Base

A Etiology and pathophysiology

1. Rhabdovirus (*Lyssavirus rabidus*) enters body through bite of infected animal; animal can be ill or a carrier
2. Virus spreads from soft tissue surrounding wound to peripheral nerves and ultimately affects CNS; may cause punctate hemorrhages and neuronal destruction
3. Incubation period 10 to 50 days with bites in upper parts of body, 4 months with bites in lower parts
4. Bites usually are unprovoked; suspected animals are observed for 10 days

B Clinical findings

1. Subjective
 - a. Anxiety, depression, malaise, lethargy, irritability, headaches, stiff neck; photophobia, dyspnea
 - b. Thirst, anorexia, nausea
 - c. Paresthesia or pain near bite or in bitten extremity
2. Objective
 - a. Respiratory difficulty (e.g., wheezing, hyperventilation, spasms)
 - b. Hydrophobia: sight, sound, or thought of water triggers painful pharyngeal muscle contractions that expel fluid from mouth
 - c. Excessive salivation, frothy drooling, difficulty swallowing, choking
 - d. Nuchal rigidity, seizures
 - e. Apnea, cardiac dysrhythmias
 - f. Paralysis, coma

C Therapeutic interventions

1. Cleansing of wound with soap and water
2. Human rabies immune globulin (Imogam Rabies-HT, hyperRAB) for passive immunity; dose given in buttock; wound is bathed with drug
3. Human diploid cell vaccine (Imovax Rabies) to induce active immunity
 - a. Prevention for those at risk (e.g., veterinarians, animal handlers): three doses (initial dose, second dose on 7th day, and third dose 2 to 3 weeks later)
 - b. Treatment after exposure: 6 doses (initial dose and then second, third, fourth, and fifth doses at 1-week intervals followed by sixth dose 90 days after event); early treatment is necessary because once disease develops, it usually is fatal
4. Sedatives or anesthetics as necessary; phenytoin (Dilantin) used for seizures
5. Tracheostomy if severe respiratory impairment develops

Nursing Care of Clients with Rabies

Assessment/Analysis

1. Objective and subjective clinical manifestations

2. Wound and/or extremity of bite
3. Manifestation of hydrophobia

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Avoid contact with saliva of infected client
3. Monitor blood gases, fluid and electrolyte balance, and electrocardiograms (ECGs)
4. Keep room dark and quiet to limit agitation
5. Monitor tracheostomy and suction secretions as needed
6. Prevent drafts, which may result in respiratory spasms
7. Encourage client/family to verbalize feelings

Evaluation/Outcomes

1. Recovers after vaccine is administered
2. Avoids contact with potential sources of infection
3. Function returns to body part affected by bite

Rocky Mountain Spotted Fever

Data Base

A Etiology and pathophysiology

1. Microorganism (*Rickettsia rickettsii*) enters body through bite of infected tick; person may not be aware of tick bite
2. Sudden onset: incubation period 3 to 17 days
3. Organism attacks endothelial cells and extends into vessel walls, causing thrombi, inflammation, and necrosis

B Clinical findings

1. Subjective: malaise, insomnia, headache, anorexia, photophobia, joint and muscle discomfort, hearing loss
2. Objective
 - a. Fever, enlarged spleen, hypotension, circulatory collapse, renal collapse
 - b. Rash (rose-colored macules), edema, subcutaneous hemorrhage, necrosis

C Therapeutic interventions

1. Prompt recognition and treatment vital
2. Antibiotics: tetracycline, chloramphenicol; continued until afebrile for 3 to 5 days
3. Treatment of clinical manifestations and complications as they develop

Nursing Care of Clients with Rocky Mountain Spotted Fever

Assessment/Analysis

1. Objective and subjective clinical manifestations
2. Integument for characteristic changes
3. Circulatory and renal complications

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Assure family that client's disturbed emotional responses are associated with the infection
3. Monitor to determine progression of disease
4. Assess cardiovascular status to determine developing circulatory collapse
5. Reassure hearing loss is temporary
6. Teach prevention (e.g., wear tick repellents, tuck pants into boots, wear long-sleeve shirts, check legs, pants and animals for ticks)
7. Teach to remove ticks with tweezers to ensure complete removal and prevent contamination of fingers

Evaluation/Outcomes

1. Continues with follow-up supervision as necessary
2. Avoids contact with potential sources of infection

Lyme Disease

Data Base

A Etiology and pathophysiology

1. Spirochete bacteria (*Borrelia burgdorferi*) enters body through bite of carrier tick that acquired bacterium from infected host; most often carried by mice, deer, or raccoons; cats, dogs, and horses may be carriers
2. Tick injects spirochete-laden saliva into bloodstream; incubates 3 to 32 days; then migrates outward, causing a rash
3. Initial rash and flulike clinical findings; later neuromusculoskeletal and cardiac clinical findings
4. Most common vector-borne illness in United States
5. Infectious organism can survive in host 10 years or more

B Clinical findings

1. Subjective: chills, muscle aches, joint pain, headache, dizziness, stiff neck, nausea
2. Objective
 - a. Fever; red-ringed, circular rash (erythema chronicum migrans, bull's-eye lesion); swollen joints; lack of coordination; facial palsy; paralysis; dementia
 - b. Blood tests: antibody titers, enzyme-linked immunosorbent assay (ELISA), Western blot assay; positive results may indicate past or current infection

C Therapeutic interventions

1. Early Lyme disease: amoxicillin (Amoxil)
2. Severe Lyme disease: ceftriaxone sodium (Rocephin), penicillin G

Nursing Care of Clients with Lyme Disease

Assessment/Analysis

1. Specific clinical findings, especially red-ringed, circular rash
2. Chronic complications of arthritis, persistent fatigue, CNS and cardiac problems

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Assure family that client's disturbed emotional responses are associated with the infection
3. Monitor to determine progression of disease
4. Question clients with arthritic clinical manifestations about possible exposure
5. Teach prevention
 - a. Avoid tall grass and wooded areas; use chemical repellents; wear light colors to enhance tick identification; wear long sleeves and pants tucked in high boots when walking in areas with tick infestation
 - b. Shower and inspect skin
 - c. Remove ticks with tweezers, grasping close to skin to avoid breaking mouth parts of tick
6. Advise to receive vaccine if at risk
7. Administer antibiotics as prescribed

Evaluation/Outcomes

1. Continues follow-up supervision as necessary
2. Avoids contact with potential sources of ticks

Tetanus (Lockjaw)

Data Base

A Etiology and pathophysiology

1. Anaerobic bacillus (*Clostridium tetani*) enters body through open wound; clinical manifestations 2 days to 3 weeks after exposure
2. Toxins from bacillus invade nervous tissue, motor and sensory nerves become hypersensitive, results in prolonged muscle contractions and respiratory failure

B Clinical findings

1. Subjective: irritability, restlessness, pain from muscle spasms
2. Objective: muscle rigidity, spastic contractions of voluntary muscles, spasm of masticatory muscles (trismus), spasms of respiratory tract, grotesque grinning expression (risus sardonicus) caused by spasms of facial muscles

C Therapeutic interventions

1. Prompt recognition of potential contamination and treatment vital
2. Tetanus immune globulin (TIG) used to provide temporary passive immunity; tetanus toxoid adsorbed vaccine (Te Anatoxal Berna) may be given in different site
3. Supportive therapy after clinical manifestations develop because specific therapy is ineffective; necessary until toxins reduce over time
4. Maintenance of adequate pulmonary ventilation
5. Debridement of wound to allow exposure to air
6. Sedatives to limit muscle spasms
7. Antibiotics to limit secondary infection
8. Maintenance of fluid balance and nutrition via enteral feedings

Nursing Care of Clients with Tetanus

Assessment/Analysis

1. Specific clinical manifestations
2. Characteristics of wound

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Administer tetanus toxoid to provide active immunity; prophylaxis in suspect injuries
3. Initiate seizure precautions; maintain quiet environment to decrease excessive stimuli and prevent seizures
4. Monitor respiratory status; administer oxygen as needed; maintain mechanical ventilation if ordered
5. Suction airway as necessary to maintain patency and promote ventilation; keep endotracheal tube and tracheostomy set at bedside
6. Encourage client/family to verbalize feelings
7. Encourage revaccination (“booster shot”) every 10 years

Evaluation/Outcomes

1. Maintains active immunity
2. Seeks medical assistance with potentially infectious injuries

Typhoid Fever

Data Base

A Etiology and pathophysiology

1. Bacterium (*Salmonella typhi*) found in human feces; transmitted through sewage, flies, and shellfish; incubation period 3 to 20 days
2. Bacterium invades GI tract and localizes in lymph tissue of intestinal wall (Peyer patches); these areas may become thrombosed and tissue sloughs off
3. Complications: hemorrhage, peritonitis, perforation, hepatitis

B Clinical findings

1. Subjective: headache, drowsiness
2. Objective: fever, bradycardia, rose-colored papules on abdomen, enlarged spleen and liver, delirium, constipation during early stage, diarrhea during late stage

C Therapeutic interventions

1. Antibiotics: Ciprofloxacin (Cipro), azithromycin (Zithromax), ampicillin (Principen)
2. Corticosteroids first 4 to 5 days of treatment
3. Maintenance of fluid balance and nutrition
4. Symptomatic treatment

Nursing Care of Clients with Typhoid Fever

Assessment/Analysis

1. Specific clinical manifestations
2. Signs of complications

Planning/Implementation

1. See [Chapter 3](#), Integral Aspects of Nursing Care, General Nursing Care of Clients at Risk for Infection
2. Maintain safety if delirious
3. Encourage soft diet rich in high-nutrient density and high-calorie foods
4. Employ methods to decrease fever
5. Monitor fluid and electrolytes
6. Use contact precautions, in addition to standard precautions, if client is incontinent of feces
7. Encourage client/family to verbalize concerns precipitated by illness
8. Educate public to prevent disease through appropriate sewage treatment
9. Encourage vaccination programs with booster injections every 3 years in endemic areas

Evaluation/Outcomes

1. Maintains active immunity
2. Practices effective personal hygiene

Viral and Bacterial Infectious Gastroenteritis

Data Base

A Etiology and pathophysiology

1. Inflammation of stomach and intestines; usually related to contaminated water and food
2. *Staphylococcus aureus*: clots plasma (coagulase positive); most virulent type; causes variety of infections
 - a. Found in unrefrigerated creams, mayonnaise, stuffing, meats, and fish
 - b. Transmitted to food on hands of food handlers
 - c. Incubation period: 1 to 6 hours after ingestion of contaminated food; illness lasts 24 to 48 hours
3. *Clostridium botulinum* (botulism): life-threatening, often fatal form; exotoxin is most powerful biologic toxin known
 - a. Found in inadequately processed foods, mostly canned foods
 - b. Blocks neuromuscular transmission in cholinergic nerve fibers by binding with acetylcholine
 - c. Incubation period 12 to 36 hours after ingestion of contaminated food; may be 4 to 8 days
4. *Salmonella* (salmonellosis): local GI infection; organisms multiply in intestines but do not enter circulation
 - a. Found in inadequately cooked meats
 - b. Incubation period: 10 to 24 hours after ingestion of contaminated food; illness lasts 2 to 3 days
5. *Clostridium difficile*: spore-forming gram-positive bacteria
 - a. Frequent cause of agency-acquired infection; occurs in clients receiving antibiotic therapy
 - b. Toxin can cause pseudomembranous colitis and sepsis
6. Vancomycin-resistant enterococcus (VRE): gram-positive bacteria that reside in the healthy GI tract

- a. Frequent cause of agency-acquired infection
- b. May resist all antimicrobial agents

B Clinical findings

1. Subjective

- a. Nausea, malaise, abdominal cramps and pain
- b. Botulism: diplopia, muscle weakness, dysphasia

2. Objective

- a. Diarrhea 1 to 8 hours after ingestion of contaminated food/fluid
- b. Vomiting, fever, chills
- c. Botulism: diminished visual acuity and gag reflex, loss of pupillary light reflex

C Therapeutic interventions

1. Elimination of chemical, mechanical, and/or thermal irritation

2. Adequate fluid and electrolytes orally or parenterally

3. Bed rest

4. For botulism

- a. Darkened room
- b. Parenteral feedings to prevent aspiration
- c. Tracheostomy and other supportive measures
- d. Cathartics and cleansing enemas to remove toxins from GI tract
- e. Trivalent antitoxins as necessary
- f. Gastric lavage

5. For *C. difficile*

- a. Discontinuation of antibiotic therapy if implicated as cause
- b. Antiinfectives: metronidazole (Flagyl), vancomycin for moderate to severe symptoms
- c. Surgical intervention for pseudomembranous colitis if necessary

Nursing Care of Clients with Infectious Gastroenteritis

Assessment/Analysis

1. History of ingestion of contaminated foods
2. Frequency and characteristics of stool
3. Temperature for baseline data
4. Presence of nausea, vomiting, abdominal cramps
5. Clinical findings of fluid and electrolyte imbalance
6. Botulism: establish neurologic baseline data, especially gag reflex

Planning/Implementation

1. Obtain stool specimen for culture
2. Offer small amounts of fluids as tolerated; maintain IV fluids
3. Maintain contact precautions; use meticulous hand washing technique
4. Monitor clients who are immunocompromised or receiving antimicrobial therapy for profuse watery diarrhea indicative of *C. difficile*
5. Teach importance of appropriate storage and cooking of foods
6. Provide care associated with botulism

- a. Prevent aspiration pneumonia by elevating head of bed; keep suction equipment available at bedside
- b. Observe neurologic status to determine progression of disease
- c. Prevent contractures and emboli by performing range-of-motion exercises

Evaluation/Outcomes

1. Reports decreased bowel activity
2. Maintains fluid and electrolyte balance
3. Maintains nutritional status

Syphilis

Data Base

A Etiology and pathophysiology

1. Spirochete (*Treponema pallidum*) is sexually transmitted, usually during primary or secondary stages; prenatal transmission (congenital syphilis)
2. Stages
 - a. Primary: occurs 10 to 90 days after contact; clinical manifestations are localized to area of contact
 - b. Secondary: occurs up to 6 months after exposure; systemic response
 - c. Latent: begins after secondary stage; may last several months to years; asymptomatic
 - d. Tertiary: can occur 18 to 20 years later
 - (1) Gummas (granulomas) attack any organ and cause cardiovascular syphilis and neurosyphilis
 - (2) Transmission: rare, fetus can be infected

B Clinical findings

1. Primary syphilis
 - a. Chancre on genitalia, mouth, or anus; serous drainage from chancre
 - b. Enlarged lymph nodes
 - c. Tests for syphilis: Venereal Disease Research Laboratory (VDRL); rapid plasma reagin circle card test (RPR-CT); automated reagin test (ART); fluorescent treponemal antibody absorption test (FTA-ABS)
2. Secondary syphilis
 - a. Skin rash on palms and soles of feet, alopecia
 - b. Oral mucous membrane erosions
 - c. Fever, enlarged lymph nodes
3. Latent syphilis is asymptomatic
4. Tertiary syphilis
 - a. Cardiovascular changes (e.g., aortitis, aortic aneurysm, stroke)
 - b. Neurologic changes (e.g., personality changes, ataxia, blindness)

C Therapeutic interventions

1. Penicillin
 - a. One large dose for primary, secondary, and early latent stages
 - b. Large dose once every 7 days for 3 weeks for late latent stage
2. Probenecid to delay excretion of penicillin

3. Tetracycline or erythromycin if allergic to penicillin

Nursing Care of Clients with Syphilis

Assessment/Analysis

1. Progression of clinical manifestations
2. Genitalia, rectum, and oropharynx for inflammation, lesions, or drainage
3. Regional lymph nodes for enlargement

Planning/Implementation

1. Provide supportive, nonjudgmental environment
2. Encourage early screening and educational programs (e.g., sexually transmitted infection (STI) clinics, hot lines, workshops)
3. Teach about disease and its transmission: cleansing of genitals; condom use helps prevent transmission of most STIs
4. Encourage identification of sexual contacts so they can be treated
5. Inform that disease must be reported to health department but that confidentiality will be maintained
6. Determine if allergic to penicillin; explain need to complete course of antibiotic therapy
7. Instruct to avoid sexual activity until tests are negative; encourage monogamous relationship
8. Implement contact precautions
9. Teach meticulous hand hygiene to prevent autoinoculation

Evaluation/Outcomes

1. Provides names of contacts
2. Avoids sexual contact until follow-up testing indicates transmission will not occur
3. Identifies “safer sex” practices

Gonorrhea

Data Base

A Etiology and pathophysiology

1. Gram-negative diplococcus (*Neisseria gonorrhoeae*) is sexually transmitted; penicillinase-producing *N. gonorrhoeae* is a newer strain resistant to penicillin
2. Clinical findings depend on type of sexual contact; may be asymptomatic, or clinical manifestations may appear within a few days after exposure
3. Inflammation subsides in 2 to 4 weeks when untreated, but may precipitate a carrier state

B Clinical findings

1. Subjective: dysuria, urgency, anal pruritus, lower abdominal discomfort, joint pain, painful defecation
2. Objective
 - a. Purulent penile or vaginal discharge
 - b. Fever
 - c. Urethral or endocervical smear positive for gonococcus; cultures obtained from urethra, endocervix, anal canal, and pharynx

- d. Complications if untreated (e.g., salpingitis, infertility, urethral stricture, prostatitis, epididymitis, inflammation of rectum and pharynx)

C Therapeutic intervention

1. Centers for Disease Control and Prevention (CDC) recommends ceftriaxone (Rocephin), or cefixime (Suprax)
2. Treatment for chlamydia (e.g., azithromycin [Zithromax]) if chlamydial infection is not ruled out

Nursing Care of Clients with Gonorrhea

Assessment/Analysis

1. See [Assessment/Analysis](#) under Nursing Care of Clients with Syphilis

Planning/Implementation

1. Teach meticulous hand hygiene to prevent conjunctivitis
2. Arrange for follow-up culture 2 weeks after therapy is instituted
3. Monitor urinary and bowel elimination
4. Allow time to verbalize concerns about potential infertility
5. Identify sexual contacts; encourage use of condoms to help prevent future infections
6. See [Nursing Care of Clients with Syphilis](#) for additional information

Evaluation/Outcomes

1. Avoids sexual contact until no longer communicable
2. Identifies “safer sex” practices
3. Maintains reproductive functions

Chlamydia

Data Base

A Etiology and pathophysiology

1. Intracellular bacteria (*Chlamydia trachomatis*) is sexually transmitted; invades reproductive tract
2. More common in women; precursor of pelvic inflammatory disease (PID); usually asymptomatic in women; incidence in men is increasing
3. Incubation period from 1 to 3 weeks; may be asymptomatic for several months

B Clinical findings

1. Subjective: history of risk factors (e.g., previous sexually transmitted infection, multiple sex partners, lack of condom use, same-sex partners), dysuria, pelvic pain
2. Objective: vaginal/urethral discharge; urethritis (e.g., urinary frequency, mucoid discharge), cervicitis, salpingitis, positive tissue culture from reproductive tract
3. Complications (if untreated): epididymitis, prostatitis, infertility, Reiter syndrome (connective tissue disorder), PID, ectopic pregnancy

C Therapeutic interventions

1. Anti-infectives: azithromycin (Zithromax); doxycycline (Adoxa)
2. Treat sexual contacts

Nursing Care of Clients with Chlamydia

Assessment/Analysis

1. Clinical manifestation of infection and complications
2. History of multiple sex partners, unsafe sex practices

Planning/Implementation

1. Reinforce importance of continuing medication regimen
2. Teach to abstain from sexual intercourse until treatment is completed (usually 7 days after its institution)
3. Discuss lifestyle and its relation to risk factors
4. Explain that chlamydia is an STI that is reportable to the health department; encourage to report all sexual contacts
5. Teach women to be tested in 3 to 12 months because of risk for PID, to seek care if clinical manifestations return

Evaluation/Outcomes

1. Seeks follow-up care
2. Reports sexual contacts to appropriate agency
3. Reports efforts to decrease risk factors by lifestyle changes

Herpes Genitalis

Data Base

A Etiology and pathophysiology

1. Commonly caused by herpes simplex type 2 (herpesvirus hominis type 2); may be caused by type 1, which is most often associated with mouth lesions (“cold sores”)
2. Lesions occur 3 to 7 days after infection and may last several weeks
3. Once resolved, virus lies dormant in spinal root ganglia and is capable of repeatedly causing lesions; stress may precipitate recurrence
4. Transmitted through sexual contact when active lesions are present; newborn may be infected during vaginal birth; therefore, cesarean birth is advocated when infections is active (i.e., lesions are visible)
5. May cause aseptic meningitis, proctitis, and prostatitis; associated with higher rate of cervical cancer

B Clinical findings

1. Subjective: dysuria, flulike clinical findings, tingling sensation before vesicles appear, genital itching and pain
2. Objective: leukorrhea, vaginal bleeding, vesicles and papules on genitalia ([Figure 13-1](#): Herpes simplex virus type 2), urinary retention, culture reveals herpesvirus type 2



FIGURE 13-1 Herpes simplex virus type 2, in male (A) and female (B) clients. (From Habib TP: *Clinical dermatology: a color guide to diagnosis and therapy*, ed 5, St. Louis, 2009, Mosby.)

C Therapeutic interventions

1. No cure
2. Antivirals: acyclovir (Zovirax), valacyclovir (Valtrex), or famciclovir (Famvir), penciclovir (Denavir) reduce healing time and severity of clinical manifestations
3. Sedation for severe pain
4. Alcohol (topical) may be used to dry lesions

Nursing Care of Clients with Herpes Genitalis

Assessment/Analysis

1. See [Assessment/Analysis](#) under Nursing Care of Clients with Syphilis

Planning/Implementation

1. Provide emotional support to cope with incurable, contagious nature of disease
2. Implement contact precautions

3. Explain medication regimen
4. Teach client
 - a. Keep area clean and dry; wear cotton underwear and loose-fitting clothing
 - b. Relieve local discomfort as prescribed (e.g., analgesics, topical anesthetic agents, sitz baths, application of heat or cold)
 - c. Prevent autoinoculation (e.g., avoid touching area unnecessarily, perform meticulous hand hygiene)
 - d. Increase fluid intake
 - e. Avoid sexual contact when lesions exist to prevent transmission
 - f. Avoid intercourse during last 6 weeks of pregnancy
 - g. Engage in “safer” sex practices
 - h. Have annual Pap smear test (females)
 - i. Use stress-reducing strategies
5. See [Planning/Implementation](#) under Nursing Care of Clients with Syphilis

Evaluation/Outcomes

1. Reports relief of dysuria and pain
2. Exhibits intact skin without lesions
3. Abstains from sexual contact when lesions are present

Acquired Immunodeficiency Syndrome (AIDS)

Data Base

A Etiology and pathophysiology

1. Caused by human immunodeficiency virus (HIV), a retrovirus; most commonly caused by HIV-1; other strains include HIV-2 and HIV-3
2. HIV infects helper T lymphocytes (T4/CD4 cells), B lymphocytes, macrophages, promyelocytes, fibroblasts, and epidermal Langerhans cells
3. When T4/CD4 cell count falls below 200/ μ L opportunistic infections occur because of severely depressed immune system
4. Opportunistic infections and disorders associated with AIDS
 - a. Protozoal: *Pneumocystis jiroveci* pneumonia, toxoplasmosis, cryptosporidiosis
 - b. Fungal: candidiasis, cryptococcosis, histoplasmosis, tinea
 - c. Bacterial: *Mycobacterium avium-intracellulare* complex, *Mycobacterium tuberculosis* (MTB)
 - d. Viral: herpes simplex, varicella-zoster, cytomegalovirus, molluscum contagiosum, human papillomavirus, Epstein-Barr
 - e. Malignant: Kaposi sarcoma, B-cell lymphomas, non-Hodgkin lymphoma
5. Classification system for HIV infection according to CDC
 - a. T4/CD4 categories; each CD4 category has an A, B, or C clinical category, as is indicated in b.
 - (1) Category 1: 500 cells/ μ L or more
 - (2) Category 2: 200 to 499 cells/ μ L
 - (3) Category 3: Less than 200 cells/ μ L
 - b. Clinical categories
 - (1) Category A: categories B and C have not occurred; asymptomatic HIV infection;

persistent generalized lymphadenopathy; acute (primary) HIV infection

(2) Category B: category C has not occurred; conditions attributed to HIV infection; conditions that are complicated by HIV infection (e.g., oral candidiasis, pelvic inflammatory disease, oral hairy leukoplakia, idiopathic thrombocytopenia purpura, herpes zoster, peripheral neuropathy)

(3) Category C: includes all clinical conditions listed as advanced HIV disease or AIDS; once classified in category C, person remains in this category (e.g., recurrent bacterial pneumonia; candidiasis of esophagus, bronchi, trachea, lungs; cytomegalovirus disease; encephalopathy; Kaposi sarcoma; pulmonary or extrapulmonary tuberculosis; *Pneumocystis jiroveci* infection; wasting syndrome)

6. Classification according to World Health Organization

a. Categories 1 through 4 progress from primary HIV infection to advanced HIV/AIDS.

b. CD4 cell counts not included; testing may be unavailable or too costly in some environments

7. HIV present in body fluids (e.g., blood, semen, vaginal secretions, blood-tinged saliva, tears, breast milk, and cerebrospinal fluid); transmission occurs through contact with infected body fluids; virus not viable outside body

8. HIV positive confirmation: blood tests reveal HIV or antibodies to HIV

9. HIV is transmitted to others by HIV positive persons

10. Incubation period

a. Ranges from 6 months to 10 years or longer

b. Antibodies first detected in blood 2 weeks to 3 months or longer after infection; test detects virus within 24 hours of exposure

B Clinical findings

1. Subjective: anorexia, fatigue, dyspnea, chills, sore throat

2. Objective

a. Positive test result for HIV antibodies: ELISA (enzyme-linked immunosorbent assay) for screening; Western blot used to confirm positive ELISA result

b. Positive test result for HIV; polymerase chain reaction (PCR); HIV RNA provides evidence of viral load

c. Decreased T4/CD4 cells to less than 200/ μ L

d. Decreased ratio of T4 cell (helper cell) to T8 cell (suppressor cell)

e. Night sweats

f. Enlarged lymph nodes

g. Wasting syndrome: weight loss exceeding 10% baseline weight, chronic diarrhea for more than 30 days, chronic weakness, constant fever

h. HIV encephalopathy: memory loss, lack of coordination, partial paralysis, mental deterioration

i. Presence of associated opportunistic infections and malignancies

C Therapeutic interventions

1. No cure; considered chronic illness; goal is prevention

2. Pharmacologic therapy: highly active antiretroviral therapy (HAART) involves drug combinations; combinations and order in which they are given influence effectiveness. Three or more drugs from at least 2 different classes fight HIV at different stages of its replication. More than 30 drugs are approved by the FDA for HIV treatment.

a. Nucleoside analogue reverse transcriptase inhibitors (NRTIs)

(1) Interfere with DNA chain

(2) Examples: lamivudine, (Epivir), emtricitabine (Emtriva), abacavir (Ziagen), zidovudine (Retrovir)

(3) Side effects: lactic acidosis, hepatomegaly, peripheral neuropathy, rash

b. Protease inhibitors (PIs)

(1) Disables protease, the protein that HIV needs to reproduce

(2) Examples: tipranavir (Aptivus), ritonavir (Norvir), indinavir (Crixivan), nelfinavir (Viracept), fosamprenavir (Lexiva), atazanavir (Reyataz), saquinavir (Invirase), lopinavir/ritonavir (Kaletra), darunavir (Prezista)

(3) Side effects: nausea, vomiting, diarrhea, abdominal pain, and anorexia (GI irritation); hyperglycemia (diabetes); peripheral paresthesias (neuropathy); headache (dehydration); renal calculi (calcium precipitation); increased liver enzymes (hepatotoxicity)

c. Nonnucleoside reverse transcriptase inhibitors (NNRTIs)

(1) Bind to reverse transcriptase and block RNA and DNA replication

(2) Examples: nevirapine (Viramune), etravirine (Intelence), efavirenz (Sustiva), delavirdine (Rescriptor)

(3) Side effects: transient rash, nausea, diarrhea; hepatotoxicity, nephrotoxicity

d. Fusion inhibitor

(1) Stops HIV from entering CD4 cells by inhibiting fusion of viral and cellular membranes

(2) Examples: maraviroc (Selzentry), enfuvirtide (Fuzeon)

(3) Side effects: painful skin reactions at local injection site, headache, peripheral neuropathy, hypersensitivity reactions, and pneumonia

e. Integrase inhibitors

(1) Interfere with integrase enzyme, which HIV needs to insert its genes into CD4 cells' genes

(2) Example: raltegravir (Isentress)

f. Antiviral

(1) Decrease HIV levels in blood and genital secretions; also used for herpes zoster and genital herpes

(2) Example: valacyclovir (Valtrex)

g. Four combinations of drugs are preferred regimens for treatment of naive clients

(1) Raltegravir + tenofovir/emtricitabine

(2) Efavirenz/tenofovir/emtricitabine

(3) Ritonavir-boosted atazanavir plus tenofovir/emtricitabine

(4) Ritonavir-boosted darunavir plus tenofovir/emtricitabine

3. Specific medications to treat opportunistic infections

a. *P. jiroveci*: trimethoprim-sulfamethoxazole (Bactrim), pentamidine (Pentam)

b. Tuberculosis: isoniazid (INH); rifampin (Rifadin); ethambutol (Myambutol)

c. Fungal infections: nystatin (Mycostatin), amphotericin B (Fungizone), ketoconazole (Nizoral)

d. Viral infections: acyclovir (Zovirax)

4. Management of clinical manifestations

5. Postexposure prophylaxis (PEP) for accidental needle sticks: treatment with reverse transcriptase inhibitors

6. HIV counseling: referral to CDC for counseling, testing, and referral standards (CTR); guidelines developed using evidence-based approach by U.S. Preventive Services Task Force and public health practice guidelines
7. Research to control disease: genetic manipulation and vaccines to prevent HIV infection in uninfected individuals; new drugs now in clinical trials

Nursing Care of Clients with Acquired Immunodeficiency Syndrome

Assessment/Analysis

1. Screen for HIV per CDC recommendations
 - a. All people 13 to 64 years of age regardless of risk; clients residing in all health-care settings; persons at risk annually; pregnant women at first visit and repeat screening in third trimester
 - b. Separate consent not required, but notification is necessary and screening can be declined
2. Weight and vital signs for baseline
3. Progression of clinical manifestations
4. Lymph nodes for lymphadenopathy
5. Skin and mucous membranes for evidence of Kaposi sarcoma (e.g., lesions in epidermis that extend into dermis, extracutaneous lesions); opportunistic infections
6. Respiratory function (e.g., characteristics of respiration, arterial blood gases, breath sounds)

Planning/Implementation

1. Use standard precautions for all clients, regardless of diagnosis, because virus can be transmitted before exhibiting evidence of disease
2. Encourage verbalization of feelings; provide emotional support
3. Refer client and significant others to counselor or support group because they are coping with a chronic illness and may have to cope with social pressures
4. Protect from secondary infection; assess for clinical manifestations of opportunistic infections
5. Provide care related to specific drugs
 - a. Zidovudine: monitor for blood dyscrasias
 - b. Protease inhibitor: teach to avoid drinking alcohol (hepatotoxicity); to drink 8 to 10 glasses of water per day to avoid dehydration
 - c. Ritonavir (Norvir) and saquinavir (Fortovase): teach to take with high-fat, high-protein meal
 - d. Indinavir (Crixivan): teach to take on empty stomach
6. Provide frequent rest periods
7. Teach client
 - a. Adhere to prescribed medication dosage regimen; nonadherence has led to emergence of resistant strains
 - b. Inform sexual contacts of diagnosis
 - c. Avoid sexual intercourse/activity unless using condom; avoid use of petroleum jelly because it interferes with condom integrity
 - d. Avoid sharing needles with other individuals
 - e. Continue health care supervision
 - f. Prevent opportunistic infections (e.g., avoid crowds, meticulous hand hygiene)
 - g. Avoid breastfeeding

- h. Avoid undercooked meats
 - i. Avoid small animals in the home to reduce risk of opportunistic infections (e.g., protozoan, viral)
8. Encourage intake of high-calorie, high-protein diet to prevent weight loss; encourage intake of foods rich in immune-stimulating nutrients (e.g., vitamins A, C, and E, and selenium) to support natural defense mechanisms; encourage six smaller meals a day

Evaluation/Outcomes

1. Maintains body weight
2. Completes self-care activities without fatigue
3. Maintains skin integrity
4. Avoids opportunistic infections
5. Shares feelings with family and health care providers
6. States knowledge of community support groups

West Nile Virus (WNV)

Data Base

A Etiology and pathophysiology

1. Virus (Flavivirus) enters body through mosquito bite; mosquito contracts virus from infected birds (main host); also transmitted via infected blood products and organs
2. Twenty percent experience mild episode resulting in West Nile fever; some experience severe episode, with 1 in 150 developing encephalitis or meningitis; most people do not seek treatment
3. Incubation period is 3 to 14 days; clinical manifestations last 3 to 6 days
4. Older adults, infants, and immunocompromised individuals are at greatest risk

B Clinical findings

1. Subjective
 - a. Mild episode: anorexia, eye pain, headache, malaise, myalgia, nausea
 - b. Severe episode: same as mild episode plus weakness and fatigue
2. Objective
 - a. Mild episode: vomiting, lymphadenopathy, rash on neck, trunk, arms, or legs, IgM antibody to WNV in serum or cerebrospinal fluid
 - b. Severe episode: same as mild episode plus change in mental status, flaccid paralysis, and confusion; 1 in 150 develop encephalitis or meningitis; some progress to coma and death

C Therapeutic interventions

1. No specific treatment for WNV
2. Supportive care
 - a. Mild episode: increase fluid intake and rest
 - b. Severe episode: IV fluids; respiratory support if necessary; prevention of secondary infection; medications for fever, discomfort, and treatment of encephalitis or meningitis if present (e.g., corticosteroids for cerebral edema, anticonvulsants and acyclovir if herpes simplex virus cannot be excluded as cause of encephalitis)
3. Prevention: eliminate or avoid stagnant pools of water to limit mosquito population

Nursing Care of Clients with West Nile Virus

Assessment/Analysis

1. Exposure to causative agent
2. Differentiate between minor or severe episode

Planning/Implementation

1. Provide supportive care (e.g., encourage rest, increase in fluid intake)
2. Administer prescribed medications for fever, discomfort, and encephalitis or meningitis
3. Teach how to prevent mosquito bites (e.g., use repellents; avoid outdoors during dusk and dawn; wear light long-sleeve shirts, pants, and socks; secure screens; cover infants with netting when outdoors; prevent or clean areas that contain stagnant water)

Evaluation/Outcomes

1. Maintains fluid and electrolyte balance
2. Reports relief of fatigue and fever
3. Implements strategies to prevent mosquito bites

Severe Acute Respiratory Syndrome (SARS)

See [Chapter 7](#), Nursing Care of Clients with Respiratory System Disorders, Pneumonia

Medical-Surgical Nursing

Review Questions with Answers and Rationales

Questions

Note: Thousands of additional practice questions are available on the enclosed companion CD.

▶ Denotes alternate format question.

Growth and Development

1. When planning discharge teaching for a young adult, the nurse should include the potential health problems common in this age group. What should the nurse include in this teaching plan?
 1. Kidney dysfunction
 2. Cardiovascular diseases
 3. Eye problems, such as glaucoma
 4. Accidents, including their prevention
2. What principle of teaching specific to an older adult should the nurse consider when providing instruction to such a client recently diagnosed with diabetes mellitus?
 1. Knowledge reduces general anxiety.
 2. Capacity to learn decreases with age.
 3. Continued reinforcement is advantageous.
 4. Readiness of the learner precedes instruction.
3. A 76-year-old male client asks the nurse about the chances of getting osteoporosis like his wife. Which is the **best** response by the nurse?
 1. "This is only a problem for women."
 2. "Exercise is a good way to prevent this problem."
 3. "You are not at risk because of your small frame."
 4. "You might think about having a bone density test."
4. What is the **priority** when working with a group of middle-aged adult clients?
 1. Cessation of smoking
 2. Prevention of infection
 3. Abstinence from alcohol
 4. Decreasing high-density lipoproteins levels
5. Which factor does the nurse consider **most** likely contributes to the increased incidence of hip fractures in older adults?
 1. Carelessness
 2. Fragility of bone
 3. Sedentary existence
 4. Rheumatoid diseases
- ▶6. Which age-related change should the nurse consider when formulating a plan of care for an older adult? **Select all that apply.**
 1. Difficulty in swallowing
 2. Increased sensitivity to heat
 3. Increased sensitivity to glare
 4. Diminished sensation of pain
 5. Heightened response to stimuli
- ▶7. A nurse is caring for an older adult with a hearing loss secondary to aging. What can the nurse expect to identify when assessing this client? **Select all that apply.**
 1. Dry cerumen
 2. Tears in the tympanic membrane
 3. Difficulty hearing women's voices
 4. Decrease of hair in the auditory canal
 5. Overgrowth of the epithelial auditory lining

8. A 93-year-old client in a nursing home has been eating less food during mealtimes. What is the **priority** nursing intervention?

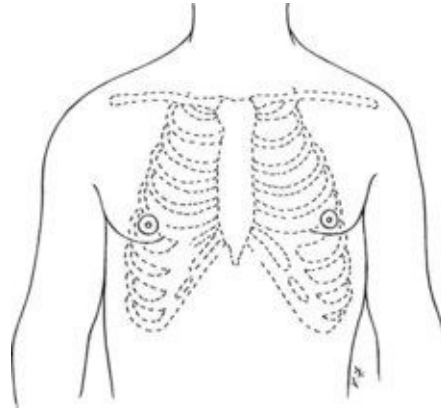
1. Substitute a supplemental drink for the meal.
2. Spoon-feed the client until the food is completely eaten.
3. Allow the client a longer period of time to complete the meal.
4. Arrange a consultation for the placement of a gastrostomy tube.

9. A 78-year-old client who has hypertension is beginning treatment with furosemide (Lasix). Considering the client's age, what should the nurse teach the client to do?

1. Limit fluids at bedtime.
2. Change positions slowly.
3. Take the medication between meals.
4. Assess the skin for breakdown daily.

Circulatory System (Cardiovascular, Blood, and Lymphatic Systems)

►10. A nurse must obtain a client's apical pulse. Place an X over the site where the nurse should place the stethoscope.



11. Which client statement indicates an understanding of the nurse's instructions concerning a Holter monitor?

1. "The only times the monitor should be taken off is for showering and sleep."
2. "The monitor will record my activities and symptoms if an abnormal rhythm occurs."
3. "The results from the monitor will be used to determine the size and shape of my heart."
4. "The monitor will record any abnormal heart rhythms while I go about my usual activities."

12. A client with a history of dysrhythmias is to wear a Holter monitor for 24 hours on an outpatient basis. What should the nurse teach the client to do while wearing the monitor?

1. Discontinue medications.
2. Avoid using a microwave oven.
3. Keep a written account of activities.
4. Record the blood pressure periodically.

13. A client with a dysrhythmia is admitted to telemetry for observation. In the morning the client asks for a cup of coffee. What is the nurse's **best** response?

1. "Hot drinks such as coffee are not good for your heart."
2. "Coffee is not permitted on the diet that was ordered for you."
3. "You cannot have coffee. I can bring you a cup of tea if you like."
4. "Coffee has caffeine that can affect your heart. It should be avoided."

14. A client who had several episodes of chest pain is scheduled for an exercise electrocardiogram. Which explanation should the nurse include when teaching the client about this procedure?

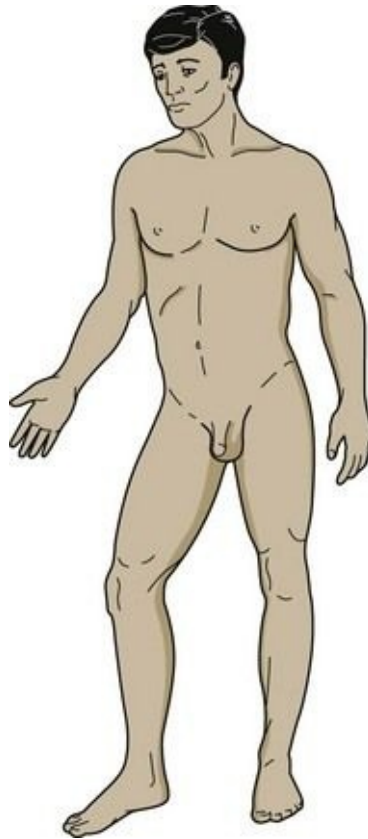
1. "This is a noninvasive test to check your heart's response to physical activity."
2. "This test is the definitive method to identify the actual cause of your chest pain."
3. "The findings of this test will be of minimal assistance in the treatment of angina."
4. "The findings from this minimally invasive test will show how your body reacts to exercise."

15. A client is admitted with chest pain unrelieved by nitroglycerin, an elevated temperature, decreased blood pressure, and diaphoresis. A myocardial infarction is diagnosed. Which should the nurse consider as a valid reason for one of this client's physiologic responses?

1. Parasympathetic reflexes from the infarcted myocardium cause diaphoresis.
 2. Inflammation in the myocardium causes a rise in the systemic body temperature.
 3. Catecholamines released at the site of the infarction cause intermittent localized pain.
 4. Constriction of central and peripheral blood vessels causes a decrease in blood pressure.
16. What must the nurse do to determine a client's pulse pressure?
1. Multiply the heart rate by the stroke volume.
 2. Subtract the diastolic from the systolic reading.
 3. Determine the mean blood pressure by averaging the two.
 4. Calculate the difference between the apical and radial rate.
17. After surgery for insertion of a coronary artery bypass graft (CABG), a client develops a temperature of 102° F (38.8° C). What **priority** concern related to elevated temperatures does a nurse consider when notifying the health care provider about the client's temperature?
1. A fever may lead to diaphoresis.
 2. A fever increases the cardiac output.
 3. An increased temperature indicates cerebral edema.
 4. An increased temperature may be a sign of hemorrhage.
18. A nurse is teaching a group of clients with peripheral vascular disease about a smoking cessation program. Which physiologic effect of nicotine should the nurse explain to the group?
1. Constriction of the superficial vessels dilates the deep vessels.
 2. Constriction of the peripheral vessels increases the force of flow.
 3. Dilation of the superficial vessels causes constriction of collateral circulation.
 4. Dilation of the peripheral vessels causes reflex constriction of visceral vessels.
19. During an interview, the nurse discovers that the spouse of a debilitated, chronically constipated client digitally removes stool from the client's rectum. What response to disimpaction is the nurse attempting to prevent by presenting other strategies to regulate the client's bowel movements?
1. Increased pulse rate
 2. Slowing of the heart
 3. Dilation of the bronchioles
 4. Coronary artery vasodilation
20. A nurse is assessing the legs of a client with a history of chronic venous insufficiency. What physiologic changes should the nurse conclude are the result of this disease process? **Select all that apply.**
1. Stasis ulcer
 2. Necrotic tissue
 3. Ecchymotic areas
 4. Diminished pulses
 5. Brown discoloration
21. A nurse is caring for a client with chronic occlusive arterial disease. What precipitating cause is the nurse **most** likely to identify for the development of ulceration and gangrenous lesions?
1. Emotional stress, which is short-lived
 2. Poor hygiene and limited protein intake
 3. Stimulants such as coffee, tea, or cola drinks
 4. Trauma from mechanical, chemical, or thermal sources
22. A client is prescribed prolonged bed rest after surgery. Which complication does the nurse expect to prevent by teaching this client to avoid pressure on the popliteal space?

1. Cerebral embolism
 2. Pulmonary embolism
 3. Dry gangrene of a limb
 4. Coronary vessel occlusion
23. A nurse in the postanesthesia care unit is caring for a client who received a general anesthetic. Which finding should the nurse report to the health care provider?
1. Client pushes the airway out.
 2. Client has snoring respirations.
 3. Respirations of 16 breaths/min are shallow.
 4. Systolic blood pressure drops from 130 to 90 mm Hg.
24. After abdominal surgery a client suddenly reports numbness in the right leg and a “funny feeling” in the toes. What should the nurse do **first**?
1. Elevate the legs and tell the client to drink more fluids.
 2. Instruct the client to remain in bed and notify the health care provider.
 3. Rub the client’s legs to stimulate circulation and cover the client with a blanket.
 4. Tell the client about the dangers of prolonged bed rest and encourage ambulation.
25. After a bilateral lumbar sympathectomy a client has a sudden drop in blood pressure, but there is no evidence of bleeding. What should the nurse identify as the **most** likely cause of the change in blood pressure?
1. Inadequate fluid intake
 2. Consequence of anesthesia
 3. Increased level of epinephrine
 4. Reallocation of the blood supply
26. A nurse inspects a two-day-old intravenous site and identifies erythema, warmth, and mild edema. The client reports tenderness when the area is palpated. What should the nurse do **first**?
1. Irrigate the IV tubing.
 2. Discontinue the infusion.
 3. Slow the rate of the infusion.
 4. Obtain a prescription for an analgesic.
- ▶27. While convalescing from abdominal surgery a client develops thrombophlebitis. Which clinical indicators of this complication should the nurse expect to identify when assessing the client? **Select all that apply.**
1. Pain in the calf
 2. Intermittent claudication
 3. Redness in the affected area
 4. Pitting edema of the lower leg
 5. Ecchymotic areas around the ankle
 6. Localized warmth in the lower extremity
28. A client who had surgery 24 hours ago reports pain in the calf. Assessment reveals redness and swelling at the site of discomfort. What should the nurse do?
1. Keep both legs dependent.
 2. Notify the health care provider.
 3. Apply a warm soak to the left calf.
 4. Administer the prescribed analgesic.
- ▶29. A nurse is assessing arterial perfusion in a client who had surgery with placement of a graft for

an aneurysm in the left femoral artery. Place an X over the site of the pulse that should be assessed to determine maximum arterial perfusion distal to the operative site.



30. A nurse is teaching a client about the use of antiembolism stockings. What instruction should the nurse include?

1. Keep the stockings on two hours and off two hours.
2. Wear the stockings only at bedtime when activity lessens.
3. Put the stockings on before getting out of bed in the morning.
4. Leave the stockings in place until the health care provider advises otherwise.

31. A health care provider orders thigh-high antiembolism stockings for a client with varicose veins. The client's thighs are heavier than the lower legs, and the stockings fit on the lower leg but are causing discomfort and indentations on the upper thighs. What should the nurse do?

1. Replace the thigh-high stockings with knee-high stockings.
2. Leave the antiembolism stockings off to prevent tissue damage.
3. Roll the top of the stockings to below the knees to limit popliteal pressure.
4. Ask the health care provider if an elastic bandage can be used in place of the stockings.

32. What should the nurse teach a client who is taking antihypertensives to do to minimize orthostatic hypotension?

1. Wear support hose continuously.
2. Lie down for 30 minutes after taking medication.
3. Avoid tasks that require high-energy expenditure.
4. Sit on the edge of the bed for 5 minutes before standing.

33. A client being treated for hypertension reports having a persistent hacking cough. What class of antihypertensive should the nurse identify as a possible cause of this response when reviewing a list

of this client's medications?

1. ACE inhibitors
2. Thiazide diuretics
3. Calcium channel blockers
4. Angiotensin receptor blockers

34. What client response indicates to the nurse that a vasodilator medication is effective?

1. Pulse rate decreases from 110 to 75
2. Absence of adventitious breath sounds
3. Increase in the daily amount of urine produced
4. Blood pressure changes from 154/90 to 126/72

35. What should the nurse assess to determine if a client is experiencing the therapeutic effect of valsartan (Diovan)?

1. Lipid profile
2. Apical pulse
3. Urinary output
4. Blood pressure

36. What information should the nurse include when teaching a client with heart disease about cholesterol?

1. Can be found in both plant and animal sources
2. Causes an increase in serum high-density lipoprotein
3. Should be eliminated because it causes the disease process
4. Decreases when unsaturated fats are substituted for saturated fats

37. Which instructions should the nurse include in the teaching plan for a client with hyperlipidemia who is being discharged with a prescription for cholestyramine (Questran)?

1. "Increase your intake of fiber and fluid."
2. "Take the medication before you go to bed."
3. "Check your pulse before taking the medication."
4. "Contact your health care provider if your skin or sclera turn yellow."

38. A nurse is providing dietary instruction to a client with cardiovascular disease. Which dietary selection by the client indicates the need for further instruction?

1. Whole milk with oatmeal
2. Garden salad with olive oil
3. Tuna fish with a small apple
4. Soluble fiber cereal with skim milk

▶39. A nurse asks a client with ischemic heart disease to identify the foods that are **most** important to restrict. The nurse determines that the client understands the dietary instructions when the client identifies the following foods. **Select all that apply.**

1. Olive oil
2. Chicken broth
3. Enriched whole milk
4. Red meats, such as beef
5. Vegetables and whole grains
6. Liver and other glandular organ meats

▶40. Which instructions should the nurse include in the teaching plan for a client who will be taking simvastatin (Zocor) when discharged? **Select all that apply.**

1. Increase dietary intake of potassium.
 2. Avoid prolonged exposure to the sun.
 3. Schedule regular ophthalmic examinations.
 4. Take the medication at least a half hour before meals.
 5. Contact your health care provider if skin becomes gray-bronze.
41. Which topic should the nurse determine is **most** appropriate when presenting health-related instruction to clients from an African-American community?
1. Osteoporosis
 2. Hypertension
 3. Uterine cancer
 4. Thyroid disorders
42. Amlodipine (Norvasc) is prescribed for a client with hypertension. Which response to the medication should the nurse instruct the client to report to the health care provider?
1. Blurred vision
 2. Dizziness on rising
 3. Excessive urination
 4. Difficulty breathing
- ▶43. Atenolol (Tenormin) 150 mg by mouth is prescribed for a client with hypertension. Each tablet contains 50 mg. How many tablets should the nurse administer? **Record your answer using a whole number.**
- Answer: _____ tablets
44. What should the nurse identify as the **primary** cause of the pain experienced by a client with a coronary occlusion?
1. Arterial spasm
 2. Heart muscle ischemia
 3. Blocking of the coronary veins
 4. Irritation of nerve endings in the cardiac plexus
45. What instructions about the use of nitroglycerin should the nurse provide to a client with angina?
1. "Identify when pain occurs, and place 2 tablets under the tongue."
 2. "Place 1 tablet under the tongue, and swallow another when pain is intense."
 3. "Before physical activity place 1 tablet under the tongue, and repeat the dose in 5 minutes if pain occurs."
 4. "Place 1 tablet under the tongue when pain occurs, and use an additional tablet after the attack to prevent recurrence."
46. Which nursing action is **most** important when caring for a client after a cardiac catheterization?
1. Provide for rest.
 2. Administer oxygen.
 3. Check a pulse distal to the insertion site.
 4. Assess the electrocardiogram every fifteen minutes.
47. For which common complication of myocardial infarction should the nurse monitor clients in the coronary care unit?
1. Dysrhythmia
 2. Hypokalemia
 3. Anaphylactic shock
 4. Cardiac enlargement

48. A nurse prepares a client for insertion of a pulmonary artery catheter. What information can be obtained from monitoring the pulmonary artery pressure?

1. Stroke volume
2. Venous pressure
3. Coronary artery patency
4. Left ventricular functioning

►49. A client with a thromboembolic disorder is receiving a continuous intravenous infusion of heparin 1000 units per hour. There are 25,000 units of heparin in 500 mL of 5% dextrose solution. At how many milliliters per hour should the nurse set the rate on the electronic infusion control device?

Record your answer using a whole number.

Answer: _____ mL/hr

50. An older adult with cerebral arteriosclerosis is admitted with atrial fibrillation and is started on a continuous heparin infusion. What clinical finding enables the nurse to conclude that the anticoagulant therapy is effective?

1. A reduction of confusion
2. An APPT twice the usual value
3. An absence of ecchymotic areas
4. A decreased viscosity of the blood

51. What specifically should the nurse monitor when a client is receiving a platelet aggregation inhibitor such as clopidogrel (Plavix)?

1. Nausea
2. Epistaxis
3. Chest pain
4. Elevated temperature

52. A client is receiving warfarin (Coumadin). Which test result should the nurse use to determine if the daily dose of this anticoagulant is therapeutic?

1. INR
2. APTT
3. Bleeding time
4. Sedimentation rate

53. What should the nurse teach a client to expect when preparing for discharge after surgery for a coronary artery bypass graft?

1. Mild fever and extreme fatigue for several weeks after surgery
2. Cessation of drainage from the incisions after hospitalization
3. Mild incisional pain and tenderness up to three weeks after surgery
4. Some edema in the leg used for the donor graft is expected with activity

►54. A client with left ventricular heart failure is taking digoxin (Lanoxin) 0.25 mg daily. What changes does the nurse expect to find if this medication is therapeutically effective? **Select all that apply.**

1. Diuresis
2. Tachycardia
3. Decreased edema
4. Decreased pulse rate
5. Reduced heart murmur
6. Jugular vein distention

55. A nurse identifies signs of electrolyte depletion in a client with heart failure who is receiving bumetanide (Bumex) and digoxin (Lanoxin). What does the nurse determine is the cause of the depletion?
1. Diuretic therapy
 2. Sodium restriction
 3. Continuous dyspnea
 4. Inadequate oral intake
56. A client is in cardiogenic shock. What explanation of cardiogenic shock should the nurse include when responding to a family member's questions about the condition?
1. An irreversible phenomenon
 2. A failure of the circulatory pump
 3. Usually a fleeting reaction to tissue injury
 4. Generally caused by decreased blood volume
57. What clinical indicator is the nurse **most** likely to identify when completing a history and physical assessment of a client with complete heart block?
1. Syncope
 2. Headache
 3. Tachycardia
 4. Hemiparesis
58. A nurse in the emergency department is assigned to care for four clients with serious health problems. Which health problem should the nurse identify as the **priority**?
1. Head injury
 2. Fractured femur
 3. Ventricular fibrillation
 4. Penetrating abdominal wound
59. While a pacemaker catheter is being inserted, the client's heart rate drops to 38 beats/min. What medication should the nurse expect the health care provider to prescribe?
1. Digoxin (Lanoxin)
 2. Lidocaine (Xylocaine)
 3. Amiodarone (Cordarone)
 4. Atropine sulfate (Atropine)
60. A client with a bundle branch block is on a cardiac monitor. What ECG change should the nurse identify on the client's cardiac monitor?
1. Sagging ST segments
 2. Absence of P wave configurations
 3. Inverted T waves following each QRS complex
 4. Widening of QRS complexes to a minimum of 0.12 second
- ▶61. A nurse observes the cardiac monitor of a client who has had a pacemaker inserted. Place an X on the rhythm strip where there is evidence of pacemaker function.



►62. A nurse observes the following dysrhythmia on a client's cardiac monitor. What rhythm does the nurse identify?



1. Atrial flutter
2. Atrial fibrillation
3. Ventricular fibrillation
4. Ventricular tachycardia

63. In addition to atrial fibrillation, what ventricular rhythm exhibited by a client does the nurse determine may be converted to a sinus rhythm by cardioversion?

1. Standstill
2. Fibrillation
3. Tachycardia with a pulse
4. Frequent premature complexes

64. What nursing action should be included in the plan of care for a client who had a permanent fixed (asynchronous) pacemaker inserted?

1. Instruct the client that it is better to sleep on two pillows.
2. Encourage the client to reduce activity from former levels.
3. Teach the client to keep daily accurate records of the pulse.
4. Inform the client that the pacemaker functions when the heart rate drops below a preset rate.

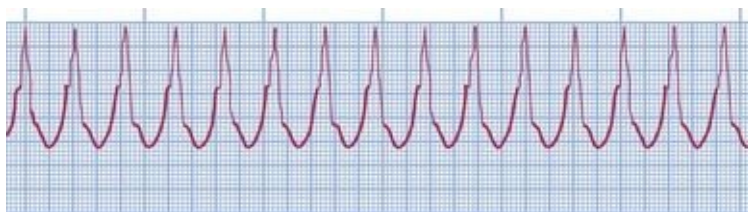
65. What assessment of the pulse should the nurse identify when a client's on-demand pacemaker is functioning effectively?

1. Regular rhythm
2. Palpable at all pulse sites
3. At least at the demand rate
4. Equal to the pacemaker setting

►66. A client is receiving continuous ECG monitoring while intravenous medication is being administered for premature ventricular complexes (PVC). What dysrhythmia does the nurse conclude that the client is experiencing when the following rhythm appears on the ECG monitor?

1. Atrial flutter
2. Atrial fibrillation
3. Ventricular fibrillation

4. Ventricular tachycardia



67. When a client develops ventricular fibrillation in a coronary care unit, what is the responsibility of the first person reaching the client?

1. Administer oxygen.
2. Initiate defibrillation.
3. Initiate cardiopulmonary resuscitation.
4. Administer sodium bicarbonate intravenously.

68. A client who had a myocardial infarction is in the coronary care unit on a cardiac monitor. The nurse observes ventricular irritability on the screen. What medication should the nurse prepare to administer?

1. Digoxin (Lanoxin)
2. Furosemide (Lasix)
3. Amiodarone (Cordarone)
4. Norepinephrine (Levophed)

69. A client is admitted to the coronary care unit with atrial fibrillation and a rapid ventricular response. The nurse prepares for cardioversion. What nursing action is **essential** to avoid the potential danger of inducing ventricular fibrillation during cardioversion?

1. Energy level is set at its maximum level.
2. Synchronizer switch is in the “on” position.
3. Skin electrodes are applied after the T wave.
4. Alarm system of the cardiac monitor is functioning simultaneously.

70. For which client should the nurse conclude that a prescription for digoxin (Lanoxin) is appropriate?

1. Client A



2. Client B



3. Client C



4. Client D



71. What is the **most** important information the nurse and the rapid response team must keep in mind when caring for a client who had a cardiac arrest?

1. Age of the client
2. How long the client was anoxic
3. Heart rate of the client before the arrest
4. Emergency medications available for the client

72. A client is found unconscious and unresponsive. What should the nurse do **first**?

1. Initiate a code.
2. Check for a radial pulse.
3. Compress the lower sternum.
4. Give four full lung inflations.

73. A nurse is performing cardiac compression on an adult client. How far must the nurse depress the lower sternum to maintain circulation until a defibrillator is available?

1. $\frac{3}{4}$ to 1 inch
2. $\frac{1}{2}$ to $\frac{3}{4}$ inch
3. 1 to $1\frac{1}{2}$ inches
4. 2 to $2\frac{1}{2}$ inches

74. A nurse is performing external cardiac compression. How should the nurse exert downward vertical pressure?

1. Extending the fingers over the sternum and chest with the heels of each hand side by side
2. Placing the fingers of one hand on the sternum and the fingers of the other hand on top of them
3. Interlocking the fingers with the heel of one hand on the sternum and the heel of the other on top of it

4. Clenching the hand into a fist and placing the fleshy part of a clenched fist on the lower sternum
75. A client has edema in the lower extremities during the day, which disappears at night. With which medical problem does the nurse conclude this clinical finding is consistent?
1. Pulmonary edema
 2. Myocardial infarction
 3. Right ventricular heart failure
 4. Chronic obstructive lung disease
76. A client admitted to the hospital has edematous ankles. What should the nurse do to **best** reduce edema of the lower extremities?
1. Restrict fluids.
 2. Elevate the legs.
 3. Apply elastic bandages.
 4. Do range-of-motion exercises.
- ▶77. What clinical indicators is the nurse **most** likely to identify when taking the admission history of a client with right ventricular failure? **Select all that apply.**
1. Edema
 2. Vertigo
 3. Polyuria
 4. Dyspnea
 5. Palpitations
78. What change in pressure does the nurse conclude is responsible for the lower extremity pitting edema of a client with right ventricular heart failure?
1. Increase in plasma hydrostatic pressure
 2. Increase in tissue colloid osmotic pressure
 3. Decrease in the tissue hydrostatic pressure
 4. Decrease in the plasma colloid osmotic pressure
79. The family of a client with right ventricular heart failure expresses concern about the client's increasing abdominal girth. What physiologic change should the nurse consider when explaining the client's condition?
1. Loss of cellular constituents in blood
 2. Rapid osmosis from tissue spaces to cells
 3. Increased pressure within the circulatory system
 4. Rapid diffusion of solutes and solvents into plasma
- ▶80. What dietary choices should the nurse instruct the client taking spironolactone (Aldactone) to avoid? **Select all that apply.**
1. Potatoes
 2. Red meat
 3. Cantaloupe
 4. Wheat bread
 5. Flavored yogurt
81. A nurse is advising a client about the risks associated with failing to seek treatment for acute pharyngitis caused by beta-hemolytic streptococcus. For what health problem is the client at risk?
1. Asthma
 2. Anemia
 3. Endocarditis

4. Reye syndrome

82. What effect of anxiety makes it particularly important for the nurse to allay the anxiety of a client with heart failure?

1. Increases the cardiac workload
2. Interferes with usual respirations
3. Produces an elevation in temperature
4. Decreases the amount of oxygen used

83. What should the nurse do to help alleviate the distress of a client with heart failure and pulmonary edema?

1. Encourage frequent coughing.
2. Elevate the client's lower extremities.
3. Prepare for modified postural drainage.
4. Place the client in the orthopneic position.

84. A nurse is providing discharge instructions to a client who experienced an anterior septal myocardial infarction. What statement by the client indicates to the nurse that there is a need for further teaching?

1. "I want to stay as pain-free as possible."
2. "I am not good at remembering to take medications."
3. "I should not have any problems in reducing my salt intake."
4. "I wrote down my medication information for future reference."

85. Two hours after a cardiac catheterization that was accessed via the right femoral route, an adult client complains of numbness and pain in the right foot. What action should the nurse take **first**?

1. Call the health care provider.
2. Check the client's pedal pulses.
3. Take the client's blood pressure.
4. Recognize the response is expected.

86. A client is returned to the surgical unit immediately after placement of a coronary artery stent that was accomplished via access through the femoral artery. What response should the nurse consider the **priority** when assessing this client?

1. Acute pain
2. Impaired mobility
3. Impaired swallowing
4. Hematoma formation

87. A client is admitted with the diagnosis of possible myocardial infarction, and a series of diagnostic tests is ordered. Which blood level should the nurse expect will increase **first** if this client has had a myocardial infarction?

1. ALT
2. AST
3. Total LDH
4. Troponin T

88. When an older client with heart failure is transferred from the emergency department to the medical service, what should the nurse on the unit do **first**?

1. Interview the client for a health history.
2. Assess the client's heart and lung sounds.
3. Monitor the client's pulse and temperature.

4. Obtain the client's blood specimen for electrolytes.

89. A client has contrast medium injected into the brachial artery so that a cerebral angiogram can be performed. What nursing assessment is **most** essential immediately after the procedure?

1. Stability of gait
2. Presence of a gag reflex
3. Blood pressure in both arms
4. Symmetry of the radial pulses

90. A nurse is leading a discussion in a senior citizen center about the risk factors for developing coronary heart disease (CHD) for women versus men. What should the nurse respond when asked to identify the **most** significant risk factor?

1. Obesity
2. Diabetes
3. Elevated CRP levels
4. High levels of HDL-C

91. A nurse is teaching a group of clients about risk factors for heart disease. Which factors increase a client's risk for a myocardial infarction? **Select all that apply.**

1. Obesity
2. Hypertension
3. Increased HDL
4. Diabetes insipidus
5. Asian-American ancestry

92. What is the **most** important nursing action when measuring a client's pulmonary capillary wedge pressure (PCWP)?

1. Deflate the balloon as soon as the PCWP is measured.
2. Have the client bear down when measuring the PCWP.
3. Place the client in a supine position before measuring the PCWP.
4. Flush the catheter with a heparin solution after the PCWP is determined.

93. What criteria should the nurse use to determine normal sinus rhythm for a client on a cardiac monitor? **Select all that apply.**

1. The RR intervals are relatively consistent.
2. One P wave precedes each QRS complex.
3. The ST segment is higher than the PR interval.
4. Four to eight complexes occur in a 6-second strip.
5. The QRS complex ranges from 0.12 to 0.2 seconds.

94. What is the **most** important assessment for the nurse to make after a client has a femoropopliteal bypass for peripheral vascular disease?

1. Incisional pain
2. Pedal pulse rate
3. Degree of hair growth
4. Lower extremity color

95. Which signs cause the nurse to suspect cardiac tamponade after a client has cardiac surgery? **Select all that apply.**

1. Tachycardia
2. Hypertension
3. Increased CVP

4. Increased urine output

5. Jugular vein distention

96. A client with upper gastrointestinal (GI) bleeding develops mild anemia. What should the nurse expect to be prescribed for this client?

1. Epogen

2. Dextran

3. Iron salts

4. Vitamin B₁₂

97. An emergency department nurse is admitting a client after an automobile collision. The health care provider estimates that the client has lost about 15% to 20% of blood volume. Which assessment finding should the nurse expect this client to exhibit?

1. Urine output of 50 mL/hr

2. Blood pressure of 150/90 mm Hg

3. Apical heart rate of 142 beats/min

4. Respiratory rate of 16 breaths/min

98. A client who is pale and moaning is diagnosed with esophageal varices and is admitted to the hospital. The health care provider orders a blood transfusion. What nursing actions should be taken?

1. Take the vital signs, verify the blood product with another nurse against the client's ID bracelet, and monitor the vital signs according to agency policy.

2. Since the vital signs were recorded during admission, hang the blood and monitor the client's vital signs every 15 minutes until the transfusion is absorbed.

3. Record the vital signs in accordance with facility policy and check the blood product against the client's ID bracelet in the presence of the nursing supervisor.

4. Take the vital signs after hanging the blood because the client is pale and moaning and is in critical condition; return in 15 minutes to monitor the vital signs.

99. A health care provider orders 1 unit of whole blood for a client after gastrointestinal surgery. What is an important nursing responsibility when administering blood?

1. Maintain patency of the IV catheter with dextrose solution.

2. Warm the blood to body temperature to prevent chilling the client.

3. Draw a blood sample from the client before each unit is transfused.

4. Run the blood at a slower rate during the first few minutes of the transfusion.

100. During a blood transfusion a client develops chills and a headache. What is the **priority** nursing action?

1. Cover the client.

2. Stop the transfusion at once.

3. Decrease the rate of the blood infusion.

4. Notify the health care provider immediately.

▶101. A nurse administers 2 units of packed RBCs (250 mL each) followed by 500 mL of 0.9% sodium chloride. How much total solution (blood and sodium chloride) has infused? **Record your answer using a whole number.**

Answer: _____ mL

102. What is the **priority** nursing action when caring for a client with disseminated intravascular coagulation?

1. Monitor for Homan sign.

2. Avoid giving intramuscular injections.

3. Take temperatures via the rectal route.
4. Apply sequential compression stockings.
- ▶103. A client has a low hemoglobin level, which is attributed to nutritional deficiency, and the nurse provides dietary teaching. Which food choices by the client indicate that the nurse's instructions are effective? **Select all that apply.**
 1. Raisins
 2. Squash
 3. Carrots
 4. Spinach
 5. Apricots
104. A client is admitted with a higher than expected red blood cell count. What physiological alteration does the nurse expect will result from this clinical finding?
 1. Increased serum pH
 2. Decreased hematocrit
 3. Increased blood viscosity
 4. Decreased immune response
- ▶105. A transfusion of packed red blood cells is ordered for a client with anemia. List the following actions in the order in which they should be performed by the nurse.
 1. _____ Don a pair of clean gloves.
 2. _____ Run the transfusion slowly.
 3. _____ Determine the client's vital signs.
 4. _____ Ensure that the client signed a consent for the transfusion.
 5. _____ Compare the number on the blood product and laboratory record.
106. A nurse is caring for a client with an infection caused by group A beta-hemolytic streptococci. The nurse should assess this client for responses associated with which illness?
 1. Hepatitis A
 2. Rheumatic fever
 3. Spinal meningitis
 4. Rheumatoid arthritis
107. A nurse is caring for a client who is a victim of trauma and is to receive a blood transfusion. How should the nurse respond when the client expresses fear that AIDS may develop as a result of the blood transfusion?
 1. "The blood is treated with radiation to kill the virus."
 2. "Screening for the HIV antibodies has minimized this risk."
 3. "The ability to directly identify HIV has eliminated this concern."
 4. "Consideration should be given to donating your own blood for transfusion."
108. A client has a bone marrow aspiration performed. After the procedure, what is the **first** nursing action?
 1. Position the client on the affected side.
 2. Cleanse the site with an antiseptic solution.
 3. Briefly apply pressure over the aspiration site.
 4. Begin frequent monitoring of the client's vital signs.
109. A client is diagnosed with Hodgkin disease. Which lymph nodes does the nurse expect to be affected **first**?
 1. Cervical

2. Axillary
3. Inguinal
4. Mediastinal

110. What group of clients should the nurse anticipate to have the highest incidence of non-Hodgkin lymphomas?

1. Children
2. Older adults
3. Young adults
4. Middle-aged persons

111. A nurse is teaching a client with Hodgkin disease about responses to whole-body radiation. Which clinical indicator increase should the nurse include?

1. Blood viscosity
2. Susceptibility to infection
3. Red blood cell production
4. Tendency for pathologic fractures

112. A client is started on a continuous infusion of heparin. Which finding does the nurse use to conclude that the intervention is therapeutic?

1. INR is between 2 and 3
2. PT is $2\frac{1}{2}$ times the control value
3. APTT is 2 times the control value
4. ACT is in the range of 70 and 120

113. A nurse has difficulty palpating the pedal pulse of a client with venous insufficiency. What action should the nurse take **next**?

1. Count the pulse at another site.
2. Notify the health care provider.
3. Lower the legs to increase blood flow.
4. Verify the pulse by using a Doppler.

▶114. A nurse is completing the admission assessment of a client with peripheral arterial disease. What assessments are consistent with this diagnosis? **Select all that apply.**

1. Absence of hair on the toes
2. Superficial ulcer with irregular edges
3. Pitting edema of the lower extremities
4. Reports of pain associated with exercising
5. Increased pigmentation of the medial malleolus area

115. Which relationship does the nurse consider reflective of the relationship of naloxone (Narcan) to morphine sulfate?

1. Aspirin to warfarin (Coumadin)
2. Amoxicillin to systemic infection
3. Protamine sulfate to parenteral heparin
4. Enoxaparin (Lovenox) to dalteparin (Fragmin)

116. A client is receiving Coumadin (warfarin). The nurse explains the need for careful regulation of dietary intake of vitamin K. What physiologic process does vitamin K promote that makes this instruction essential?

1. Platelet aggregation
2. Ionization of blood calcium

3. Fibrinogen formation by the liver

4. Prothrombin formation by the liver

117. A nurse is caring for a client with a diagnosis of polycythemia vera. The client asks, "Why do I have an increased tendency to develop blood clots?" Which effect of the polycythemia vera should the nurse explain increases the risk of these thromboses?

1. Elevated blood pressure

2. Increased blood viscosity

3. Fragility of the blood cells

4. Immaturity of red blood cells

118. A client who is weak, dyspneic, and jaundiced has a bilirubin level greater than 2 mg/100 mL blood volume. With which problem are these clinical findings consistent?

1. Hemolytic anemia

2. Pernicious anemia

3. Decreased rate of red blood cell destruction

4. Low oxygen-carrying capacity of erythrocytes

119. A nurse is caring for a client who had a splenectomy. For which complication should the nurse specifically assess in the immediate postoperative period?

1. Infection

2. Peritonitis

3. Intestinal obstruction

4. Abdominal distention

120. A client has a splenectomy after a motor vehicle collision. What is a postoperative nursing concern specifically related to this type of surgery?

1. Pulmonary embolism

2. Prolonged immobility

3. Adequate lung aeration

4. Decreased blood volume

121. What clinical finding should the nurse expect when assessing a client who had a splenectomy?

1. Lung crackles

2. Pain on inspiration

3. Shortness of breath

4. Excessive secretions

▶122. The client is returned to the surgical unit from the postanesthesia care unit (PACU) after a having a splenectomy. In the immediate postoperative period, the nurse specifically should monitor for which potential complications? **Select all that apply.**

1. Shock

2. Infection

3. Intestinal obstruction

4. Abdominal distention

5. Pulmonary complications

▶123. A female client has a low hemoglobin level, which is attributed to an iron deficiency. Which foods should the nurse recommend that the client increase in the diet? **Select all that apply.**

1. Spinach

2. Broccoli

3. Beef liver

4. Baked beans

5. Chicken breast

124. While being prepared for surgery for a ruptured spleen, a client complains of feeling light-headed. The client's color is pale and the pulse is rapid. What should the nurse conclude about the client's condition?

1. Hyperventilating

2. Going into shock

3. Experiencing anxiety

4. Developing an infection

Respiratory System

►125. A client is admitted to the hospital with a diagnosis of pneumonia. List the following nursing actions in the order they should be accomplished.

1. ____ Check peak and trough levels of the antibiotic.
2. ____ Insert an IV catheter to establish venous access.
3. ____ Collect a sputum sample for culture and sensitivity.
4. ____ Administer prescribed antibiotic intravenous piggyback.
5. ____ Obtain data about the client's history and physical status.

►126. Levofloxacin (Levaquin) 750 mg IVPB is prescribed for a client with pneumonia. The dose is available in 150 mL of 5% dextrose and is to infuse over 90 minutes. The administration set has a drop factor of 15 drops per mL. At how many drops per minute should the nurse regulate the IVPB to infuse? **Record your answer using a whole number.**

Answer: ____ gtt/minute

127. A nurse uses abdominal-thoracic thrusts (Heimlich maneuver) when an older adult in a senior center chokes on a piece of meat. Which volume of air is the basis for the efficacy of the abdominal thrusts to expel a foreign object in the larynx?

1. Tidal
2. Residual
3. Vital capacity
4. Inspiratory reserve

128. A client states that the health care provider said the tidal volume is slightly diminished and asks the nurse what this means. Which explanation should the nurse provide about the volume of air being measured to determine tidal volume?

1. Exhaled after there is a normal inspiration
2. Exhaled forcibly after a regular expiration
3. Inspired forcibly above a typical inspiration
4. Trapped in the alveoli after a maximum expiration

129. A nurse is instructing a client to use an incentive spirometer. What client action indicates the need for further instruction?

1. Blowing vigorously into the mouthpiece
2. Getting into a chair to use the spirometer
3. Coughing deeply after using the spirometer
4. Using lips to form a seal around the mouthpiece

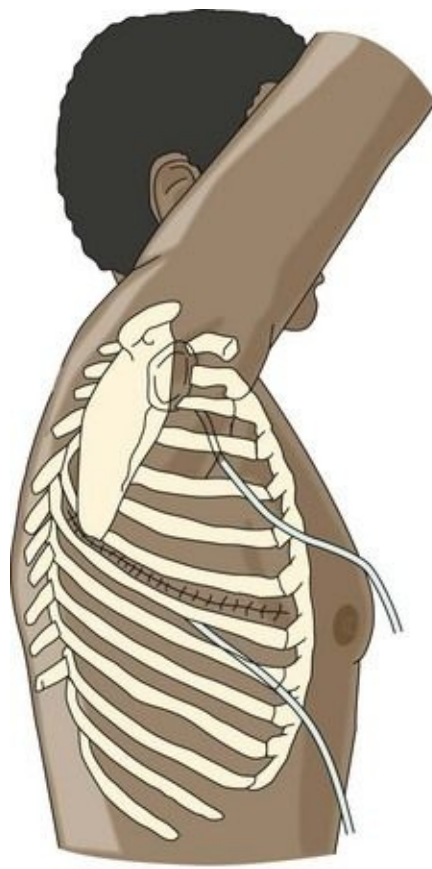
130. A client is scheduled for a pulmonary function test. The nurse explains that during the test one of the instructions the respiratory therapist will give the client is to breathe normally. What should the nurse teach is being measured when the client follows these directions?

1. Tidal volume
2. Vital capacity
3. Expiratory reserve
4. Inspiratory reserve

131. A nurse identifies that a client's hemoglobin level is decreasing and is concerned about tissue hypoxia. An increase in what diagnostic test result indicates an acceleration in oxygen dissociation from hemoglobin?

1. pH

2. PO_2
 3. PCO_2
 4. HCO_3
132. What nursing action will limit hypoxia when suctioning a client's airway?
1. Apply suction only after catheter is inserted.
 2. Limit suctioning with catheter to half a minute.
 3. Lubricate the catheter with saline before insertion.
 4. Use a sterile suction catheter for each suctioning episode.
133. A nurse assesses that several clients have low oxygen saturation levels. Which client would benefit the **most** from receiving oxygen via a nasal cannula?
1. Has an upper respiratory infection
 2. Receives many visitors while sitting in a chair
 3. Has a nasogastric tube for gastric decompression
 4. Exhibits dry oral mucous membranes from mouth breathing
134. A nurse repositions a client who is diagnosed with emphysema to facilitate breathing. Which position facilitates maximum air exchange?
1. Supine
 2. Orthopneic
 3. Low-Fowler
 4. Semi-Fowler
135. A client is admitted with suspected atelectasis. Which clinical manifestation does the nurse expect to identify when assessing this client?
1. Slow, deep respirations
 2. Normal oral temperature
 3. Dry, unproductive cough
 4. Diminished breath sounds
- 136. A client who was involved in a motor vehicle collision sustained multiple internal injuries, and thoracic surgery was performed. After surgery the client has two chest tubes attached to closed chest drainage systems. Place an X on the image on the right where the nurse should palpate to identify where the complication of subcutaneous emphysema most likely may occur.



137. A client is shot in the chest during a holdup and is transported to the hospital via ambulance. In the emergency department chest tubes are inserted, one in the second intercostal space and one at the base of the lung. What does the nurse expect the tube in the second intercostal space to accomplish?

1. Remove the air that is present in the intrapleural space
2. Drain serosanguineous fluid from the intrapleural compartment
3. Permit the development of positive pressure between the layers of the pleura
4. Provide access for the instillation of medication into the pleural space

138. How should the nurse monitor for the complication of subcutaneous emphysema after the insertion of chest tubes?

1. Palpate around the tube insertion sites for crepitus.
2. Auscultate the breath sounds for crackles and rhonchi.
3. Observe the client for the presence of a barrel-shaped chest.
4. Compare the length of inspiration with the length of expiration.

139. During the first 36 hours after the insertion of chest tubes, when assessing the function of a three-chamber, closed-chest drainage system, the nurse identifies that the water in the underwater seal tube is not fluctuating. What **initial** action should the nurse take?

1. Take the client's vital signs.
2. Inform the health care provider.
3. Turn the client to the unaffected side.
4. Check the tube to ensure that it is not kinked.

140. After a laryngectomy a client is concerned about improving the ability to communicate. What topic should the nurse include in a teaching plan for the client?

1. Sign language
2. Body language
3. Esophageal speech

4. Computer-generated speech

141. A client has a laryngectomy. The avoidance of which activity identified by the client indicates that the nurse's teaching about activities and the stoma is understood?

1. Water sports
2. Strenuous exercises
3. Sleeping with pillows
4. High-humidity environment

142. A client is admitted for an exacerbation of emphysema. The client has a fever, chills, and difficulty breathing on exertion. What is the **priority** nursing action based on the client's history and present status?

1. Checking for capillary refill
2. Encouraging increased fluid intake
3. Suctioning secretions from the airway
4. Administering a high concentration of oxygen

143. A nurse is caring for clients whose histories include various health problems. These problems include scarlet fever, otitis media, bacterial endocarditis, rheumatic fever, and glomerulonephritis. What common factor linking these diseases should the nurse consider?

1. Are self-limiting infections caused by spirilla
2. Can be controlled through childhood vaccination
3. Are caused by parasitic bacteria that normally live outside the body
4. Result from streptococcal infections that enter via the upper respiratory tract

144. A client is admitted to the intensive care unit with acute pulmonary edema. Which rapidly acting intravenous diuretic should the nurse anticipate will be prescribed?

1. Furosemide (Lasix)
2. Chlorothiazide (Diuril)
3. Spironolactone (Aldactone)
4. AcetaZOLAMIDE (Diamox)

145. What nursing action will **most** help a client obtain maximum benefits after postural drainage?

1. Administer prn oxygen.
2. Encourage coughing deeply.
3. Place the client in a sitting position.
4. Encourage the client to rest for a half hour.

146. A client with emphysema experiences a sudden episode of shortness of breath and is diagnosed with a spontaneous pneumothorax. The client asks, "How could this have happened?" What likely cause of the spontaneous pneumothorax should the nurse's response take into consideration?

1. Pleural friction rub
2. Tracheoesophageal fistula
3. Rupture of a subpleural bleb
4. Puncture wound of the chest wall

147. A client is diagnosed with emphysema. For what long-term problem should the nurse monitor this client?

1. Localized tissue necrosis
2. Carbon dioxide retention
3. Increased respiratory rate
4. Saturated hemoglobin molecules

148. A spontaneous pneumothorax is suspected in a client with a history of emphysema. In addition to calling the health care provider, what action should the nurse take?

1. Place the client on the unaffected side.
2. Administer 60% oxygen via a Venturi mask.
3. Prepare for IV administration of electrolytes.
4. Give oxygen at 2 L per minute via nasal cannula.

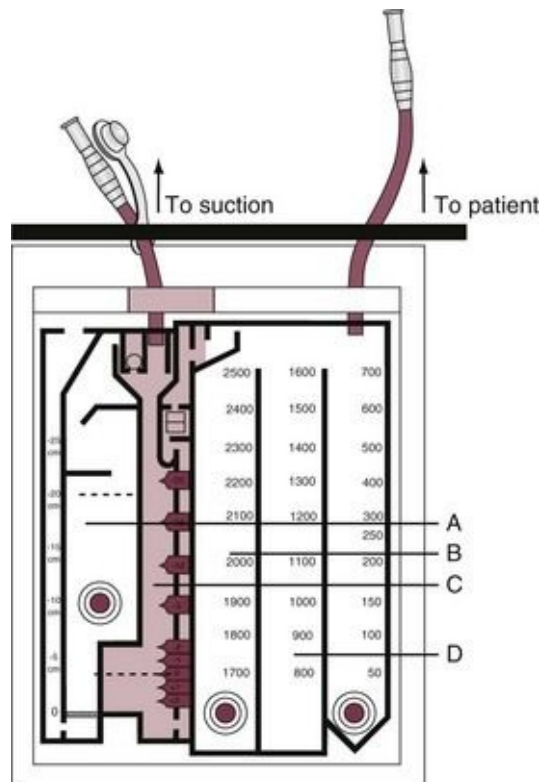
149. A client is diagnosed with a spontaneous pneumothorax. Which physiologic effect of a spontaneous pneumothorax should the nurse include in a teaching plan for the client?

1. Air will move from the lung into the pleural space.
2. The heart and great vessels shift toward the affected side.
3. There is greater negative pressure within the chest cavity.
4. Collapse of the other lung will occur if not treated immediately.

►150. What clinical indicators should the nurse expect to identify when assessing an individual with a spontaneous pneumothorax? **Select all that apply.**

1. Hematemesis
2. Shortness of breath
3. Unilateral chest pain
4. Increased thoracic motion
5. Mediastinal shift toward the involved side

►151. A client has a pneumothorax, and a closed-chest drainage system is inserted to allow the lung to reinflate. Identify the chamber in the figure below that provides the water seal.



1. A
2. B
3. C
4. D

152. What is the underlying rationale why a nurse assesses a client with emphysema for clinical indicators of hypoxia?

1. Pleural effusion
2. Infectious obstructions
3. Loss of aerating surface
4. Respiratory muscle paralysis

▶153. A nurse administers oxygen at 2 L/min via nasal cannula to a client with emphysema. For which clinical indicators should the nurse closely observe the client? **Select all that apply.**

1. Anxiety
2. Cyanosis
3. Drowsiness
4. Mental confusion
5. Increased respirations

154. A nurse is teaching breathing exercises to a client with emphysema. What is the reason the nurse should include in the teaching as to why these exercises are necessary to promote effective use of the diaphragm?

1. The residual capacity of the lungs has been increased.
2. Inspiration has been markedly prolonged and difficult.
3. The client has an increase in the vital capacity of the lungs.
4. Abdominal breathing is an effective compensatory mechanism and is spontaneously initiated.

155. While receiving an adrenergic beta₂ agonist drug for asthma, the client complains of palpitations, chest pain, and a throbbing headache. What is the **most** appropriate nursing action?

1. Withhold the drug until additional orders are obtained.
2. Tell the client not to worry; these are expected side effects from the medicine.
3. Ask the client to relax; then give instructions to breathe slowly and deeply for several minutes.
4. Explain that the effects are temporary and will subside as the body becomes accustomed to the drug.

156. What is the **priority** goal for a client with asthma who is being discharged from the hospital?

1. Is able to obtain pulse oximeter readings
2. Demonstrates use of a metered-dose inhaler
3. Knows the health care provider's office hours
4. Can identify the foods that may cause wheezing

157. A client with a long history of asthma is scheduled for surgery. What information should be included in preoperative teaching?

1. There is an increased risk of respiratory tract infections.
2. Relaxation techniques limit the severity of asthmatic attacks.
3. Coughing forcibly must be avoided because it increases the intrathoracic pressure.
4. Local anesthesia is preferred because it has fewer side effects than general anesthesia.

158. A client with asthma is being taught how to use a peak flow meter to monitor how well the asthma is being controlled. What should the nurse instruct the client to do?

1. Perform the procedure once in the morning and once at night
2. Move the trunk to an upright position and then exhale while bending over
3. Inhale completely and then blow out as hard and as fast as possible through the mouthpiece
4. Place the mouthpiece between the lips and in front of the teeth before starting the procedure

159. When a client suffers a complete pneumothorax, there is danger of a mediastinal shift. If such a shift occurs, what potential effect is a cause for concern?

1. Rupture of the pericardium
 2. Infection of the subpleural lining
 3. Decreased filling of the right heart
 4. Increased volume of the unaffected lung
160. A chest tube is inserted into a client who was stabbed in the chest and is attached to a closed-drainage system. Which is an important nursing intervention when caring for this client?
1. Observe for fluid fluctuations in the water-seal chamber.
 2. Obtain a prescription for morphine to minimize agitation.
 3. Apply a thoracic binder to prevent excessive tension on the tube.
 4. Clamp the tubing securely to prevent a rapid decline in pressure.
161. A client has chest tubes attached to a chest tube drainage system. What should the nurse do when caring for this client?
1. Clamp the chest tubes when suctioning.
 2. Palpate the surrounding area for crepitus.
 3. Change the dressing daily using aseptic technique.
 4. Empty the drainage chamber at the end of the shift.
162. A nurse is caring for a variety of clients. For which client is it **most** essential for the nurse to implement measures to prevent pulmonary embolism?
1. 59-year-old who had a knee replacement
 2. 60-year-old who has bacterial pneumonia
 3. 68-year-old who had emergency dental surgery
 4. 76-year-old who has a history of thrombocytopenia
163. A nurse is caring for a group of clients on a medical-surgical unit. Which client has the highest risk for developing a pulmonary embolism?
1. Obese client with leg trauma
 2. Pregnant client with acute asthma
 3. Client with diabetes who has cholecystitis
 4. Client with pneumonia who is immunodeficient
164. A graduate nurse reminds a client who just had a laryngoscopy not to take anything by mouth until instructed to do so. What conclusion should be made about this intervention by the nurse preceptor who is evaluating the performance of the graduate nurse?
1. Appropriate, because such clients usually experience painful swallowing for several days
 2. Appropriate, because early eating or drinking after such a procedure may cause aspiration
 3. Inappropriate, because the client is likely to be anxious and it is easier to remove the water pitcher
 4. Inappropriate, because the client is conscious and may be thirsty after not being allowed to drink fluids
165. A client has a bronchoscopy in the ambulatory surgery unit. What action should the nurse take to prevent laryngeal edema?
1. Place ice chips in the client's mouth.
 2. Offer liberal amounts of fluid to the client.
 3. Keep the client in the semi-Fowler position.
 4. Tell the client to suck on medicated lozenges.
166. After a bronchoscopy because of suspected cancer of the lung, a client develops pleural effusion. What should the nurse conclude is the **most** likely cause of the pleural effusion?
1. Excessive fluid intake

2. Inadequate chest expansion
3. Extension of cancerous lesions
4. Irritation from the bronchoscopy

167. A client who is to be admitted for minor surgery has a chest radiograph as part of the presurgical physical. The nurse is notified that the radiograph reveals that the client has pulmonary tuberculosis. What evidence of tuberculosis is provided by the radiograph?

1. Sensitized T cells
2. Presence of acid-fast bacilli
3. Cavities caused by caseation
4. Microscopic primary infection

▶168. An older adult, who alternately lives in a homeless shelter and on the street, is brought to the emergency department by friends. The client has a fever, night sweats, and a blood-tinged productive cough. The health care provider suspects that the client has tuberculosis and orders a purified protein derivate (PPD) test, chest x-ray, and sputum culture. Place these interventions in the order that they should be performed.

1. ____ Obtain a sputum specimen.
2. ____ Institute airborne precautions.
3. ____ Have a chest x-ray performed.
4. ____ Notify the Department of Health.
5. ____ Perform a PPD intradermal skin test.

▶169. A nurse assesses a newly admitted client with a diagnosis of pulmonary tuberculosis (TB). Which clinical findings support this diagnosis? **Select all that apply.**

1. Fatigue
2. Polyphagia
3. Hemoptysis
4. Night sweats
5. Black tongue

170. A client who is taking rifampin (Rifadin) tells the nurse, “My urine looks orange.” What action should the nurse take?

1. Explain this is expected.
2. Check the liver enzymes.
3. Strain the urine for stones.
4. Ask what foods were eaten.

171. What must the nurse determine before discontinuing airborne precautions for a client with pulmonary tuberculosis?

1. Client no longer is infected.
2. Tuberculin skin test is negative.
3. Sputum is free of acid-fast bacteria.
4. Client’s temperature has returned to normal.

172.▶ What interventions should the nurse anticipate will be ordered for a client who has a leak of the thoracic duct following radical neck surgery? **Select all that apply.**

1. Bed rest to conserve energy
2. Chest tube to drain the fluid
3. High-fat diet to provide calories
4. Rectal tube to prevent distention

5. Total parenteral nutrition to boost immune defenses

173. A client has a laryngectomy and radical neck dissection for cancer of the larynx. Two tubes from the area of the incision are connected to portable wound drainage systems. Inspection of the neck reveals moderate edema even though the drainage systems are functioning. For which clinical indicator should the nurse assess the client?

1. Crackles
2. Restlessness
3. Loss of the gag reflex
4. Cloudy wound drainage

174. What should the nurse include in the plan of care for a client who just had a total laryngectomy?

1. Instructing the client to whisper
2. Removing the outer tracheostomy tube prn
3. Placing the client in the orthopneic position
4. Suctioning the tracheostomy tube whenever necessary

175. Which nursing action is important when suctioning the secretions of a client with a tracheostomy?

1. Use a new sterile catheter with each insertion.
2. Initiate suction as the catheter is being withdrawn.
3. Insert the catheter until the cough reflex is stimulated.
4. Remove the inner cannula before inserting the suction catheter.

176. A client just had a thoracentesis. For which response is it **most** important for the nurse to observe the client?

1. Signs of infection
2. Expectoration of blood
3. Increased breath sounds
4. Decreased respiratory rate

177. A client with a pulmonary embolus is intubated and placed on mechanical ventilation. What nursing action is important when suctioning the endotracheal tube?

1. Apply negative pressure while inserting the suction catheter.
2. Hyperoxygenate with 100% oxygen before and after suctioning.
3. Suction 2 to 3 times in succession to effectively clear the airway.
4. Use rapid movements of the suction catheter to loosen secretions.

►178. In the first $2\frac{1}{2}$ hours after a radical neck dissection, 40 mL of medium red, bloody fluid is obtained from the client's drainage system. What should the nurse do? **Select all that apply.**

1. Take vital signs.
2. Change the dressing.
3. Apply pressure over the site.
4. Elevate the lower extremities.
5. Notify the health care provider.

►179. The nurse should refer a client to the pulmonary clinic for suspected tuberculosis based on which clinical indicators reported during the **initial** client interview? **Select all that apply.**

1. Vomiting
2. Chest pain
3. Hemoptysis
4. Night sweats

5. Bilateral crackles

►180. A nurse must administer streptomycin 1 g IM to a client with tuberculosis. The vial contains 500 mg/mL. How much solution must the nurse administer? **Record your answer using a whole number.**

Answer: _____ mL

181. Which intervention should the nurse implement to help prevent atelectasis in a client with fractured ribs as a result of chest trauma?

1. Apply a thoracic binder for support.
2. Encourage coughing and deep breathing.
3. Defer pain medication the first day after injury.
4. Position the client face-down on a soft mattress.

182. The arterial blood gases of a client with chronic obstructive pulmonary disease (COPD) deteriorate, and respiratory failure is impending. For which clinical indicator should the nurse assess **first**?

1. Cyanosis
2. Bradycardia
3. Mental confusion
4. Distended neck veins

183. A nurse is caring for a client with severe dyspnea who is receiving oxygen via a Venturi mask. What should the nurse do when caring for this client?

1. Assess frequently for nasal drying.
2. Keep the mask tight against the face.
3. Monitor oxygen saturation levels when eating.
4. Set the oxygen flow at the highest setting possible.

►184. A nurse is caring for a client with a Venturi mask who is receiving 40% oxygen. What nursing actions are indicated? **Select all that apply.**

1. Keep the oxygen source higher than the client's airway.
2. Adjust the liter flow according to the oxygen saturation.
3. Prevent the client's blanket from covering the adaptor's orifices.
4. Ensure that the bag does not deflate completely during inspiration.
5. Check that the appropriate adaptor to deliver the prescribed FiO_2 is attached to the mask.

185. A nurse is administering oxygen to a client with chest pain who is restless. What method of oxygen administration will **most** likely prevent a further increase in the client's anxiety level?

1. Cannula
2. Catheter
3. Venturi mask
4. Rebreather mask

186. A client who has acquired immunodeficiency syndrome develops bacterial pneumonia. On admission to the emergency department, the client's PaO_2 is 80 mm Hg. When the arterial blood gases are drawn again, the level is determined to be 65 mm Hg. What should the nurse do **first**?

1. Increase the oxygen flow rate.
2. Notify the health care provider.
3. Decrease the tension of oxygen in the plasma.
4. Have the arterial blood gases redone to verify accuracy.

187. In addition to treatment of the underlying cause, which medical intervention should the nurse

anticipate will be included in the management of a client with acute respiratory distress syndrome (ARDS)?

1. Chest tube insertion
2. Aggressive diuretic therapy
3. Administration of beta blockers
4. Positive end-expiratory pressure

188. When caring for an intubated client receiving mechanical ventilation, the nurse hears the high-pressure alarm. Which action is **most** appropriate?

1. Remove secretions by suctioning.
2. Lower the setting of the tidal volume.
3. Check that tubing connections are secure.
4. Obtain a specimen for arterial blood gases.

189. A client has an endotracheal tube and is receiving mechanical ventilation. The nurse identifies that periodic suctioning may be necessary. The nurse follows a specific protocol when performing this procedure. Place the steps in the order that they should be performed.

1. ____ Obtain the vital signs.
2. ____ Auscultate lung sounds.
3. ____ Hyperoxygenate for 30 seconds.
4. ____ Suction for approximately 10 seconds.
5. ____ Rotate the catheter during its withdrawal.

190. A nurse is involved in an international committee to address global health problems. What suggestion is most appropriate for the nurse to make to **best** meet the challenge associated with a potential emerging influenza pandemic?

1. Stockpile antibiotics.
2. Establish a global surveillance plan.
3. Limit vaccination programs to school-age children.
4. Initiate vaccination programs during the months of August and September.

191. A nurse works with a large population of immigrant clients and is concerned about the debilitating effects of influenza. Which action is the **first** line of defense against an emerging influenza pandemic?

1. Complying with quarantine measures
2. Instituting strict international travel restrictions
3. Seeking aid from the international public health community
4. Reporting surveillance findings to appropriate public health officials

Gastrointestinal System

192. A nurse is planning a community health program about screening for cancer. Which information recommended by the American Cancer Society (ACS) should the nurse include?

1. Mammography should be performed annually after age 35 years for women.
2. Fecal occult blood testing should be performed yearly beginning at age 50 years.
3. Breast self-examination should be performed monthly beginning at age 30 years.
4. Digital rectal exams and PSA testing should be done yearly after age 40 for men.

193. A nurse is teaching an athletic teenager about nutrients that provide the quickest source of energy. Which food selected from a menu indicates to the nurse that the adolescent understands the teaching?

1. Glass of milk
2. Slice of bread
3. Chocolate candy bar
4. Glass of orange juice

194. A nurse identifies that the client understands information about vitamin K when the client states, "Vitamin K is:

1. found in a variety of foods, so there is no danger of deficiency."
2. easily absorbed without assistance, so everything eaten is absorbed."
3. rarely found in dietary foods, so a natural deficiency can easily occur."
4. produced in sufficient amounts by intestinal bacteria, so metabolic needs are met."

195. A client describes abdominal discomfort following ingestion of milk. Which enzyme, as a result of a genetic deficiency, should the nurse consider to be the cause of the client's discomfort?

1. Lactase
2. Sucrase
3. Maltase
4. Amylase

196. A nurse is caring for a client who is cachectic. What information about the function of adipose tissue in fat metabolism is necessary to better address the needs of this client?

1. Releases glucose for energy
2. Regulates cholesterol production
3. Uses lipoproteins for fat transport
4. Stores triglycerides for energy reserves

197. A nurse is teaching a client about the differences between the terms *saturated* and *unsaturated*, when used in reference to fats. Which important factor in relation to these types of fats should the nurse include in the teaching?

1. Taste
2. Color
3. Density
4. Digestibility

198. A nurse is teaching menu planning to a client who has a high triglyceride level. Which nutrient avoided by the client indicates that teaching about foods that are high in fat was understood?

1. Fruits
2. Grains
3. Red meat
4. Vegetable oils

199. A client with a high cholesterol level says to the nurse, “Why can’t the doctor just give me a medication to eliminate all the cholesterol in my body so it isn’t a problem?” Which factor related to why cholesterol is important in the human body should the nurse include in a response to the client’s question?

1. Blood clotting
2. Bone formation
3. Muscle contraction
4. Cellular membranes

200. Which statement made by a client after attending a class on nutrition indicates an understanding of the importance of essential amino acids?

1. “Amino acids can be made by the body because they are essential to life.”
2. “They come from the diet because they cannot be synthesized in the body.”
3. “They are used in key processes essential for growth once they are synthesized by the body.”
4. “Essential amino acids are required for metabolism, whereas the other amino acids are not.”

201. A nurse provides dietary teaching about a low-sodium diet for a client with hypertension. Which nutrient selected by the client indicates an understanding about foods that are low in natural sodium?

1. Milk
2. Meat
3. Fruits
4. Vegetables

202. Megadoses of vitamin A are taken by a client. Why should the nurse question this practice?

1. Vitamin A is highly toxic, even in small amounts.
2. The liver has a great storage capacity for vitamin A, even to toxic amounts.
3. Vitamin A cannot be stored, therefore excess amounts will saturate the general body tissues.
4. Although the body’s requirement for vitamin A is great, the cells can synthesize more as needed.

203.▶ A nurse is teaching about excellent food sources of vitamin A for a client who is deficient in this vitamin. Which foods should the nurse include in the teaching? **Select all that apply.**

1. Carrots
2. Oranges
3. Tomatoes
4. Skim milk
5. Leafy greens

204. A client who recently immigrated to the United States has a chronic vitamin A deficiency. What information about vitamin A should the nurse consider when assessing this client for clinical indicators of this deficiency?

1. Vitamin A is an integral part of the retina’s pigment called melanin.
2. It is a component of the rods and cones, which control color visualization.
3. Vitamin A is the material in the cornea that prevents the formation of cataracts.
4. It is a necessary element of rhodopsin, which controls responses to light and dark environments.

205. A client is to have gastric gavage. In which position should the nurse place the client when the nasogastric tube is being inserted?

1. Supine
2. Mid-Fowler
3. High-Fowler
4. Trendelenburg

206. A client with the diagnosis of cancer of the stomach expresses aversion to meals and eats only small amounts. What should the nurse provide?
1. Nourishment between meals
 2. Small portions more frequently
 3. Supplementary vitamins to stimulate the client's appetite
 4. Only foods the client likes in small portions at mealtimes
207. A health care provider schedules a paracentesis. What should the nurse instruct the client to do to prepare for the procedure?
1. Empty the bladder before the procedure.
 2. Take a laxative the evening before the procedure.
 3. Ingest nothing by mouth for 8 hours before the procedure.
 4. Self-administer a low soapsuds enema 2 hours before the procedure.
208. A health care provider orders an upper GI series and a barium enema. The client asks, "Why do I have to have barium for these tests?" The nurse's **best** response is "Barium:
1. gives off visible light, illuminating the alimentary tract."
 2. provides fluorescence, thereby lighting up the alimentary tract."
 3. dyes the structures of the alimentary tract, making them more visible."
 4. gives more contrast to the soft tissue of the alimentary tract, allowing absorption of x-rays."
209. A client is scheduled for a sigmoidoscopy. What instruction should the nurse provide the client in preparation for this diagnostic procedure?
1. Have an enema the morning of the test.
 2. A chalklike substance will have to be swallowed.
 3. Withhold food for twenty-four hours before the test.
 4. A sterile container will be provided for the collection of a stool specimen.
210. A health care provider orders a sigmoidoscopy for one client and a barium enema for another client. What is a nursing responsibility common to preparing both of these clients for these procedures?
1. Withholding food for several hours
 2. Giving castor oil the afternoon before
 3. Administering soapsuds enemas until clear
 4. Ensuring an understanding of the procedure
211. A high-cleansing enema is ordered for a client. What is the maximum height at which the container of fluid should be held by the nurse when administering this enema?
1. 30 cm (12 inches)
 2. 37 cm (15 inches)
 3. 51 cm (20 inches)
 4. 66 cm (26 inches)
212. During administration of an enema, a client reports having intestinal cramps. What should the nurse do?
1. Discontinue the procedure.
 2. Instill the fluid at a slower rate.
 3. Lower the height of the container.
 4. Stop the fluid until the cramps subside.
213. A nurse is evaluating a client's response to receiving an intermittent gravity flow percutaneous endoscopic gastrostomy (PEG) tube feeding. Which clinical finding indicates that the client is unable

to tolerate a continuation of the feeding?

1. Passage of flatus
2. Rise of formula in the tube
3. Rapid inflow of the feeding
4. Tenderness of epigastric area

214. A client has a nasogastric feeding tube inserted, and the health care provider orders the prescribed feeding to be instituted immediately. What should the nurse do **first**?

1. Instill normal saline into the tube to maintain patency.
2. Obtain an x-ray to verify that the tube is in the stomach.
3. Auscultate the epigastric area while instilling 15 mL of air.
4. Withdraw 30 mL of stomach contents to verify tube placement.

215. Three days after admission to the hospital for a brain attack (cerebrovascular accident [CVA]), a client has a nasogastric tube inserted and is receiving continuous tube feedings. What should the nurse do to **best** evaluate whether the feeding is being absorbed?

1. Aspirate for a residual volume.
2. Evaluate the intake in relation to the output.
3. Instill air into the client's stomach while auscultating.
4. Compare the client's body weight with the baseline data.

216. A client is receiving hypertonic tube feedings. What should the nurse consider to be the main reason this client may experience diarrhea?

1. Increased fiber intake
2. Bacterial contamination
3. Inappropriate positioning
4. High osmolarity of the feedings

217. A health care provider orders intermittent nasogastric tube feeding to supplement a client's oral nutritional intake. Which hazard associated with a nasogastric tube feeding will be reduced if the nurse administers this feeding over 30 to 60 minutes?

1. Distention
2. Flatulence
3. Indigestion
4. Regurgitation

218. A client has a fractured mandible that is immobilized with wires. For which life-threatening postoperative problem should the nurse monitor this client?

1. Infection
2. Vomiting
3. Osteomyelitis
4. Bronchospasm

219. A client who had an incision and drainage of an oral abscess is to be discharged. For which clinical finding, if it should occur, should the nurse instruct the client to notify the health care provider?

1. Foul odor to the breath
2. Pain associated with swallowing
3. Pain with swelling after one week
4. Tenderness in the mouth when chewing

220. A nurse is obtaining a history and performing a physical assessment of a client who has cancer

of the tongue. Which clinical findings should the nurse expect to identify? **Select all that apply.**

1. Halitosis
2. Leukoplakia
3. Bleeding gums
4. Substernal pain
5. Alterations in taste
6. Enlarged cervical lymph nodes

221. A nurse is collecting a health history from a client who has a diagnosis of cancer of the tongue. For which risk factor commonly associated with cancer of the tongue should the nurse assess when collecting the client's history?

1. Nail biting
2. Poor dental habits
3. Frequent gum chewing
4. Large consumption of alcohol

222. A client with gastroesophageal reflux disease reports having difficulty sleeping at night. What should the nurse instruct the client to do?

1. Drink a glass of milk before retiring.
2. Elevate the head of the bed on blocks.
3. Eliminate carbohydrates from the diet.
4. Take antacids such as sodium bicarbonate.

223. A client with gastroesophageal reflux is to receive metoclopramide (Reglan) 15 mg orally before meals. The concentrated solution contains 10 mg/mL. How much solution should the nurse administer? **Record your answer using one decimal place.**

Answer: _____ mL

224. A nurse is providing discharge instructions for a client with a diagnosis of gastroesophageal reflux disease (GERD). What should the nurse advise the client to do to limit symptoms of GERD? **Select all that apply.**

1. Avoid heavy lifting.
2. Lie down after eating.
3. Avoid drinking alcohol.
4. Eat small, frequent meals.
5. Increase fluid intake with meals.
6. Wear an abdominal binder or girdle.

225. A client with gastric ulcer disease asks the nurse why the health care provider has prescribed metronidazole (Flagyl). The nurse explains, "Antibiotics are prescribed to:

1. augment the immune response."
2. potentiate the effect of antacids."
3. treat *Helicobacter pylori* infection."
4. reduce hydrochloric acid secretion."

226. A client with gastroesophageal reflux disease (GERD) should make diet and lifestyle changes. What instructions should the nurse include in the client's discharge teaching? **Select all that apply.**

1. Add milk to coffee.
2. Elevate the foot of the bed.
3. Avoid caffeine-containing products.
4. Eat three evenly spaced meals daily.

5. Chew thoroughly while eating slowly.
227. A client with esophageal cancer is to receive total parenteral nutrition. A right subclavian catheter is inserted. What should the nurse consider is the **primary** reason why the health care provider ordered a central line?
1. It prevents the development of infection.
 2. There is less chance of this infusion infiltrating.
 3. It is more convenient so clients can use their hands.
 4. The large amount of blood helps to dilute the concentrated solution.
228. A client with inflammatory bowel disease is receiving total parenteral nutrition (TPN) via an infusion pump. What is **most** important for the nurse to do when administering TPN?
1. Monitor the client's blood glucose level q2h at the bedside with a glucometer.
 2. Change the TPN solution bag every 24 hours, even if there is solution left in the bag.
 3. Instruct the client to breathe shallowly when changing the TPN tubing using sterile technique.
 4. Speed up the rate of the TPN infusion if the amount delivered has fallen behind the prescribed hourly rate.
229. A client has a suspected peptic ulcer in the duodenum. What should the nurse expect the client to report when describing the pain associated with this disease?
1. An ache radiating to the left side
 2. An intermittent colicky flank pain
 3. A gnawing sensation relieved by food
 4. A generalized abdominal pain intensified by moving
230. Famotidine (Pepcid) 20 mg IVPB is prescribed for a client with a duodenal ulcer. The medication is diluted in 50 milliliters of 5% dextrose and is to infuse over 15 minutes. At what rate should the infusion control device be set? **Record your answer using a whole number.**
- Answer: _____ mL/hr
231. A client is scheduled for a pyloroplasty and vagotomy because of strictures caused by ulcers unresponsive to medical therapy. What information about the purpose of a vagotomy should the nurse include when reviewing the health care provider's discussion with the client?
1. Increases the heart rate
 2. Hastens gastric emptying
 3. Eliminates pain sensations
 4. Decreases secretions in the stomach
232. After a subtotal gastrectomy for cancer of the stomach, a client develops dumping syndrome. The client says, "What does it mean when the health care provider said that I am experiencing dumping syndrome?" What information should the nurse include in a response to this question?
1. Nausea resulting from a full stomach
 2. Reflux of gastric contents into the esophagus
 3. Buildup of flatulence within the large intestine
 4. Rapid passage of concentrated fluid into the small intestine
233. An exploratory laparotomy is performed on a client with melena, and gastric cancer is discovered. A partial gastrectomy is performed, and a jejunostomy tube is surgically implanted. A nasogastric tube to suction is in place. What should the nurse expect regarding the client's nasogastric tube drainage during the **first** 24 hours after surgery?
1. Green and viscid
 2. Contain some blood and clots

3. Contain large amounts of frank blood
4. Similar to coffee grounds in color and consistency

234. Two hours after a subtotal gastrectomy, the nurse identifies that the drainage from the client's nasogastric tube is bright red. What should the nurse do **first**?

1. Notify the health care provider.
2. Clamp the nasogastric tube for one hour.
3. Determine that this is an expected finding.
4. Irrigate the nasogastric tube with iced saline.

235. A client is admitted to the surgical unit from the postanesthesia care unit with a Salem sump nasogastric tube that is to be attached to wall suction. Which nursing action should the nurse implement when caring for this client?

1. Use normal saline to irrigate the tube.
2. Employ sterile technique when irrigating the tube.
3. Withdraw the tube quickly when decompression is terminated.
4. Allow the client to have small sips of ice water unless nauseated.

236. After a partial gastrectomy is performed, a client is returned from the postanesthesia care unit to the surgical unit with an IV solution infusing and a nasogastric tube in place. The nurse identifies that there is no nasogastric drainage for 30 minutes. There is an order for instillation of the nasogastric tube prn. The nurse should instill:

1. 30 mL of normal saline and continue the suction.
2. 20 mL of air and clamp off the suction for 1 hour.
3. 50 mL of saline and increase the pressure of the suction.
4. 15 mL of distilled water and disconnect the suction for 30 minutes.

237. A client is admitted to the hospital with a diagnosis of intestinal obstruction. The health care provider orders intestinal suction via a nasoenteric decompression tube. The loss of which constituents associated with intestinal suctioning is **most** important to consider when caring for this client?

1. Protein enzymes
2. Energy carbohydrates
3. Vitamins and minerals
4. Water and electrolytes

238. When an intestinal obstruction is suspected, a client has a nasogastric tube inserted and attached to suction. For what response should the nurse critically assess this client?

1. Edema
2. Belching
3. Fluid deficit
4. Excessive salivation

239. A nurse designs a health teaching program specifically for a client who had a gastrectomy. What should this plan include?

1. Information about how to limit and prevent dumping syndrome
2. An explanation of the therapeutic effect of a high-roughage diet
3. A list of foods that cause gas in the intestine and how to avoid them
4. Encouragement to resume previous eating habits as soon as possible

240. When caring for a client who is recovering from a gastrectomy, a nurse is concerned about the potential development of pernicious anemia. What should the nurse conclude may be the cause of this

complication?

1. Vitamin B₁₂ is just absorbed in the stomach.
2. Hemopoietic factor is secreted in the stomach.
3. Parietal cells of the stomach secrete the intrinsic factor.
4. Chief cells in the stomach promote the secretion of the extrinsic factor.

241. After a subtotal gastrectomy a client is returned to the surgical unit. Which is the **best** nursing action to prevent pulmonary complications?

1. Ambulating the client to increase respiratory exchange
2. Promoting frequent turning and deep breathing to mobilize secretions
3. Maintaining a consistent oxygen flow rate to increase oxygen saturation
4. Keeping a plastic airway in place to ensure patency of the client's airway

242. An older adult is returned to the surgical unit after having a subtotal gastrectomy. Which dietary modification should the nurse anticipate that the health care provider will **most** likely order?

1. Increase intake of dietary roughage slowly.
2. Avoid oral feedings for a prolonged period.
3. Resume small, easily digested feedings gradually.
4. Limit intake to self-selection of personally preferred foods.

▶243. To help prevent long-term complications associated with gastric bypass surgery, the nurse needs to educate the client. Identify the factors that should be included in the nurse's teaching plan for this client. **Select all that apply.**

1. Eat foods rich in calcium.
2. Ingest 3 small feedings daily.
3. Limit fluids to 1500 mL daily.
4. Consume a diet high in protein.
5. Receive vitamin B₁₂ injections routinely.

244. Six weeks after discharge, a client with a jejunoileal bypass for morbid obesity returns to the outpatient clinic reporting palpitations, abdominal cramps, diarrhea, and dizziness 30 minutes after meals. What complication should the nurse consider that the client is **most** likely experiencing?

1. Gastric reflux
2. Reflux gastritis
3. Dumping syndrome
4. Abdominal peritonitis

245. Which statement by a client who is scheduled for bariatric surgery indicates to the nurse that further preoperative teaching is necessary?

1. "I need to eat more high-protein foods."
2. "I'm going to have a figure like a model in about a year."
3. "I'm going to be out of bed and sitting in a chair the first day after surgery."
4. "I will be limiting my intake to 600 to 800 calories a day once I start eating again."

246. A nurse is preparing a morbidly obese client for gastric bypass surgery. What should the nurse teach the client to do after surgery?

1. Take medications in liquid form.
2. Lie on the right side for 1 hour after meals.
3. Ingest a high-carbohydrate diet once eating is resumed.
4. Receive patient-controlled analgesia for 6 days after surgery.

247. Which clinical indicator should the nurse identify before scheduling a client for an endoscopic

retrograde cholangiopancreatography (ERCP)?

1. Urine output
2. Bilirubin level
3. Blood pressure
4. Serum glucose

▶248. A client is discharged the same day after ambulatory surgery for a laparoscopic cholecystectomy. The nurse is providing discharge teaching about how many days the client should wait to engage in certain activities. Place in order the activities from the first to the last in which the client may engage.

1. _____ Showering
2. _____ Driving a car
3. _____ Performing light exercise
4. _____ Getting out of bed in a chair
5. _____ Lifting objects of more than ten pounds

249. A nurse is preparing a teaching plan for a client with a history of cholelithiasis. Which information about why the ingestion of fatty foods will cause discomfort should the nurse include in the teaching plan?

1. Fatty foods are hard to digest.
2. Bile flow into the intestine is obstructed.
3. The liver is manufacturing inadequate bile.
4. There is inadequate closure of the ampulla of Vater.

▶250. A nurse is caring for a client with cholelithiasis and obstructive jaundice. When assessing this client, the nurse should be alert for which common clinical indicators associated with these conditions? **Select all that apply.**

1. Ecchymosis
2. Yellow sclera
3. Dark brown stool
4. Straw-colored urine
5. Pain in right upper quadrant

▶251. For which clinical indicators should the nurse monitor when caring for a client with cholelithiasis and obstructive jaundice? **Select all that apply.**

1. Dark urine
2. Yellow skin
3. Pain on urination
4. Clay-colored stool
5. Coffee-ground vomitus

252. Before a cholecystectomy vitamin K is prescribed. Which element, formed in the presence of vitamin K, should the nurse determine is the purpose of administering this medication?

1. Bilirubin
2. Prothrombin
3. Thromboplastin
4. Cholecystokinin

253. A client is returned to the surgical unit after an abdominal cholecystectomy. What is the **main** reason why the nurse should assess for clinical indicators of respiratory complications?

1. Length of time required for surgery is prolonged.

2. Incision is in close proximity to the client's diaphragm.
 3. Client's resistance is lowered because of bile in the blood.
 4. Bloodstream is invaded by microorganisms from the biliary tract.
254. A client with a history of pancreatitis is scheduled for surgery to excise a pseudocyst of the pancreas. The client asks, "What is a pseudocyst?" What information should the nurse include in a response to this question?
1. Malignant growth
 2. Pocket of undigested food particles
 3. Dilated space of necrotic tissue and blood
 4. Sack filled with fluid and pancreatic enzymes
255. A nurse is caring for a client with a diagnosis of acute pancreatitis and alcoholism. The client asks, "What does my drinking have to do with my diagnosis?" What effect of alcohol should the nurse include when responding?
1. Promotes the formation of calculi in the cystic duct
 2. Stimulates the pancreas to secrete more insulin than it can immediately produce
 3. Alters the composition of enzymes so they are capable of damaging the pancreas
 4. Increases enzyme secretion and pancreatic duct pressure that causes backflow of enzymes into the pancreas
256. A client is diagnosed with cancer of the pancreas and is apprehensive and restless. Which nursing action should be included in the plan of care?
1. Encouraging expression of concerns
 2. Administering antibiotics as prescribed
 3. Teaching the importance of getting rest
 4. Explaining that everything will be all right
- 257. A client is admitted with a tentative diagnosis of pancreatitis. The medical and nursing measures for this client are aimed toward maintaining nutrition, promoting rest, maintaining fluid and electrolyte balance, and decreasing anxiety. Which interventions should the nurse implement? **Select all that apply.**
1. Provide a low-fat diet.
 2. Administer analgesics.
 3. Teach relaxation exercises.
 4. Encourage walking in the hall.
 5. Monitor cardiac rate and rhythm.
 6. Observe for signs of hypercalcemia.
- 258. A client is recovering from an acute episode of alcoholism that included esophageal involvement. What are the components of a therapeutic diet that are **most** appropriate for the nurse to include in the teaching plan for this client? **Select all that apply.**
1. Soft diet
 2. Regular diet
 3. Low-protein diet
 4. High-protein diet
 5. Low-carbohydrate diet
 6. High-carbohydrate diet
259. Thiamine (vitamin B₁) and niacin (vitamin B₃) are prescribed for a client with alcoholism. Which body function maintained by these vitamins should the nurse include in a teaching plan?

1. Neuronal activity
2. Bowel elimination
3. Efficient circulation
4. Prothrombin development

260. A client is admitted to the hospital with a diagnosis of alcohol withdrawal syndrome. What body organ should the nurse teach the client will be protected by the ingestion of a high-calorie diet fortified with vitamins?

1. Liver
2. Heart
3. Pancreas
4. Adrenals

261. A nurse is teaching a class about hepatitis, specifically hepatitis A. Which food should the nurse explain will **most** likely remain contaminated with the hepatitis A virus after being cooked?

1. Canned tuna
2. Broiled shrimp
3. Baked haddock
4. Steamed lobster

262. A client with hepatitis B asks the nurse, "Are there any medications to help me get rid of this problem?" Which is the **best** response by the nurse?

1. "Sedatives can be given to help you relax."
2. "We can give you immune serum globulin."
3. "Vitamin supplements are frequently helpful and hasten recovery."
4. "There are medications to help reduce viral load and liver inflammation."

▶263. A nurse is teaching a client about prophylactic measures that minimize the risk of contracting hepatitis B. Which actions should be included in this teaching plan? **Select all that apply.**

1. Preventing constipation
2. Screening of blood donors
3. Avoiding shellfish in the diet
4. Limiting hepatotoxic drug therapy
5. Maintaining a monogamous sexual relationship

264. A nurse is caring for a client who is positive for hepatitis A. What should the nurse do?

1. Wear a gown when entering the client's room.
2. Use caution when bringing in the client's food.
3. Use gloves when removing the client's bedpan.
4. Wear a protective mask when entering the client's room.

265. A client who is about to have a blood transfusion asks the nurse, "Which type of hepatitis is most frequently transmitted by transfusions?" The nurse should respond, "Although the risk is minimal, the type of hepatitis associated with blood transfusions is hepatitis:

1. A."
2. B."
3. C."
4. D."

266. A nurse instructs a client with viral hepatitis about the type of diet that should be ingested. Which lunch selected by the client indicates understanding about dietary principles associated with this diagnosis?

1. Turkey salad, French fries, sherbet
2. Cottage cheese, mixed fruit salad, milkshake
3. Salad, sliced chicken sandwich, gelatin dessert
4. Cheeseburger, tortilla chips, chocolate pudding

267. A nurse is reviewing discharge plans with a client who is hospitalized with hepatitis A. The nurse concludes that the client understands preventive measures to reduce the risk for spreading the disease when the client states, "I should:

1. wash my hands frequently."
2. launder my clothes separately."
3. put used tissues in the garbage."
4. wear a mask when leaving the house."

268. A nurse educator of a college health course is discussing tattoos with the class. Which type of hepatitis associated with tattoos should the nurse include in the teaching plan?

1. A
2. C
3. D
4. E

269. A client in a debilitated state is admitted for palliative treatment of cancer of the liver. Which objective information collected by the nurse is **most** helpful for future monitoring of the client's condition?

1. Diet history
2. Bowel sounds
3. Present weight
4. Pain description

270. A client with chronic hepatic failure is soon to be discharged from the hospital. Which diet should the nurse encourage the client to follow based on the health care provider's order?

1. High-fat
2. Low-calorie
3. Low-protein
4. High-sodium

271. For which clinical indicator associated with a complication of portal hypertension should the nurse assess the client?

1. Liver abscess
2. Intestinal obstruction
3. Perforation of the duodenum
4. Hemorrhage from esophageal varices

272. A health care provider orders a gastrointestinal endoscopy with a capsule endoscopic device. What should the nurse instruct the client to do?

1. Check the recorder every hour.
2. Avoid eating food and fluid during the test.
3. Avoid stooping and bending during the test.
4. Swallow the capsule as soon as it is placed in the mouth.

273. A client is a candidate for intubation as a result of bleeding esophageal varices. Which type of tube should the nurse anticipate will **most** likely be used to meet the needs of this client?

1. Levin

2. Salem sump
3. Miller-Abbott
4. Blakemore-Sengstaken

274. A client with hepatic cirrhosis begins to develop slurred speech, confusion, drowsiness, and a flapping tremor. With this evidence of impending hepatic coma, which diet can the nurse expect will be ordered for this client?

1. 20 g of protein, 2000 calories
2. 70 g of protein, 1200 calories
3. 80 g of protein, 2500 calories
4. 100 g of protein, 1500 calories

▶275. A client eats a meal that contains 13 g of fat, 31 g of carbohydrates, and 5 g of protein. What is this client's total caloric intake for this meal? **Record your answer using a whole number.**

Answer: _____ calories

276.▶ A client is admitted to the hospital with a diagnosis of cirrhosis of the liver. For which classic signs of hepatic coma should the nurse assess this client? **Select all that apply.**

1. Mental confusion
2. Increased cholesterol
3. Brown-colored stools
4. Flapping hand tremors
5. Hyperactive deep tendon reflexes

277. A nurse is concerned that a client with a diagnosis of cirrhosis of the liver may experience the complication of hepatic coma. For which clinical indicator should the nurse assess this client?

1. Icterus
2. Urticaria
3. Uremic frost
4. Hemangioma

278. A nurse is caring for a client with cirrhosis of the liver. Which laboratory test should the nurse monitor that, when abnormal, might identify a client who may benefit from neomycin enemas?

1. Ammonia level
2. Culture and sensitivity
3. White blood cell count
4. Alanine aminotransferase level

279. A client with cirrhosis of the liver has a prolonged prothrombin time and a low platelet count. A regular diet is ordered. What should the nurse instruct the client to do considering the client's condition?

1. Avoid foods high in vitamin K.
2. Check the pulse several times a day.
3. Drink a glass of milk when taking aspirin.
4. Report signs of bleeding no matter how slight.

280. A client is admitted with anorexia, weight loss, abdominal distention, and abnormal stools. A diagnosis of malabsorption syndrome is made. What nursing action should the nurse implement to **best** meet this client's needs?

1. Allow the client to eat food preferences.
2. Encourage the consumption of high-protein foods.
3. Institute IV therapy to improve the client's hydration.

4. Maintain NPO status because food precipitates diarrhea.

281. A client is diagnosed as having malabsorption syndrome secondary to celiac sprue. Which intervention should the nurse expect to precipitate a striking clinical improvement in the client?

1. Folic acid
2. Vitamin B₁₂
3. Corticosteroids
4. Gluten-free diet

▶282. A client is diagnosed with malabsorption syndrome. Which foods should the nurse teach the client to avoid? **Select all that apply.**

1. Corn
2. Cheese
3. Oatmeal
4. Rye bread
5. Fruit juice

283. For which classic clinical finding should the nurse assess the stool of clients with malabsorption syndrome?

1. Melena
2. Frank blood
3. Fat globules
4. Currant jelly consistency

284. A nurse is admitting a client with the diagnosis of malabsorption syndrome to the medical unit at lunchtime. Which foods can be included on the client's ordered diet?

1. Breaded veal cutlet with cheese
2. Roast beef sandwich with pickles
3. Chicken noodle soup with crackers
4. Cheese omelet with chopped spinach

▶285. Which food selections by a client with malabsorption syndrome indicate that the nurse's dietary teaching was successful? **Select all that apply.**

1. Green beans
2. Baked potato
3. Noodle pudding
4. Turkey sandwich
5. Whole wheat cereal

286. An 18-year-old is admitted with an acute onset of right lower quadrant pain at McBurney's point. Appendicitis is suspected. For which clinical indicator should the nurse assess the client to determine if the pain is secondary to appendicitis?

1. Urinary retention
2. Gastric hyperacidity
3. Rebound tenderness
4. Increased lower bowel motility

▶287. A client who had surgery for a ruptured appendix develops peritonitis. What clinical findings related to peritonitis should the nurse expect the client to exhibit? **Select all that apply.**

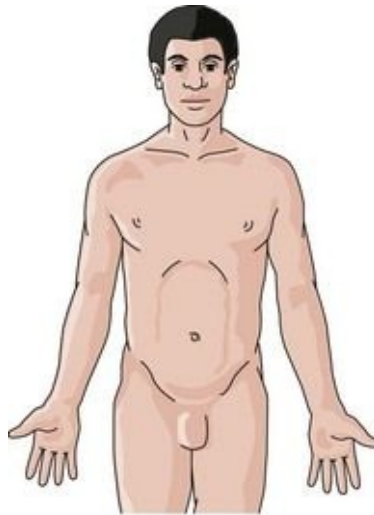
1. Fever
2. Hyperactivity
3. Extreme hunger

4. Urinary retention
5. Abdominal muscle rigidity

288. A client had surgery for a perforated appendix with localized peritonitis. In which position should the nurse place this client?

1. Sims
2. Semi-Fowler
3. Trendelenburg
4. Dorsal recumbent

▶289. A nurse is assessing a client who has possible appendicitis. The nurse assesses the client for rebound tenderness. Place an X on the illustration where the client is expected to report pain.



290. A Harris flush is ordered to reduce a client's flatus after abdominal surgery. How many inches should the nurse insert the rectal catheter?

1. 2
2. 4
3. 6
4. 8

▶291. A client is diagnosed with Crohn disease, and parenteral vitamins are prescribed. The client asks why the vitamins have to be given IV rather than by mouth. What rationales for this route should the nurse include in a response to the question? **Select all that apply.**

1. More rapid action results.
2. They are ineffective orally.
3. They decrease colon irritability.
4. Intestinal absorption may be inadequate.
5. Allergic responses are less likely to occur.

292. After many years of coping with colitis, a client makes the decision to have a colectomy as advised by the health care provider. Which is **most** likely the significant factor that impacted on the client's decision?

1. It is temporary until the colon heals.
2. Surgical treatment cures ulcerative colitis.
3. Ulcerative colitis can progress to Crohn disease.

4. Without surgery, eating table foods is contraindicated.

293. A self-help group of clients with irritable bowel syndrome have invited a nurse to present a program on nutrition. Which substance should the nurse teach the clients to minimize in the diet to decrease GI irritability?

1. Cola drinks
2. Amino acids
3. Rice products
4. Sugar products

▶294. A client is diagnosed as having colitis. Which clinical findings should the nurse expect the client to report? **Select all that apply.**

1. Fever
2. Diarrhea
3. Gain in weight
4. Spitting up blood
5. Abdominal cramps

295. A nurse obtains daily stool specimens for a client with chronic bowel inflammation. The nurse concludes that these stool examinations were ordered to determine:

1. fat content.
2. occult blood.
3. ova and parasites.
4. culture and sensitivity.

▶296. When advising a college student about dietary choices, the nurse should consider the caloric value of the **most** commonly ordered fast foods eaten by active young adults. List the following foods in order from the one with the least number of calories to the one with the most number of calories.

1. _____ French fries
2. _____ Garden salad
3. _____ Whopper with cheese
4. _____ One slice of French toast
5. _____ Six pieces of chicken tenders

297. A nurse is evaluating a client who has been receiving medical intervention for the diagnosis of Crohn disease. Which expected outcome is **most** important for this client?

1. Does skin care
2. Takes oral fluids
3. Gains a half pound per week
4. Experiences less abdominal cramping

▶298. A nurse teaches a client with GI irritability to minimize the intake of dietary irritants. Which products did the nurse teach the client to avoid? **Select all that apply.**

1. Rice
2. Milk
3. Cheese
4. Table salt
5. Chocolate candy

299. A nurse is reviewing the laboratory results of and collecting a health history from a client with a diagnosis of colitis. Which common clinical manifestation of colitis should the nurse expect?

1. Weight loss

2. Hemoptysis
 3. Increased red blood cells
 4. Decreased white blood cells
300. A nurse is teaching a client with an acute exacerbation of colitis about the most appropriate diet. Which food selected by the client indicates that the dietary teaching is effective?
1. Orange juice
 2. Scrambled eggs
 3. Vanilla milkshake
 4. Creamed potato soup
301. Which explanation is **most** accurate when the nurse teaches a client about intussusception of the bowel?
1. Kinking of the bowel onto itself
 2. A band of connective tissue compressing the bowel
 3. Telescoping of a proximal loop of bowel into a distal loop
 4. A protrusion of an organ or part of an organ through the wall that contains it
302. What should the nurse do when caring for a client with an ileostomy?
1. Teach the client to eat foods high in residue.
 2. Explain that drainage can be controlled with daily irrigations.
 3. Expect the stoma to start draining on the third postoperative day.
 4. Anticipate that any emotional stress can increase intestinal peristalsis.
303. A client had part of the ileum surgically removed. Why is it necessary for the nurse to monitor the client for clinical indicators of anemia?
1. Folic acid is absorbed in the ileum.
 2. The hemopoietic factor is absorbed in the ileum.
 3. Iron absorption is dependent on simultaneous bile salt absorption in the ileum.
 4. The trace elements copper, cobalt, and nickel, required for hemoglobin synthesis, are absorbed in the ileum.
- ▶304. An active adolescent is admitted to the hospital for surgery for an ileostomy. When planning a teaching session about self-care, the nurse includes sports that should be avoided by a client with an ileostomy. Which should be included on the list of sports to be avoided? **Select all that apply.**
1. Football
 2. Swimming
 3. Ice hockey
 4. Track events
 5. Cross-country skiing
305. A client is scheduled for a colonoscopy, and the health care provider orders a tap water enema. In which position should the nurse place the client during the enema?
1. Left Sims
 2. Back lying
 3. Knee chest
 4. Mid-Fowler
306. A nurse is educating a client with a colostomy of the ascending colon about using a colostomy appliance. Which instruction should the nurse provide to help prevent leakage of stool from the appliance?
1. Irrigate the colostomy to establish an expected pattern of elimination

2. Empty the appliance when it is approximately one half full with feces
 3. Use an antiseptic to clean the peristomal skin before applying the appliance
 4. Select an appliance with a pouch opening of at least 5 cm larger than the stoma
307. A nurse is caring for a client with a new colostomy. Which client outcome is **most** important for achievement of long-range goals associated with adjusting to a new colostomy?
1. Mastery of techniques of colostomy care
 2. Readiness to accept an altered body function
 3. Awareness of available community resources
 4. Knowledge of the necessary dietary modifications
308. Neomycin 1 g is prescribed preoperatively for a client with a diagnosis of cancer of the colon. The client asks why neomycin is being given. Which is the **best** response by the nurse?
1. "It will decrease your kidney function and lessen urine production during surgery."
 2. "It will kill the bacteria in your bowel and decrease the risk of infection after surgery."
 3. "It is used to alter the body flora, which reduces the spread of the tumor to adjacent organs."
 4. "It is used to prevent you from getting an infection, particularly a bladder infection, before surgery."
309. A client had a colon resection and formation of a colostomy 2 days ago. What color does the nurse expect the stoma to be when assessing its viability?
1. Pink
 2. Gray
 3. Brick red
 4. Dark purple
310. A nurse is caring for a client who is receiving total parenteral nutrition (TPN) after extensive colon surgery. The nurse concludes that the client understands teaching about the purpose of TPN when the client states, "TPN:
1. provides short-term nutrition after surgery."
 2. assists in providing supplemental nutrition."
 3. provides total nutrition when GI function is questionable."
 4. assists people who are unable to eat but have active GI function."
311. A female client with the diagnosis of Crohn disease tells the nurse that her boyfriend dates other women. She believes that this behavior causes an increase in her symptoms. What should the nurse do **first** when counseling this client?
1. Help the client explore attitudes about herself.
 2. Educate the client's boyfriend about her illness.
 3. Suggest the client should not see her boyfriend for a while.
 4. Schedule the client and her boyfriend for a counseling session.
312. A nurse is assessing two clients. One client has ulcerative colitis and the other client has Crohn disease. Which is more likely to be identified in the client with ulcerative colitis than the client with Crohn disease?
1. Inclusion of transmural involvement of the small bowel wall
 2. Correlation with increased malignancy because of malabsorption syndrome
 3. Pathology beginning proximally with intermittent plaques found along the colon
 4. Involvement starting distally with rectal bleeding that spreads continuously up the colon
313. A client with ulcerative colitis has experienced frequent severe exacerbations over the past several years. The client is admitted to the hospital with intense pain, severe diarrhea, and cachexia.

Which therapeutic course should the nurse expect the health care provider to explore with this client?

1. Intensive psychotherapy
2. Continued medical therapy
3. Surgical therapy (colectomy)
4. Diet therapy (low-residue, high-protein diet)

314. A nurse is teaching a client who has a full-time job how to care for a new colostomy. At which time should the nurse suggest scheduling the colostomy irrigations?

1. When it is most convenient for the client
2. Approximately a half hour after breakfast
3. Halfway between the two largest meals of the day
4. At the time the client had bowel movements before surgery

315. A nurse is teaching a client with a permanent colostomy about self-care in preparation for discharge from the hospital. Which intervention should the nurse discuss with the client?

1. Limiting activity
2. Wearing special clothing
3. Dilating the stoma periodically
4. Maintaining a low-residue diet

316. A client with cancer of the colon had surgery for a resection of the tumor and the creation of a colostomy. During the 6-week postoperative checkup, the nurse teaches the client about nutrition. The nurse evaluates that learning has taken place when the client states, "I should follow a diet that is:

1. rich in protein."
2. low in fiber content."
3. as close to usual as possible."
4. higher in calories than before."

317. A nurse is caring for a client with a nasointestinal tube. Which solution should the nurse use when instilling the tube to ensure its patency?

1. Sterile water
2. Isotonic saline
3. Hypotonic saline
4. Hypertonic glucose

318. After having a transverse colostomy, the client asks what physical effect the surgery will have on future sexual relationships. Which information should the nurse include in a teaching plan for this client?

1. "You will be able to resume usual sexual relationships."
2. "Surgery will temporarily decrease your sexual impulses."
3. "Your sexual activity must be curtailed for several weeks."
4. "Partners should be told about the surgery before any sexual activity."

319. A client has a transverse loop colostomy. What should the nurse do when inserting a catheter for the colostomy irrigation?

1. Use an oil-based lubricant.
2. Instruct the client to bear down.
3. Apply gentle but continuous pressure.
4. Direct it toward the client's right side.

320. During a colostomy irrigation, a client reports feeling abdominal cramps. What should the nurse do in response to the client's statement?

1. Discontinue the irrigation.
 2. Lower the container of fluid.
 3. Clamp the catheter for a few minutes.
 4. Advance the catheter approximately an inch.
321. How many inches should the nurse insert a catheter into the stoma when performing a transverse colostomy irrigation?
1. 5 cm (2 inches)
 2. 8 cm (3 inches)
 3. 15 cm (6 inches)
 4. 20 cm (8 inches)
322. When teaching irrigation of a colostomy, how many inches above the stoma should the nurse teach the client to place the container?
1. 15 cm (6 inches)
 2. 25 cm (10 inches)
 3. 30 cm (12 inches)
 4. 45 cm (18 inches)
323. A client is diagnosed with cancer of the rectum and has surgery for an abdominoperineal resection and colostomy. Which nursing care should be implemented during the postoperative period?
1. Limiting fluid intake for several days
 2. Withholding fluids for seventy-two hours
 3. Having the client change the colostomy bag
 4. Keeping the client's skin around the stoma clean
324. Before discharge, a client who had a colostomy for colorectal cancer questions the nurse about resuming activity. What should the nurse teach the client about activity?
1. "With guidance, a near-normal lifestyle, including complete sexual function, is possible."
 2. "Activities of daily living should be resumed as quickly as possible so you avoid being depressed."
 3. "Most sports activities, except for swimming, can be resumed based on your overall physical condition."
 4. "After surgery, changes in activities must be made to accommodate for the physiologic changes caused by the operation."
325. Which statement by an older adult **most** strongly supports the nurse's conclusion that the client is impacted with stool?
1. "I have a lot of gas pains."
 2. "I don't have much of an appetite."
 3. "I feel like I have to go and just can't."
 4. "I haven't had a bowel movement for several days."
326. Which clinical indicators identified by the nurse support the probable presence of a fecal impaction in a client? **Select all that apply.**
1. Abdominal cramps
 2. Fecal liquid seepage
 3. Hyperactive bowel sounds
 4. Bright red blood in the stool
 5. Decreased number of bowel movements
327. An older adult client who is accustomed to taking enemas periodically to avoid constipation is

admitted to a long-term care facility. In addition to medications, the health care provider prescribes bed rest and a regular diet. Which action should be implemented to help prevent the client from developing constipation?

1. Arrange to have enemas ordered for the client.
2. Obtain a prescription for a daily laxative for the client.
3. Place a commode by the bedside to facilitate defecation.
4. Offer a large glass of prune juice with warm water each morning.

328. A client is experiencing chronic constipation and the nurse discusses how to include more bulk in the diet. The nurse concludes that learning has occurred when the client states, “Bulk in the diet promotes defecation by:

1. irritating the bowel wall.”
2. stimulating the intestinal mucosa chemically.”
3. acting on the microorganisms in the large intestine.”
4. stretching intestinal smooth muscle, which causes it to contract.”

329. A client is scheduled for ligation of hemorrhoids. Which diet does the nurse expect to be ordered in preparation for this surgery?

1. Bland
2. Clear liquid
3. High-protein
4. Low-residue

▶330. A nurse is assessing a client with the diagnosis of hemorrhoids. Which factors in the client’s history probably played a role in the development of the client’s hemorrhoids? **Select all that apply.**

1. Constipation
2. Hypertension
3. Eating spicy foods
4. Bowel incontinence
5. Numerous pregnancies

▶331. A client has a diagnosis of hemorrhoids. Which signs and symptoms does the nurse expect the client to report? **Select all that apply.**

1. Flatulence
2. Anal itching
3. Blood in stool
4. Rectal pressure
5. Pain when defecating

▶332. Which interventions should the nurse anticipate will be ordered **initially** for a client who had a hemorrhoidectomy? **Select all that apply.**

1. Giving an enema
2. Applying moist heat
3. Administering stool softeners
4. Encouraging showers as needed
5. Providing occlusive dressings to the area

333. A client is diagnosed as having the hepatitis B virus (HBV). The nurse reviews the client’s health history for possible situations in which exposure may have occurred. Which event does the nurse determine is the **most** likely source of this infection?

1. Had a small tattoo on the arm 3 months ago

2. Assisted in the emergency birth of a baby 2 weeks ago
 3. Worked for a month in an undeveloped area in Mexico 4 months ago
 4. Attended an ecologic conference in a large urban center 2 months ago
334. A client who is receiving TPN reports experiencing nausea, thirst, and a headache. Which clinical factor should the nurse monitor **initially** to further assess the client's status?
1. Blood glucose
 2. Urinary output
 3. Blood pressure
 4. Oral temperature
335. A low-residue diet is recommended for a client. Which food should the nurse encourage the client to select from a menu?
1. Steamed broccoli
 2. Creamed potatoes
 3. Raw spinach salad
 4. Baked sweet potato
336. A client has severe diarrhea, and the health care provider prescribes intravenous fluids, sodium bicarbonate, and an antidiarrheal medication. Which **most** frequently ordered antidiarrheal drug does the nurse expect the health care provider to prescribe?
1. Bisacodyl (Dulcolax)
 2. Psyllium (Metamucil)
 3. Loperamide (Imodium)
 4. Docusate sodium (Colace)

Endocrine System

▶337. A nurse is assessing a client with a diagnosis of diabetes insipidus. For which signs indicative of diabetes insipidus should the nurse assess the client? **Select all that apply.**

1. Excessive thirst
2. Increased blood glucose
3. Dry mucous membranes
4. Increased blood pressure
5. Decreased serum osmolarity
6. Decreased urine specific gravity

338. A client is admitted with a head injury. The nurse identifies that the client's urinary retention catheter is draining large amounts of clear, colorless urine. What does the nurse identify as the **most** likely cause?

1. Increased serum glucose
2. Deficient renal perfusion
3. Inadequate ADH secretion
4. Excess amounts of IV fluid

339. After a head injury a client develops a deficiency of antidiuretic hormone (ADH). What should the nurse consider about the response to secretion of ADH before assessing this client?

1. Serum osmolarity increases
2. Urine concentration decreases
3. Glomerular filtration decreases
4. Tubular reabsorption of water increases

▶340. After surgical clipping of a cerebral aneurysm, the client develops the syndrome of inappropriate secretion of antidiuretic hormone. For which manifestations of excessive levels of antidiuretic hormone (ADH) should the nurse assess the client? **Select all that apply.**

1. Polyuria
2. Weight gain
3. Hypotension
4. Hyponatremia
5. Decreased specific gravity

341. A client who has acromegaly and insulin-dependent diabetes undergoes a hypophysectomy. The nurse identifies that further teaching about the hypophysectomy is necessary when the client states, "I know I will:

1. be sterile for the rest of my life."
2. require larger doses of insulin than I did preoperatively."
3. have to take cortisone or a similar drug for the rest of my life."
4. have to take thyroxine or a similar medication for the rest of my life."

342. A nurse is caring for a client who had a hypophysectomy. For which complication specific to this surgery should the nurse assess the client for early clinical manifestations?

1. Urinary retention
2. Respiratory distress
3. Bleeding at the suture line
4. Increased intracranial pressure

343. Which information from the client's history does the nurse identify as a risk factor for

developing osteoporosis?

1. Receives long-term steroid therapy
2. Has a history of hypoparathyroidism
3. Engages in strenuous physical activity
4. Consumes high doses of the hormone estrogen

344. A nurse is caring for two clients newly diagnosed with diabetes. One client has type 1 diabetes and the other client has type 2 diabetes. The nurse determines that the main difference between newly diagnosed type 1 and type 2 diabetes is that in type 1 diabetes:

1. onset of the disease is slow.
2. excessive weight is a contributing factor.
3. complications are not present at the time of diagnosis.
4. treatment involves diet, exercise, and oral medications.

345. A client is scheduled for an adrenalectomy. Which nursing intervention should the nurse anticipate will be ordered for this client?

1. Administer IV steroids.
2. Provide a high-protein diet.
3. Collect a 24-hour urine specimen.
4. Withhold all medications for 48 hours.

346. A nurse is caring for a newly admitted client with a diagnosis of Cushing syndrome. Why should the nurse monitor this client for clinical indicators of diabetes mellitus?

1. Cortical hormones stimulate rapid weight loss.
2. Tissue catabolism results in a negative nitrogen balance.
3. Glucocorticoids accelerate the process of gluconeogenesis.
4. Excessive adrenocorticotrophic hormone secretion damages pancreatic tissue.

347. A nurse is caring for a client with a diagnosis of Cushing syndrome. What is the **most** common cause of Cushing syndrome that the nurse should consider before assessing this client for physiological responses?

1. Pituitary hypoplasia
2. Hyperplasia of the adrenal cortex
3. Deprivation of adrenocortical hormones
4. Insufficient adrenocorticotrophic hormone production

▶348. A nurse is assessing a female client with Cushing syndrome. Which clinical findings can the nurse expect to identify? **Select all that apply.**

1. Hirsutism
2. Menorrhagia
3. Buffalo hump
4. Dependent edema
5. Migraine headaches

▶349. Which clinical indicators can the nurse expect when assessing a client with Cushing syndrome? **Select all that apply.**

1. Lability of mood
2. Slow wound healing
3. A decrease in the growth of hair
4. Ectomorphism with a moon face
5. An increased resistance to bruising

▶350. A nurse is caring for a male client with a diagnosis of Cushing syndrome. Which clinical manifestations does the nurse expect to identify? **Select all that apply.**

1. Polyuria
2. Obese trunk
3. Hypotension
4. Sleep disturbance
5. Thin arms and legs

351. A client is diagnosed with Cushing syndrome. Which clinical manifestation does the nurse expect to increase in a client with Cushing syndrome?

1. Urine output
2. Glucose level
3. Serum potassium
4. Immune response

352. What should the nurse do when collecting a 24-hour urine specimen?

1. Check to verify if a preservative is needed.
2. Weigh the client before starting the collection.
3. Discard the last voided specimen of the 24-hour period.
4. Assess the client's intake and output for the previous 24-hour period.

353. A client is scheduled for a bilateral adrenalectomy. Before surgery, steroids are administered to the client. What does the nurse determine is the reason for the steroids?

1. Foster accumulation of glycogen in the liver
2. Increase the inflammatory action to promote scar formation
3. Facilitate urinary excretion of salt and water following surgery
4. Compensate for sudden lack of these hormones following surgery

354. A nurse is caring for a client who is scheduled for a bilateral adrenalectomy. Which medication should the nurse expect to be prescribed for this client on the day of surgery and in the immediate postoperative period?

1. Methimazole (Tapazole)
2. Pituitary extract (Pituitrin)
3. Regular insulin (Novolin R)
4. Hydrocortisone succinate (Solu-Cortef)

355. A nurse is caring for a client who had an adrenalectomy. For what clinical response should the nurse monitor while steroid therapy is being regulated?

1. Hypotension
2. Hyperglycemia
3. Sodium retention
4. Potassium excretion

356. A client who has just had an adrenalectomy is told about a death in the family and becomes very upset. What concern about the client requires the nurse to notify the health care provider?

1. Analgesia and mild sedation will be required to ensure rest.
2. Steroid replacement medication therapy will have to be reduced.
3. There is a decreased ability to handle stress despite steroid therapy.
4. Feelings of exhaustion and lethargy may result from the emotional stress.

357. A client with a tentative diagnosis of Cushing syndrome has an increased cortisol level. For what response should the nurse assess this client?

1. Hypovolemia
2. Hyperkalemia
3. Hypoglycemia
4. Hypernatremia

358. A health care provider orders a low-sodium, high-potassium diet for a client with Cushing syndrome. Which explanation should the nurse provide as to why the client needs to follow this diet?

1. "The use of salt probably contributed to the disease."
2. "Excess weight will be gained if sodium is not limited."
3. "The loss of excess sodium and potassium in the urine requires less renal stimulation."
4. "Excessive aldosterone and cortisone cause retention of sodium and loss of potassium."

359. A nurse is caring for a client with the clinical manifestation of hypotension associated with a diagnosis of Addison disease. Which hormone is impaired in its production as a result of this disease?

1. Estrogens
2. Androgens
3. Glucocorticoids
4. Mineralocorticoids

360. A nurse is monitoring for clinical manifestations of infection in a client with a diagnosis of Addison disease. Which body mechanism related to infectious processes does the nurse conclude is impaired as a result of this disease?

1. Stress response
2. Electrolyte balance
3. Metabolic processes
4. Respiratory function

361. A client is admitted to a medical unit with a diagnosis of Addison disease. The client is emaciated and reports muscular weakness and fatigue. Which disturbed body process does the nurse determine is the root cause of the client's clinical manifestations?

1. Fluid balance
2. Electrolyte levels
3. Protein anabolism
4. Masculinizing hormones

362. Which is an important intervention that the nurse should include in the plan of care that is specific for a client with Addison disease?

1. Encouraging the client to exercise
2. Protecting the client from exertion
3. Restricting the client's fluid intake
4. Monitoring the client for hypokalemia

363. A health care provider writes orders addressing the needs of a client with Addison disease. Which outcome does the nurse conclude is the main focus of treatment for this client?

1. Decrease in eosinophils
2. Increase in lymphoid tissue
3. Restoration of electrolyte balance
4. Improvement of carbohydrate metabolism

364. A nurse is caring for a client with Addison disease. Which information should the nurse include in a teaching plan as a means of encouraging this client to modify dietary intake?

1. Increased amounts of potassium are needed to replace renal losses.
2. Increased protein is needed to heal the adrenal tissue and thus cure the disease.
3. Supplemental vitamins are needed to supply energy and assist in regaining the lost weight.
4. Extra salt is needed to replace the amount being lost due to lack of sufficient aldosterone to conserve sodium.

▶365. Fludrocortisone (Florinef) is prescribed for a client with adrenal insufficiency. Which responses to the medication should the nurse teach the client to report? **Select all that apply.**

1. Edema
2. Rapid weight gain
3. Fatigue in the afternoon
4. Unpredictable changes in mood
5. Increased frequency of urination

▶366. After assessing a client, a nurse concludes that the client may be experiencing hyperglycemia. Which clinical findings commonly associated with hyperglycemia support the nurse's conclusion? **Select all that apply.**

1. Polyuria
2. Polydipsia
3. Polyphagia
4. Polyphrasia
5. Polydysplasia

367. A nurse is monitoring a client's laboratory results for a fasting plasma glucose level. Within which range of a fasting plasma glucose level does the nurse conclude that a client is considered to be diabetic?

1. 40 and 60 mg/dL
2. 80 and 99 mg/dL
3. 100 and 125 mg/dL
4. 126 and 140 mg/dL

368. Which nursing intervention is the **priority** when a client is first admitted with hyperglycemic hyperosmolar nonketotic syndrome (HHNS)?

1. Providing oxygen
2. Encouraging carbohydrates
3. Administering fluid replacement
4. Teaching facts about dietary principles

369. A client admitted to the emergency department has ketones in the blood and urine. Which situation associated with this physiologic finding should be the nurse's focus when collecting additional data about this client?

1. Starvation
2. Alcoholism
3. Bone healing
4. Positive nitrogen balance

370. A client tells the nurse during the admission history that an oral hypoglycemic agent is taken daily. For which condition does the nurse conclude that an oral hypoglycemic agent may be prescribed by the health care provider?

1. Ketosis
2. Obesity

3. Type 1 diabetes
4. Reduced insulin production

▶371. A nurse is assessing a client with a diagnosis of hypoglycemia. What clinical manifestations support this diagnosis? **Select all that apply.**

1. Thirst
2. Palpitations
3. Diaphoresis
4. Slurred speech
5. Hyperventilation

372. A nurse is caring for a client with a diagnosis of type 1 diabetes who has developed diabetic coma. Which element excessively accumulates in the blood to precipitate the signs and symptoms associated with this condition?

1. Sodium bicarbonate, causing alkalosis
2. Ketones as a result of rapid fat breakdown, causing acidosis
3. Nitrogen from protein catabolism, causing ammonia intoxication
4. Glucose from rapid carbohydrate metabolism, causing drowsiness

373. A nurse is caring for a postoperative client who has diabetes. Which is the **most** common cause of diabetic ketoacidosis that the nurse needs to consider when caring for this client?

1. Emotional stress
2. Presence of infection
3. Increased insulin dose
4. Inadequate food intake

374. A client is admitted to the hospital with a diagnosis of diabetic ketoacidosis. What is the **initial** intervention that the nurse should expect the health care provider to prescribe for this client?

1. IV fluids
2. Potassium
3. NPH insulin (Novolin N)
4. Sodium polystyrene sulfonate (Kayexalate)

375. A client is diagnosed with diabetic ketoacidosis. Which insulin should the nurse expect the health care provider to prescribe?

1. Insulin lispro (Humalog)
2. Insulin glargine (Lantus)
3. NPH insulin (Novolin N)
4. Regular insulin (Novolin R)

▶376. Metformin (Glucophage) 2 g by mouth is prescribed for a client with type 2 diabetes. Each tablet contains 500 mg. How many tablets should the nurse administer? **Record your answer using a whole number.**

Answer: _____ tablets

377. A nurse is assessing a client experiencing a diabetic coma. What unique response associated with diabetic coma that is not exhibited with hyperglycemic hyperosmolar nonketotic syndrome (HHNS) should the nurse identify when assessing this client?

1. Fluid loss
2. Glycosuria
3. Kussmaul respirations
4. Increased blood glucose level

378. A client with untreated type 1 diabetes mellitus may lapse into a coma because of acidosis. An increase in which component in the blood is a direct cause of this type of acidosis?

1. Ketones
2. Glucose
3. Lactic acid
4. Glutamic acid

379. A client is learning alternate site testing (AST) for glucose monitoring. Which client statement indicates to the nurse that additional teaching is necessary?

1. "I need to rub my forearm vigorously until warm before testing at this site."
2. "The fingertip is preferred for glucose monitoring if hyperglycemia is suspected."
3. "Alternate site testing is unsafe if I am experiencing a rapid change in glucose levels."
4. "I have to make sure that my current glucose monitor can be used at an alternative site."

380. A client with diabetes asks the nurse whether the new forearm stick glucose monitor gives the same results as a fingerstick. What is the nurse's **best** response to this question?

1. "There is no difference between readings."
2. "These types of monitors are meant for children."
3. "Readings are on a different scale for each monitor."
4. "Faster readings can be obtained from a fingerstick."

381. A urine specimen is needed to test for the presence of ketones in a client who is diabetic. What should the nurse do when collecting this specimen from a urinary retention catheter?

1. Disconnect the catheter and drain the urine into a clean container.
2. Clean the drainage valve and remove the urine from the catheter bag.
3. Wipe the catheter with alcohol and drain the urine into a sterile test tube.
4. Clamp the catheter, cleanse the port, and use a sterile syringe to remove urine.

382. A nurse is monitoring a client's fasting plasma glucose (FPG) level. At which FPG level should the nurse identify that the client has prediabetes?

1. 70 mg/dL
2. 100 mg/dL
3. 130 mg/dL
4. 160 mg/dL

▶383. A nurse concludes that a client has a hypoglycemic reaction to insulin. Which clinical findings support this conclusion? **Select all that apply.**

1. Irritability
2. Glycosuria
3. Dry, hot skin
4. Heart palpitations
5. Fruity odor of breath

384. A nurse is planning to teach facts about hyperglycemia to a client with the diagnosis of diabetes. What information should the nurse include in the discussion about what causes diabetic acidosis?

1. Breakdown of fat stores for energy
2. Ingestion of too many highly acidic foods
3. Excessive secretion of endogenous insulin
4. Increased amounts of cholesterol in the extracellular compartment

▶385. A nurse is collecting information about a client who has type 1 diabetes and who is being admitted because of diabetic ketoacidotic coma. Which factors can predispose a client to this

condition? **Select all that apply.**

1. Taking too much insulin
2. Getting too much exercise
3. Excessive emotional stress
4. Running a fever with the flu
5. Eating fewer calories than prescribed

▶386. A nurse is caring for a client admitted to the hospital for diabetic ketoacidosis. Which clinical findings related to this event should the nurse document in the client's clinical record? **Select all that apply.**

1. Sweating
2. Retinopathy
3. Acetone breath
4. Increased arterial bicarbonate level
5. Decreased arterial carbon dioxide level

▶387. A nurse is assessing a client with diabetic ketoacidosis. Which clinical manifestations should the nurse expect? **Select all that apply.**

1. Dry skin
2. Abdominal pain
3. Kussmaul respirations
4. Absence of ketones in the urine
5. Blood glucose level of less than 100 mg/dL

388. A nurse is caring for a client with diabetes who is scheduled for a radiographic study requiring contrast. Which should the nurse expect the health care provider to prescribe?

1. Acetylcysteine (Acetadote) before the test
2. Renal-friendly contrast medium for the test
3. Forced diuresis with mannitol (Osmitrol) after the test
4. Hydration with dextrose and water throughout the test

389. A nurse is caring for a client with type 1 diabetes, and the health care provider prescribes one tube of glucose gel. What is the **primary** reason for the administration of glucose gel to this client?

1. Diabetic acidosis
2. Hyperinsulin secretion
3. Insulin-induced hypoglycemia
4. Idiosyncratic reactions to insulin

390. A client's blood gases reflect diabetic ketoacidosis. Which clinical indicator should the nurse expect to identify when monitoring this client's laboratory values?

1. Increased pH
2. Decreased PO_2
3. Increased PCO_2
4. Decreased HCO_3

391. A nurse is caring for a client newly diagnosed with type 1 diabetes. When the health care provider tries to regulate this client's insulin regimen, the client experiences episodes of hypoglycemia and hyperglycemia and 15 g of a simple sugar is prescribed. What is the reason this is administered when a client experiences hypoglycemia?

1. Inhibits glycogenesis

2. Stimulates release of insulin
3. Increases blood glucose levels
4. Provides more storage of glucose

392. A nurse administers the prescribed regular insulin (Novolin R) to a client in diabetic ketoacidosis. In addition, the nurse anticipates that the IV solution prescribed will contain potassium to replenish potassium ions in the extracellular fluid that are being:

1. rapidly lost from the body by copious diaphoresis present during coma.
2. carried with glucose to the kidneys to be excreted in the urine in increased amounts.
3. quickly used up during the rapid series of catabolic reactions stimulated by insulin and glucose.
4. moved into the intracellular fluid compartment because of the generalized anabolism induced by insulin and glucose.

393. A client has a hypoglycemic reaction to insulin. Which client responses should the nurse document as clinical manifestations of hypoglycemia? **Select all that apply.**

1. Pallor
2. Tremors
3. Glycosuria
4. Acetonuria
5. Diaphoresis

394. A nurse identifies that the client is experiencing a hypoglycemic reaction. Which nursing intervention should the nurse implement to relieve the symptoms associated with this reaction?

1. Giving 4 oz of fruit juice
2. Administering 5% dextrose solution IV
3. Withholding a subsequent dose of insulin
4. Providing a snack of cheese and dry crackers

395. A nurse working in the diabetes clinic is evaluating a client's success with managing the medical regimen. Which is the **best** indication that a client with type 1 diabetes is successfully managing the disease?

1. Reduction in excess body weight
2. Stabilization of the serum glucose
3. Demonstrated knowledge of the disease
4. Adherence to the prescription for insulin

396. A client with type 1 diabetes mellitus has a fingerstick glucose level of 258 mg/dL at bedtime. A prescription for sliding scale regular insulin (Novolin R) exists. What should the nurse do?

1. Call the health care provider.
2. Encourage the intake of fluids.
3. Administer the insulin as prescribed.
4. Give the client a half cup of orange juice.

397. A client with diabetes is given instructions about foot care. The nurse determines that the instructions are understood when the client states, "I will:

1. cut my toenails before bathing."
2. soak my feet daily for one hour."
3. examine my feet using a mirror at least once a week."
4. break in my new shoes over the course of several weeks."

398. The nurse identifies that the dietary teaching provided for a client with diabetes is understood when the client states, "My diet:

1. should be rigidly controlled to avoid emergencies.”
2. can be planned around a wide variety of commonly used foods.”
3. is based on nutritional requirements that are the same for all people.”
4. must not include eating any combination dishes and processed foods.”

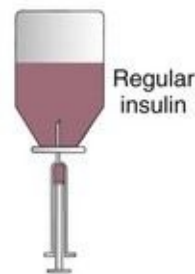
►399. A health care provider prescribes 36 units of NPH insulin (Novolin N) and 12 units of regular insulin (Novolin R). The nurse plans to administer these drugs in one syringe. Identify the steps in this procedure by listing the numbers by each picture next to the step below in **priority** order. (Start with the number of the picture that represents the first step and end with the number by the picture that represents the last step.)

Step 1 _____ Step 2 _____ Step 3 _____ Step 4 _____

1. Inject air equal to NPH dose into NPH vial.



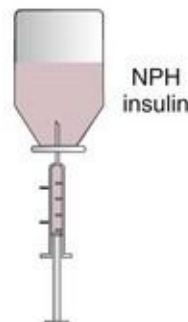
2. Invert regular insulin bottle and withdraw regular insulin dose.



3. Inject air equal to regular dose into regular vial.



4. Invert NPH vial and withdraw NPH dose.



400. A nurse is caring for several clients with type 1 diabetes, and they each have a prescription for a specific type of insulin. Which insulin does the nurse conclude has the fastest onset of action?

1. Insulin lispro (Humalog)
2. Insulin glargine (Lantus)
3. NPH insulin (Novolin N)
4. Regular insulin (Novolin R)

401. A client with diabetes states, “I cannot eat big meals; I prefer to snack throughout the day.” What information should the nurse include in a response to this client’s statement?

1. Regulated food intake is basic to control.
2. Salt and sugar restriction is the main concern.
3. Small, frequent meals are better for digestion.
4. Large meals can contribute to a weight problem.

402. A nurse plans an evening snack of milk, crackers, and cheese for a client who is receiving NPH insulin (Novolin N). What does this snack provide?

1. Encouragement to stay on the diet
2. Added calories to promote weight gain
3. Nourishment to counteract late insulin activity
4. High-carbohydrate nourishment for immediate use

403. A client has a glycosylated hemoglobin measurement of 6%. What should the nurse conclude about this client when planning a teaching plan based on the results of this laboratory test?

1. Is experiencing a rebound hyperglycemia
2. Needs the insulin changed to a different type
3. Has followed the treatment plan as prescribed
4. Requires further teaching regarding nutritional guide-lines

404. A client with type 1 diabetes comes to the clinic because of concerns regarding erratic control of blood glucose with the prescribed insulin therapy. The client has been experiencing a sudden fall in the blood glucose level, followed by a sudden episode of hyperglycemia. Which complication of insulin therapy should the nurse conclude that the client is experiencing?

1. Somogyi effect
2. Dawn phenomenon
3. Diabetic ketoacidosis
4. Hyperosmolar nonketotic syndrome

►405. A nurse is formulating a teaching plan for a client recently diagnosed with type 2 diabetes. What interventions should the nurse include that will decrease the risk of complications? **Select all that apply.**

1. Examining the feet daily
2. Wearing well-fitting shoes
3. Performing regular exercise
4. Powdering the feet after showering
5. Visiting the health care provider weekly
6. Testing bathwater with the toes before bathing

406. Which is an independent nursing action that should be included in the plan of care for a client after an episode of ketoacidosis?

1. Monitoring for signs of hypoglycemia as a result of treatment
2. Withholding glucose in any form until the situation is corrected
3. Giving fruit juices, broth, and milk as soon as the client is able to take fluids orally
4. Regulating insulin dosage according to the amount of ketones found in the client's urine

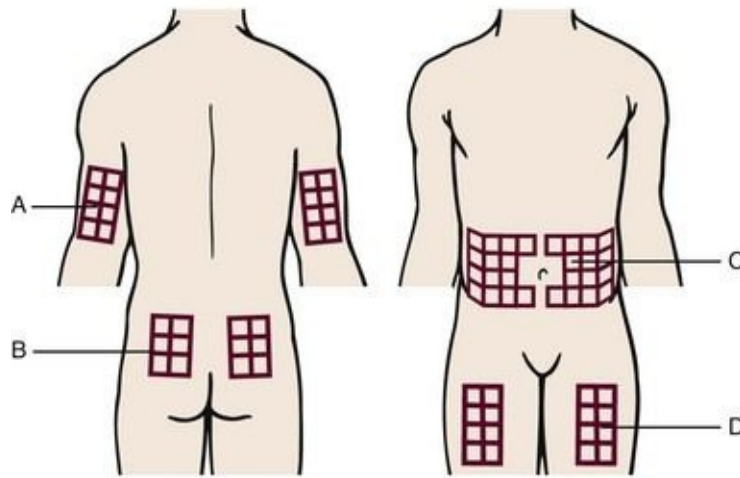
407. A client with type 1 diabetes has an above-the-knee amputation because of severe lower extremity arterial disease. What is the nurse's **primary** responsibility 2 days after surgery when preparing the client to eat dinner?

1. Checking the client's serum glucose level
2. Assisting the client out of bed into a chair
3. Placing the client in the high-Fowler position
4. Ensuring the client's residual limb is elevated

►408. A client with diabetes is being taught to self-administer a subcutaneous injection of insulin. Identify the preferred site for the self-administration of this drug.

1. A
2. B
3. C

4. D



409. A nurse is caring for a client who is experiencing an underproduction of thyroxine. Which client response is associated with an underproduction of thyroxine (T_4)?

1. Myxedema
2. Acromegaly
3. Graves disease
4. Cushing disease

410. Propylthiouracil (PTU) is prescribed for a client diagnosed with hyperthyroidism. The client asks the nurse, “Why do I have to take this medication if I am going to get the atomic cocktail?” The nurse explains that the medication is being prescribed because it decreases the:

1. vascularity of the thyroid gland.
2. production of thyroid hormones.
3. need for thyroid iodine supplements.
4. amount of already formed thyroid hormones.

▶411. A nurse is caring for a client with an underactive thyroid gland. Which responses should the nurse expect the client to exhibit as a result of decreased levels of triiodothyronine (T_3) and T_4 ?

Select all that apply.

1. Irritability
2. Tachycardia
3. Weight gain
4. Cold intolerance
5. Profuse diaphoresis

▶412. Which clinical findings should the nurse expect when assessing a client with hyperthyroidism?

Select all that apply.

1. Diarrhea
2. Listlessness
3. Weight loss
4. Bradycardia
5. Decreased appetite

413. A nurse is caring for a client after radioactive iodine is administered for Graves disease. What

information about the client's condition after this therapy should the nurse consider when providing care?

1. Not radioactive and can be handled as any other individual
2. Highly radioactive and should be isolated as much as possible
3. Mildly radioactive but should be treated with routine safety precautions
4. Not radioactive but may still transmit some dangerous radiations and must be treated with precautions

414. A client is scheduled to have a thyroidectomy. Which medication does the nurse anticipate the health care provider will prescribe to decrease the size and vascularity of the thyroid gland before surgery?

1. Vasopressin (Pitressin)
2. Propylthiouracil (PTU)
3. Potassium iodide (SSKI)
4. Levothyroxine (Synthroid)

415. A nurse is assessing a client for possible laryngeal nerve injury following a thyroidectomy. Which action should the nurse implement on an hourly basis?

1. Ask the client to speak.
2. Instruct the client to swallow.
3. Have the client hum a familiar tune.
4. Swab the client's throat to test the gag reflex.

416. A client with hyperthyroidism asks the nurse about the tests that will be ordered. Which diagnostic tests should the nurse include in a discussion with this client?

1. T₄ and x-ray films
2. TSH assay and T₃
3. Thyroglobulin level and PO₂
4. Protein-bound iodine and SMA

417. A nurse is caring for a newly admitted client with a diagnosis of Graves disease. In preparing a teaching plan, the nurse anticipates which diet will be ordered for this client?

1. High-calorie diet
2. Low-sodium diet
3. High-roughage diet
4. Mechanical-soft diet

418. A nurse in the postanesthesia care unit is caring for a client who just had a thyroidectomy. For which client response is it most important for the nurse to monitor?

1. Urinary retention
2. Signs of restlessness
3. Decreased blood pressure
4. Signs of respiratory obstruction

419. A nurse is caring for a client who just had a thyroidectomy. For which client response should the nurse assess the client when concerned about an accidental removal of the parathyroid glands during surgery?

1. Tetany
2. Myxedema
3. Hypovolemic shock

4. Adrenocortical stimulation

420. When taking the blood pressure of a client who had a thyroidectomy, the nurse identifies that the client is pale and has spasms of the hand. The nurse notifies the health care provider. Which should the nurse expect the health care provider to prescribe?

1. Calcium
2. Magnesium
3. Bicarbonate
4. Potassium chloride

421. What should a nurse do immediately when a client returns from the postanesthesia care unit following a subtotal thyroidectomy?

1. Inspect the incision.
2. Instruct the client not to speak.
3. Place a tracheostomy set at the bedside.
4. Place in the supine position for twenty-four hours.

422. On the first postoperative day following a thyroidectomy, a client tolerates a full-fluid diet. This is changed to a soft diet on the second postoperative day. The client reports having a sore throat when swallowing. What should the nurse do **first**?

1. Reorder the full-fluid diet.
2. Notify the health care provider.
3. Administer analgesics as prescribed before meals.
4. Provide saline gargles to moisten the mucous membranes.

▶423. A nurse is assessing a client with a diagnosis of hypothyroidism. Which clinical manifestations should the nurse expect when assessing this client? **Select all that apply.**

1. Dry skin
2. Brittle hair
3. Weight loss
4. Resting tremors
5. Heat intolerance

▶424. Levothyroxine (Synthroid) 0.125 mg by mouth is prescribed for a client with hypothyroidism. The only tablets available contain 25 mcg per tablet. How many tablets should the nurse administer?

Record your answer using a whole number.

Answer: _____ tablets

▶425. A client is diagnosed with hyperthyroidism and is experiencing exophthalmia. Which measures should the nurse include when teaching this client how to manage the discomfort associated with exophthalmia? **Select all that apply.**

1. Use tinted glasses.
2. Use warm, moist compresses.
3. Elevate the head of the bed 45 degrees.
4. Tape eyelids shut at night if they do not close.
5. Apply a petroleum-based jelly along the lower eyelid.

426. For which client response should the nurse monitor when assessing for complications of hyperparathyroidism?

1. Tetany
2. Seizures
3. Bone pain

4. Graves disease

427. A nurse is caring for a client who is admitted to the hospital with the diagnosis of primary hyperparathyroidism. Which action should be included in this client's plan of care?

1. Ensuring a large fluid intake
2. Providing a high-calcium diet
3. Instituting seizure precautions
4. Encouraging complete bed rest

▶428. A client's laboratory values demonstrate an increased serum calcium level, and further diagnostic tests reveal hyperparathyroidism. For what clinical manifestations should the nurse assess this client? **Select all that apply.**

1. Muscle tremors
2. Abdominal cramps
3. Increased peristalsis
4. Cardiac dysrhythmias
5. Hypoactive bowel sounds

▶429. A nurse is caring for a client newly admitted with a diagnosis of pheochromocytoma. Which clinical findings does the nurse expect when assessing this client? **Select all that apply.**

1. Headache
2. Palpitations
3. Diaphoresis
4. Bradycardia
5. Hypotension

430. A nurse is transferring a client with a diagnosis of pheochromocytoma from a bed to a chair. What is the **most** important nursing intervention associated with this procedure for this client?

1. Supporting the client on the weak side
2. Ensuring that the chair is close to the client's bed
3. Placing sturdy shoes with rubber soles on the client's feet
4. Having the client sit on the side of the bed for a few minutes before the transfer

▶431. A nurse is caring for a client with a tentative diagnosis of pheochromocytoma who is receiving chlorpromazine (Thorazine). A 24-hour urine specimen to assess the presence of vanillylmandelic acid (VMA) is ordered to assist in the confirmation of the diagnosis. What information should the nurse include in the client teaching regarding this test? **Select all that apply.**

1. The client may take chlorpromazine (Thorazine) during the test.
2. Encourage the client to engage in usual activities during the test.
3. Only salicylates (aspirin) can be taken for discomfort during the test.
4. All urine excreted over the 24-hour period must be saved and refrigerated.
5. Avoid coffee, chocolate, and citrus fruit for 3 days before and during the test.

432. A 24-hour urine test is ordered for a client who has a tentative diagnosis of pheochromocytoma. What should the nurse do?

1. Start the time of the test after discarding the first voiding.
2. Discard the last voiding in the 24-hour time period for the test.
3. Insert a urinary retention catheter to promote the collection of urine.
4. Strain the urine following each voiding before adding the urine to the container.

Integumentary System

433. A nurse is preparing to give a client a tepid bath and uses a bath thermometer to test the water temperature. What is the acceptable temperature range for a tepid bath?

1. 92° to 94° F
2. 95° to 97° F
3. 98° to 100° F
4. 101° to 103° F

434. A health care provider orders the application of a warm soak to an IV site that has infiltrated. What principle does the nurse determine is in operation when the application of local heat transfers temperature to the body?

1. Radiation
2. Insulation
3. Convection
4. Conduction

435. A nurse is caring for a client who is admitted to the hospital for medical management of heart failure and severe peripheral edema. For which clinical indicators associated with unresolved severe peripheral edema should the nurse assess the client?

1. Proteinemia
2. Contractures
3. Tissue ischemia
4. Thrombus formation

▶436. A nurse is assessing a client with a diagnosis of psoriasis. Which clinical findings should the nurse expect to observe? **Select all that apply.**

1. Scaly lesions
2. Pruritic lesions
3. Reddened papules
4. Multiple petechiae
5. Erythematous macules

437. A client with psoriasis asks the nurse what can help this condition. Which should the nurse include in a teaching plan for this client?

1. Avoiding exposure to the sun
2. Topical application of steroids
3. Potassium permanganate baths
4. Débridement of necrotic plaques

438. A nurse is caring for a client with scabies. Which information about scabies should the nurse consider when planning care for this client?

1. Highly contagious
2. Caused by a fungus
3. Chronic with exacerbations
4. Associated with other allergies

439. A nurse is caring for a client with the diagnosis of pemphigus vulgaris. Which expected response does the nurse need to address in the client's plan of care?

1. Paralysis
2. Infertility

3. Skin lesions

4. Impaired digestion

▶440. A nurse is interviewing a client who was diagnosed with systemic lupus erythematosus (SLE). Which common responses to this disease can the nurse expect the client to exhibit? **Select all that apply.**

1. Butterfly facial rash

2. Firm skin fixed to tissue

3. Inflammation of the joints

4. Muscle mass degeneration

5. Inflammation of small arteries

▶441. A nurse is providing counseling to a client with the diagnosis of systemic lupus erythematosus (SLE). What recommendations are essential for the nurse to include? **Select all that apply.**

1. Eat foods high in vitamin C.

2. Take your temperature daily.

3. Balance periods of rest and activity.

4. Use a strong soap when washing the skin.

5. Expose the skin to the sun as often as possible.

442. A client newly diagnosed with scleroderma states, "Where did I get this from?" The nurse's **best** response is "Although no cause has been determined for scleroderma, it is thought to be the result of:

1. autoimmunity."

2. ocular motility."

3. increased amino acid metabolism."

4. defective sebaceous gland formation."

▶443. A nurse is assessing a client with the diagnosis of scleroderma for the signs of CREST syndrome. What clinical indicators should the nurse expect to identify? **Select all that apply.**

1. Joint pain

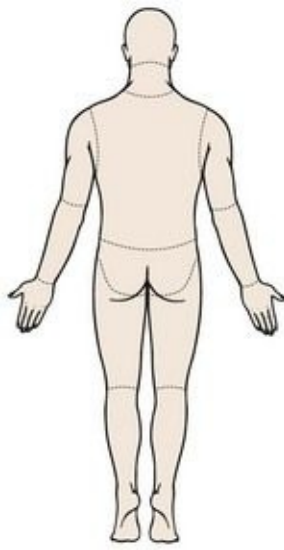
2. Mask-like facies

3. Esophageal reflux

4. Spider-like hemangiomas

5. Episodic blanching of the fingers

▶444. A client with a spinal cord injury tends to assume the low-Fowler position excessively. Place an X over the area of the body that is most vulnerable to the development of a pressure ulcer in this client.



►445. A nurse is assessing a newly admitted client with a pressure ulcer indicated in the picture on the following page. What stage pressure ulcer should the nurse document on the admission history and physical?

1. Stage I
2. Stage II
3. Stage III
4. Stage IV



►446. A client with a stage IV pressure ulcer is to receive 0.22 g of zinc sulfate by mouth. Each tablet contains 110 mg. How many tablets should the nurse administer? **Record your answer using a whole number.**

Answer: _____ tablets

447. A nurse is caring for a client admitted for removal of basal cell carcinoma and reconstruction of the nose. About which contributing factor should the nurse question the client when collecting a health history?

1. Dietary patterns
2. Familial tendencies
3. Amount of tobacco use
4. Ultraviolet radiation exposure

448. For which clinical manifestation should the nurse assess a client with metastatic melanoma?

1. Oily skin
2. Nikolsky sign
3. Lymphadenopathy
4. Erythema of the palms

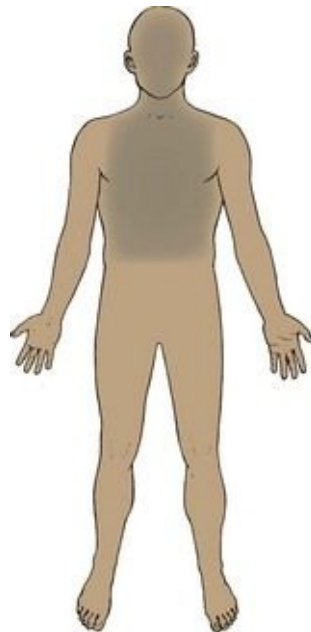
449. A client is admitted for malignant melanoma that was discovered during a routine eye examination. For which preferred treatment does the nurse expect the client to be scheduled?

1. Radiation
2. Enucleation
3. Cryosurgery
4. Chemotherapy

450. A nurse is caring for a client who is scheduled to have a pigskin graft applied to a burned area. Which type of graft is going to be applied by the health care provider?

1. Isograft
2. Allograft
3. Homograft
4. Heterograft

►451. A nurse is assessing a client with second-degree burns. The shaded areas in the illustration indicate the parts of the body where the client sustained burns. Calculate the percentage of the body that was burned using the Rule of Nines. **Record your answer using one decimal place.**



Answer: _____%

452. A nurse is evaluating a client's fluid loss resulting from extensive burns. What is the most valuable blood test to use when monitoring a client's fluid loss?

1. BUN
2. Blood pH
3. Hematocrit
4. Sedimentation rate

453. A nurse is caring for a client who experienced serious burns in a fire. Which relationship between a client's burned body surface area and fluid loss should the nurse consider when evaluating

fluid loss in a client with burns?

1. Equal
2. Unrelated
3. Inversely related
4. Directly proportional

454. Which is the most difficult problem for the nurse to manage when meeting the needs of an extensively burned client 3 days after admission?

1. Severe pain
2. Maintenance of sterility
3. Alteration in body image
4. Frequent dressing changes

455. A nurse is caring for a client who has a disturbed body image as a result of a burn injury. Which is an important nursing intervention for this client?

1. Conveying a positive attitude toward the client
2. Arranging for the client to meet other clients with burns
3. Removing mirrors until the client's physical appearance has improved
4. Reminding family members to avoid comments about the client's appearance

456. A nurse is caring for a client who sustained a partial-thickness burn to the lower leg accounting for 5% of the total body surface area 1 day ago. A **primary** short-term outcome established by the nurse and client is "The client's:

1. airway will remain patent."
2. burns will heal free of infection."
3. urine output will exceed 30 mL every hour."
4. pain will remain at 2 or less on a scale of 0 to 10."

457. A worker is involved in an explosion of a steam pipe and receives a scalding burn to the chest and arms. The burned areas are painful, mottled red, weeping, and edematous. Which should the nurse conclude is an appropriate classification for these burns?

1. Eschar
2. Full-thickness
3. Deep partial-thickness
4. Superficial partial-thickness

458. A nurse is caring for a client during the first few hours after admission to the burn unit with partial-thickness burns of the trunk and head. Which potential problem is the **least** concern for the nurse during the emergent phase of a burn injury?

1. Pain
2. Leukopenia
3. Laryngeal edema
4. Fluid volume deficit

459. A nurse is caring for a client during the emergent phase of a severe burn injury. Which parenteral intervention prescribed by the health care provider should the nurse question?

1. Colloids
2. Potassium
3. Hypertonic saline
4. Lactated Ringer solution

460. A nurse is assessing a client during the first 24 hours after a burn injury. Which sign indicates to

the nurse that fluid replacement therapy is adequate?

1. Decreasing CVP readings
2. Urinary output of 15 to 20 mL/hr
3. Slowing of a previously rapid pulse
4. Hematocrit level increasing from 50% to 55%

461. A nurse places a client with severe burns on a circulating air bed. What is the **primary** reason why the nurse implements this action?

1. Increase mobility
2. Prevent contractures
3. Limit orthostatic hypotension
4. Prevent pressure on peripheral blood vessels

462. Which information should the nurse include in a teaching plan for a client whose burns are being treated with the exposure method?

1. Bathing will not be permitted.
2. Aseptic techniques are required.
3. Dressings will be changed every 3 days.
4. Room temperature must be kept at 72° F.

463. A severely burned client has been hospitalized for 2 days. Until now recovery has been uneventful, but the client begins to exhibit extreme restlessness. What does the nurse conclude the client is most likely developing?

1. Kidney failure
2. Fluid overload
3. Cerebral hypoxia
4. Metabolic acidosis

464. A client with 35% of total body surface area burned in a fire is now 48 hours postburn. The nurse concludes that the client is moving from the emergent to the acute phase of burn management. Which response supports this conclusion?

1. Hypokalemia
2. Hypoglycemia
3. Decreased blood pressure
4. Increased urine specific gravity

►465. Acyclovir (Zovirax) 0.8 g by mouth is prescribed for a client with herpes zoster. The oral suspension contains 200 mg/5 mL. How much solution should the nurse administer? **Record your answer by using a whole number.**

Answer: _____ mL

466. A nurse is caring for a client with a diagnosis of necrotizing fasciitis. Which is the **primary** concern of the nurse when caring for this client?

1. Fluid volume
2. Skin integrity
3. Physical mobility
4. Urinary elimination

Neuromusculoskeletal System

▶467. A nurse is planning to transfer a client who is experiencing pain from the bed to a chair. Place the following steps in the order in which they should be implemented.

1. _____ Explain the steps of the transfer.
2. _____ Verify the client's activity order.
3. _____ Ensure that the wheels on the bed are locked.
4. _____ Identify factors that may impact the ability to transfer.
5. _____ Position the client in functional body alignment before transferring.

468. A nurse identifies which clinical indicator of parasympathetic dominance in a client under stress?

1. Constipation
2. Goose bumps
3. Excess epinephrine secretion
4. Increased gastrointestinal secretions

469. During an annual physical assessment a client reports not being able to smell coffee and most foods. Which cranial nerve function should the nurse assess?

1. I
2. II
3. X
4. VII

470. Which clinical indicator does a nurse identify when assessing a client with hemiplegia?

1. Paresis of both lower extremities
2. Paralysis of one side of the body
3. Paralysis of both lower extremities
4. Paresis of upper and lower extremities

471. The school nurse is attending to a student athlete who reports muscle pain after a practice session. What should the nurse identify as a cause of this pain when providing instruction to the student?

1. Lactic acid
2. Butyric acid
3. Acetoacetic acid
4. Hydrochloric acid

472. A client who had an open reduction and internal fixation of a fractured ankle is being discharged. Which behavior indicates the need for further instruction about the use of crutches?

1. Advancing both crutches with the weaker leg
2. Leaning axillae on the crutches to support the body's weight
3. Transferring the crutches into one hand when sitting in a chair
4. Moving the crutches before the unaffected leg when descending stairs

473. When completing a neurological assessment, the nurse determines that a client has a positive Romberg test. Which finding supports the nurse's conclusion?

1. Inability to stand with feet together when eyes are closed
2. Fanning of toes when the sole of the foot is firmly stroked
3. Dilation of pupils when focusing on an object in the distance
4. Movement of eyes toward the opposite side when head is turned

▶474. When caring for a client with a head injury that may have involved the medulla, the nurse bases

assessments on the knowledge that the medulla controls a variety of functions. Which ones apply?

Select all that apply.

1. Breathing
2. Pulse rate
3. Fat metabolism
4. Blood vessel diameter
5. Temperature regulation

475. When performing a neurologic assessment of a client, a nurse identifies that the client has a dilated right pupil. The nurse concludes that this suggests a problem with which cranial nerve?

1. Third
2. Fourth
3. Second
4. Seventh

476. A nurse is assessing a client whose mouth is drawn over to the left. The nurse should consider damage to which cranial nerve to be the **most** likely explanation for this clinical finding?

1. Left facial nerve
2. Right facial nerve
3. Left abducent nerve
4. Right trigeminal nerve

477. After a brain attack a client is unable to differentiate between heat or cold and sharp or dull sensory stimulation. What lobe of the brain should the nurse conclude is likely affected?

1. Frontal
2. Parietal
3. Occipital
4. Temporal

478. A client experiences a traumatic brain injury. Which finding identified by the nurse indicates damage to the upper motor neurons?

1. Absent reflexes
2. Flaccid muscles
3. Trousseau sign
4. Babinski response

479. A nurse is caring for an anxious, fearful client. Which client response indicates sympathetic nervous system control?

1. Dry skin
2. Skin pallor
3. Constriction of pupils
4. Pulse rate of 60 beats/min

480. When transporting a client on a stretcher, the nurse makes certain that the client's arms do not hang down over the edge. To which nerve plexus does the nurse avoid injury by taking this precaution?

1. Solar
2. Celiac
3. Basilar
4. Brachial

481. The nurse assists the health care provider to perform a lumbar puncture. When pressure is placed

on the jugular vein during a lumbar puncture, the spinal fluid pressure is expected to increase. Which sign should the nurse expect the health care provider to document?

1. Homan
2. Romberg
3. Chvostek
4. Queckenstedt

482. A client has a craniotomy for a meningioma. For what response should the nurse assess the client in the postanesthesia care unit?

1. Dehydration
2. Blurred vision
3. Wound infection
4. Narrowing pulse pressure

483. A client is to have a computed tomography (CT) scan with contrast to assess a potential brain tumor. The nurse should teach the client what common expected responses to the contrast material?

Select all that apply.

1. Visual disturbances
2. Flushing of the face
3. Sensation of warmth
4. Lemony taste in the mouth
5. Small petechiae on the arms

484. A nurse is monitoring a client who is having a computed tomography (CT) scan of the brain with contrast. Which response indicates that the client is having an untoward reaction to the contrast medium?

1. Pelvic warmth
2. Feeling flushed
3. Shortness of breath
4. Salty taste in the mouth

485. A client with glaucoma asks a nurse about future treatment and precautions. What information should the nurse's explanation include?

1. Avoidance of cholinergics
2. Surgical replacement of lens
3. Continuation of therapy for life
4. Prevention of high blood pressure

486. A client is admitted with paresis of the ciliary muscles of the left eye. What function should the nurse expect to be affected?

1. Closing the eyelids
2. Convergence of both eyes
3. Ability to discriminate colors
4. Focusing the lens on near objects

487. Which desired effect of therapy should the nurse explain to the client who has primary angle-closure glaucoma?

1. Dilating the pupil
2. Resting the eye muscles
3. Preventing secondary infection
4. Controlling intraocular pressure

488. Which clinical indicator is the nurse **most** likely to identify when exploring the history of a client with open-angle glaucoma?

1. Constant blurring
2. Abrupt attacks of acute pain
3. Sudden, complete loss of vision
4. Impairment of peripheral vision

489. A client's relative asks the nurse what a cataract is. What explanation should the nurse provide?

1. An opacity of the lens
2. A thin film over the cornea
3. A crystallization of the pupil
4. An increase in the density of the conjunctiva

490. What should the nurse do for a client who just had cataract surgery?

1. Instruct the client to avoid driving for several weeks.
2. Teach the client coughing and deep-breathing techniques.
3. Advise the client to refrain from vigorous brushing of the teeth and hair.
4. Encourage the client to perform eye exercises to strengthen the ocular musculature.

491. A nurse is caring for a client who is scheduled for surgery for a detached retina. Which goal of surgery identified by the client indicates that the preoperative teaching was effective?

1. Promote growth of new retinal cells
2. Adhere the sclera to the choroid layer
3. Graft a healthy piece of retina in place
4. Create a scar that aids in healing retinal holes

492. A nurse performs a Rinne test during physical assessment of a client. The client indicates that the sound is louder when the vibrating tuning fork is placed against the mastoid bone than when held closely to the ear. What conclusion should the nurse make about these results?

1. This represents an expected finding.
2. The client may have a sensorineural deficit.
3. This is evidence of a conductive hearing loss.
4. The client has an inflammation of the mastoid.

493. A client is scheduled for a labyrinthectomy to treat Ménière syndrome. What expected outcome of the procedure should be included in preoperative teaching?

1. Absence of pain
2. Decreased cerumen
3. Loss of sense of smell
4. Permanent irreversible deafness

494. A nurse is developing a teaching plan for a client with otosclerosis. What information should the nurse include in the teaching plan?

1. Stapedectomy is the procedure of choice.
2. Hearing aids usually restore some hearing.
3. The client is usually unable to hear bass tones.
4. Air conduction is more effective than bone conduction.

►495. A client is admitted post traumatic brain injury and multiple fractures. The client's eyes remain closed, and there is no evidence of verbalization or movement when the nurse changes the client's position. What score on the Glasgow Coma Scale should the nurse document? **Record your answer using a whole number.**

Answer: _____

496. What clinical indicator does the nurse expect to identify when assessing a client with a brain tumor in the occipital lobe?

1. Hemiparesis
2. Receptive aphasia
3. Personality changes
4. Visual hallucinations

497. A client is to have a parotidectomy to remove a cancerous lesion. For which postoperative complication that may be permanent should the nurse monitor?

1. A tracheostomy
2. Frey syndrome
3. An increase in salivation
4. Facial nerve dysfunction

498. A client who is receiving phenytoin (Dilantin) to control a seizure disorder questions the nurse regarding this medication after discharge. The nurse's **best** response is "This medication:

1. will probably be continued for life."
2. prevents the occurrence of seizures."
3. needs to be taken during periods of emotional stress."
4. can usually be stopped after a year's absence of seizures."

499. A client with a history of seizures is admitted with a partial occlusion of the left common carotid artery. The client has been taking phenytoin (Dilantin) for 10 years. When planning care for this client, what should the nurse do **first**?

1. Place an airway and restraints at the bedside.
2. Obtain a history of seizure type and incidence.
3. Ask the client to remove any dentures and eyeglasses.
4. Observe the client for increased restlessness and agitation.

500. When entering a room on a medical unit, the nurse identifies that a client is having a seizure. What should the nurse do in addition to protecting the client from self-injury?

1. Insert an oral airway.
2. Monitor the seizure activity.
3. Turn the client on the left side.
4. Begin oxygen by mask at 8 L/min.

►501. Phenytoin (Dilantin) suspension 200 mg is prescribed for a client with epilepsy. The suspension contains 125 mg/5 mL. How much solution should the nurse administer? **Record your answer using a whole number.**

Answer: _____ mL

502. What is the **primary** responsibility of a nurse during a client's generalized motor seizure?

1. Inserting a plastic airway between the teeth
2. Determining whether an aura was experienced
3. Administering the prescribed prn anticonvulsant
4. Clearing the immediate environment for client safety

503. A client who has a history of seizures is scheduled for an arteriogram at 10 AM and is to have nothing by mouth before the test. The client is scheduled to receive an anticonvulsant medication at 9 AM. What should the nurse do?

1. Omit the 9 AM dose of the drug.

2. Give the same dosage of the drug rectally.
 3. Administer the drug with 30 mL of water at 9 AM.
 4. Ask the health care provider if the drug can be given IV.
504. Several clients are admitted to the emergency department with brain injuries as a result of an automobile collision. The nurse concludes that the client with an injury to which part of the brain will **most** likely not survive?
1. Pons
 2. Medulla
 3. Midbrain
 4. Thalamus
505. After sustaining a head trauma, a client reports hearing ringing noises. The nurse considers that an injury to what part of the body is likely to cause this clinical indicator?
1. Frontal lobe
 2. Occipital lobe
 3. Sixth cranial nerve (abducent)
 4. Eighth cranial nerve (vestibulocochlear)
506. A nurse should expect to identify a loss of which ability when assessing an unconscious client?
1. Hearing voices
 2. Moving spontaneously
 3. Controlling elimination
 4. Reacting to painful stimuli
- 507. The neurologic assessment of a client who had a craniotomy includes the Glasgow Coma Scale. What does the nurse evaluate to assess the client's score on the Glasgow Coma Scale? **Select all that apply.**
1. Ability of the client's pupils to react to light
 2. Degree of purposeful movement by the client
 3. Appropriateness of the client's verbal responses
 4. Stimulus necessary to cause the client's eyes to open
 5. Symmetry of muscle strength of the client's extremities
508. A client regains consciousness and has expressive aphasia. What should the nurse include as part of long-range planning for this client?
1. Provide positive feedback when the client uses a word correctly.
 2. Wait for the client to verbally state needs regardless of how long it takes.
 3. Suggest that the client get help at home because the disability is permanent.
 4. Help the family to accept the fact that the client cannot participate in verbal communication.
509. Soon after admission to the hospital with a head injury, a client's temperature increases to 102.2° F (39° C). The nurse considers that the client has sustained injury to what structure?
1. Thalamus
 2. Hypothalamus
 3. Temporal lobe
 4. Globus pallidus
510. What action should the nurse take when caring for a client who has a possible skull fracture as a result of trauma?
1. Monitor the client for signs of brain injury.
 2. Check for hemorrhaging from the oral and nasal cavities.

3. Elevate the foot of the bed if the client develops symptoms of shock.

4. Observe for clinical indicators of decreased intracranial pressure and temperature.

511. A nurse is assessing a client with a brain tumor. Which clinical findings indicate an increase in intracranial pressure? **Select all that apply.**

1. Fever
2. Stupor
3. Orthopnea
4. Rapid pulse
5. Hypotension

512. What therapeutic effect does the nurse expect to identify when mannitol (Osmitrol) is administered parenterally to a client with cerebral edema?

1. Improved renal blood flow
2. Decreased intracranial pressure
3. Maintenance of circulatory volume
4. Prevention of the development of thrombi

513. A client had a craniotomy for excision of a brain tumor. After surgery, the nurse monitors the client for increased intracranial pressure. Which clinical finding supports an increase in intracranial pressure?

1. Thready, weak pulse
2. Narrowing pulse pressure
3. Regular, shallow breathing
4. Lowered level of consciousness

514. When caring for a client who has sustained a head injury, it is important that the nurse assess for which clinical indicator?

1. Slowing of the heart rate
2. Decreased carotid pulses
3. Bleeding from the oral cavity
4. Absence of deep tendon reflexes

515. A client develops hydrocephalus 2 weeks after cranial surgery for a ruptured cerebral aneurysm. The nurse concludes that the hydrocephalus probably is related to which physiologic response?

1. Vasospasm of adjacent cerebral arteries
2. Ischemic changes in the Broca speech center
3. Increased production of cerebrospinal fluid
4. Blocked absorption of fluid from the arachnoid space

516. What should the nurse assess for in the immediate postoperative period after a client has brain surgery?

1. Tachycardia
2. Constricted pupils
3. Elevated diastolic pressure
4. Decreased level of consciousness

517. What nursing action is essential when a client experiences hemianopsia as the result of a left ischemic stroke?

1. Place objects within the visual field.
2. Teach passive range of motion exercises.
3. Instill artificial tear drops into the affected eye.

4. Reduce time client is positioned on the left side.

518. During a health fair, the nurse takes an adult's blood pressure and it is 200/120 mm Hg. The nurse should base the next nursing intervention on the understanding that:

1. there is an increased risk for having a brain attack.
2. walking around the fair probably raised the blood pressure.
3. the elevated blood pressure reflects the "white coat syndrome."
4. information should be obtained regarding prescribed medications.

519. Which health problem does the nurse identify from an older client's history that increases the client's risk factors for a brain attack?

1. Glaucoma
2. Hypothyroidism
3. Continuous nervousness
4. Transient ischemic attacks

520. Which clinical indicator is the nurse **most** likely to identify when assessing a client with a ruptured cerebral aneurysm?

1. Tonic-clonic seizures
2. Decerebrate posturing
3. Sudden severe headache
4. Narrowed pulse pressure

521. A client with a brain attack is comatose on admission. Which clinical indicator is the nurse **most** likely to identify?

1. Twitching motions
2. Purposeful motions
3. Urinary incontinence
4. Unresponsiveness to pain

522. In which position should the nurse **initially** place a client who has experienced a brain attack?

1. Prone
2. Lateral
3. Supine
4. Trendelenburg

523. The family members of a client with the diagnosis of brain attack (CVA) express concern that the client often becomes uncontrollably tearful during their visits. What should the nurse include in a response?

1. Emotional lability is associated with brain trauma.
2. Their presence allows the client to express feelings.
3. The client is depressed about the loss of functional abilities.
4. Nonverbal expressions of feelings are more accurate than verbal ones.

524. Which function must be addressed in the plan of care when a client has dysphagia?

1. Writing
2. Focusing
3. Swallowing
4. Understanding

525. A client with a brain attack has dysarthria. What should the nurse include in the plan of care to address this problem?

1. Routine hygiene

2. Liquid formula diet
3. Prevention of aspiration
4. Effective communication

526. A client with a brain attack has right hemiplegia. What occurs if the nurse uses the client's right arm to obtain a blood pressure reading?

1. Produces inaccurate readings
2. Hinders restoration of function
3. Precipitates the formation of a thrombus
4. Causes excessive pressure on the brachial artery

527. Bed rest is ordered after a client's brain attack results in hemiplegia. Which exercises should the nurse incorporate into the client's plan of care 24 hours after the brain attack?

1. Passive range-of-motion exercises
2. Active exercises of the extremities
3. Light weight-lifting exercises of the right side
4. Isotonic exercises that will capitalize on returning muscle function

►528. Which clinical indicators does the nurse identify that suggest that a client is experiencing urinary retention and overflow after a brain attack? **Select all that apply.**

1. Edema
2. Oliguria
3. Frequent voidings
4. Suprapubic distention
5. Continual incontinence

529. A client has left hemiplegia because of a brain attack. What can the nurse do to contribute to the client's rehabilitation?

1. Begin active exercises.
2. Make a referral to the physical therapist.
3. Position the client to prevent contractures.
4. Avoid moving the affected extremities unless necessary.

530. A client had a brain attack and bed rest is ordered. What can the nurse use to **best** prevent footdrop in this client?

1. Splints
2. Blocks
3. Cradles
4. Sandbags

531. What is the maximum amount of time the nurse should allow an older adult with a brain attack to remain in one position?

1. 1 to 2 hours
2. 3 to 4 hours
3. 15 to 20 minutes
4. 30 to 40 minutes

532. A client with a hemiparesis is reluctant to use a cane. The nurse explains to the client that the cane is needed to:

1. maintain balance to improve stability.
2. relieve pressure on weight-bearing joints.
3. prevent further injury to weakened muscles.

4. aid in controlling involuntary muscle movements.

533. On which principle should a nurse base client teaching when planning to assist a client to reestablish a regular pattern of defecation?

1. Sedentary activities produce muscle atony.
2. Increased fluid promotes ease of evacuation.
3. Peristalsis is initiated by the gastrocolic reflex.
4. Increased potassium is needed for normal neuromuscular irritability.

534. A nurse may find that, for optimum nutrition, a client with a brain attack needs assistance with eating. What should the nurse do?

1. Request that the client's food be pureed.
2. Feed the client to conserve the client's energy.
3. Have a family member assist the client with each meal.
4. Encourage the client to participate in the feeding process.

535. A client with a brain attack becomes incontinent of feces. What is the **most** important nursing action to support the success of a bowel training program?

1. Using medication to induce elimination
2. Adhering to a definite time for attempted evacuations
3. Considering previous habits associated with defecation
4. Timing of elimination to take advantage of the gastrocolic reflex

536. A nurse is caring for a client who has urinary incontinence as the result of a brain attack. What action should the nurse include in the plan of care to limit the occurrence of urinary incontinence?

1. Insert a urinary retention catheter.
2. Institute measures to prevent constipation.
3. Encourage an increase in the intake of caffeine.
4. Suggest that a carbonated beverage be ingested daily.

537. The spouse of a client who had a brain attack seems unable to accept the concept that the client must be encouraged to participate in self-care. What is the **best** response by the nurse?

1. Tell the spouse to let the client do things independently.
2. Allow the spouse to assume total responsibility for the client's care.
3. Explain that the nursing staff has full responsibility for the client's activities.
4. Ask the spouse for assistance in planning those activities most helpful to the client.

538. The spouse of a client with a brain attack insists on doing everything for the client during visits. After these visits, the client seems to be depressed. The nurse understands that these visits probably have what effect on the client?

1. Losing faith in the future
2. Feeling the loss of independence
3. Experiencing guilt about being a burden
4. Recognizing that the spouse is now the leader in the relationship

539. A client is diagnosed as having expressive aphasia. What type of impairment does the nurse expect the client to exhibit?

1. Speaking and/or writing
2. Following specific instructions
3. Understanding speech and/or writing
4. Recognizing words for familiar objects

540. What actions should the nurse include when planning for the long-term care of a client with

expressive aphasia?

1. Begin helping the client to associate words with physical objects.
2. Encourage the client to acknowledge that this disability is permanent.
3. Wait for communication to be initiated by the client even if it takes a long time.
4. Assist family members to accept the fact that they cannot communicate verbally with the client.

541. Which nursing action is specific to the plan of care for a client with trigeminal neuralgia?

1. Be alert to prevent dehydration or starvation.
2. Initiate exercises of the jaw and facial muscles.
3. Apply ice compresses to the affected body area.
4. Emphasize the importance of brushing the teeth.

►542. Which clinical indicators does the nurse expect to identify when assessing a client with tic douloureux? **Select all that apply.**

1. Multiple petechiae
2. Excruciating facial pain
3. Twitching of the mouth
4. Unilateral muscle weakness
5. Fine motor tremors of the eyelid

543. What action should the nurse take to prevent precipitating a painful attack in a client with tic douloureux?

1. Avoid walking swiftly by the client.
2. Keep the client in the prone position.
3. Discontinue oral hygiene temporarily.
4. Massage both sides of the face frequently.

544. A client is diagnosed with trigeminal neuralgia. Which medication should the nurse anticipate will be prescribed for this client?

1. Ascorbic acid
2. Morphine sulfate
3. Allopurinol (Zyloprim)
4. Carbamazepine (Tegretol)

►545. Which clinical indicators does the nurse expect to identify when assessing a client with trigeminal neuralgia (tic douloureux)? **Select all that apply.**

1. Prolonged periods of sleep because of anxiety
2. Hyperactivity because of medications received
3. Exhaustion and fatigue because of the extreme pain
4. Excessive talkativeness because of anxiety and apprehension
5. Inadequate nutritional intake because of fear of precipitating an attack

546. What should the nurse instruct the client to do to limit triggering the pain associated with trigeminal neuralgia?

1. Drink iced liquids.
2. Avoid oral hygiene.
3. Apply warm compresses.
4. Chew on the unaffected side.

547. What should the nurse include when planning care for a client with Bell palsy?

1. Managing incontinence
2. Assisting with ambulation

3. Preventing corneal damage

4. Maintaining seizure precautions

►548. A teenager is brought to the emergency department exhibiting slurring speech, a slight right-sided facial droop, and an inability to close the right eyelid. Bell palsy is diagnosed. List the following concerns in priority order for this client.

1. _____ Low self-esteem because of appearance
2. _____ Chance of falls because of altered vision
3. _____ Risk for malnutrition because of facial droop
4. _____ Difficulty communicating because of slurred speech
5. _____ Risk for dental caries because of retained food particles

549. Which clinical findings does the nurse anticipate a client with an exacerbation of multiple sclerosis to experience? **Select all that apply.**

1. Double vision
2. Resting tremors
3. Flaccid paralysis
4. Scanning speech
5. Mental retardation

550. Which statement by a client with multiple sclerosis indicates to the nurse that the client needs further teaching?

1. "I use a straw to drink liquids."
2. "I will take a hot bath to help relax my muscles."
3. "I plan to use an incontinence pad when I go out."
4. "I may be having a rough time now, but I hope tomorrow will be better."

551. A recently hospitalized client with multiple sclerosis is concerned about generalized weakness and fluctuating physical status. What is the **priority** nursing intervention for this client?

1. Encourage bed rest.
2. Space activities throughout the day.
3. Teach the limitations imposed by the disease.
4. Have one of the client's relatives stay at the bedside.

552. A client with Guillain-Barré syndrome has been hospitalized for 3 days. Which assessment finding indicates a need for more frequent monitoring?

1. Localized seizures
2. Skin desquamation
3. Hyperactive reflexes
4. Ascending weakness

553. What does the nurse understand that clients with myasthenia gravis, Guillain-Barré syndrome, and amyotrophic lateral sclerosis (ALS) share in common?

1. Progressive deterioration until death
2. Deficiencies of essential neurotransmitters
3. Increased risk for respiratory complications
4. Involuntary twitching of small muscle groups

554. A nurse is caring for a client with the diagnosis of Guillain-Barré syndrome. The nurse identifies that the client is having difficulty expectorating respiratory secretions. What should be the nurse's **first** intervention?

1. Auscultate for breath sounds.

2. Suction the client's oropharynx.
 3. Administer oxygen via nasal cannula.
 4. Place the client in the orthopneic position.
555. What nursing intervention is anticipated for a client with Guillain-Barré syndrome?
1. Providing a straw to stimulate the facial muscles
 2. Maintaining ventilator settings to support respiration
 3. Encouraging aerobic exercises to avoid muscle atrophy
 4. Administering antibiotic medication to prevent pneumonia
556. A nurse is caring for a client in the home who has the diagnosis of amyotrophic lateral sclerosis (ALS). Which position should the nurse recommend that the client assume after eating?
1. Sims
 2. Sitting
 3. Side-lying
 4. Semi-Fowler
- 557. A home care nurse is counseling a client with amyotrophic lateral sclerosis (ALS). What information should the nurse include in the discussion? **Select all that apply.**
1. Space activities throughout the day.
 2. Engage in social interactions with large groups.
 3. Request an opioid if leg pain becomes excessive.
 4. Anticipate the use of alternate ways to communicate.
 5. Use leg restraints to decrease the risk of physical injury.
558. A client with myasthenia gravis experiences dysphagia. What is the **priority** risk associated with dysphagia that must be considered when planning nursing care?
1. Aspiration
 2. Dehydration
 3. Nutritional imbalance
 4. Impaired communication
559. A client with myasthenia gravis asks the nurse why the disease has occurred. What pathology underlies the nurse's reply?
1. A genetic defect in the production of acetylcholine
 2. An inefficient use of the neurotransmitter acetylcholine
 3. A decreased number of functioning acetylcholine receptor sites
 4. An inhibition of the enzyme AChE, leaving the end-plates folded
560. A client with myasthenia gravis asks the nurse, "What is going to happen to me and to my family?" What information about what the client can anticipate should be incorporated into the nurse's response?
1. High cure rate with proper treatment
 2. Slowly progressive course without remissions
 3. Chronic illness with exacerbations and remissions
 4. Poor prognosis, with death occurring in a few months
561. A nurse enters the room of a client with myasthenia gravis and identifies that the client is experiencing increased dysphagia. What should the nurse do **first**?
1. Administer oxygen.
 2. Raise the head of the bed.
 3. Perform tracheal suctioning.

4. Call the health care provider.

562. To what does the nurse attribute the increased risk of respiratory complications in clients with myasthenia gravis?

1. Narrowed airways
2. Impaired immunity
3. Ineffective coughing
4. Viscosity of secretions

563. A client with myasthenia gravis has been receiving neostigmine (Prostigmin) and asks about its action. What information about its action should the nurse consider when formulating a response?

1. Stimulates the cerebral cortex
2. Blocks the action of cholinesterase
3. Replaces deficient neurotransmitters
4. Accelerates transmission along neural sheaths

564. A client with myasthenia gravis continues to become weaker despite treatment with neostigmine (Prostigmin). What reason should the nurse identify for the health care provider's prescription for edrophonium (Enlon)?

1. Rule out cholinergic crisis
2. Promote a synergistic effect
3. Overcome neostigmine resistance
4. Confirm the diagnosis of myasthenia

565. A client is diagnosed with Parkinson disease and asks the nurse what causes the disease. On which underlying pathology does the nurse base a response?

1. Disintegration of the myelin sheath
2. Breakdown of the corpora quadrigemina
3. Reduced acetylcholine receptors at synapses
4. Degeneration of the neurons of the basal ganglia

566. A nurse is interviewing a client with a tentative diagnosis of Parkinson disease. What should the nurse expect the client to report about how the onset of symptoms occurred?

1. Suddenly
2. Gradually
3. Overnight
4. Irregularly

567. A client with the diagnosis of Parkinson disease asks the nurse, "Why do I drool so much?" Which is the nurse's **best** response?

1. "We don't know why this happens."
2. "There is a paralysis of the throat muscles."
3. "You have a loss of involuntary movements."
4. "Muscle rigidity prevents normal swallowing."

►568. Which clinical indicators does the nurse expect a client with Parkinson's disease to exhibit?

Select all that apply.

1. Resting tremors
2. Flattened affect
3. Muscle flaccidity
4. Tonic-clonic seizures
5. Slow voluntary movements

569. When helping a client with Parkinson disease to ambulate, what instructions should the nurse give the client?

1. Avoid leaning forward.
2. Hesitate between steps.
3. Rest when tremors are experienced.
4. Keep arms close to the center of gravity.

570. A nurse administers carbidopa-levodopa (Sinemet) to a client with Parkinson disease. Which therapeutic effect does the nurse expect the medication to produce?

1. Increase in acetylcholine production
2. Regeneration of injured thalamic cells
3. Improvement in myelination of neurons
4. Replacement of a neurotransmitter in the brain

571. Which clinical indicator does the nurse expect to identify when assessing a client admitted with a herniated lumbar disk?

1. Pain radiating to the hip and leg
2. Bowel and bladder incontinence
3. Paralysis of both lower extremities
4. Overgrowth of tissue on the lower back

►572. A nurse expects a client with a herniated intervertebral disk to report a sudden increase in pain with which activities? **Select all that apply.**

1. Coughing or sneezing
2. Sitting on cold surfaces
3. Standing for extended periods
4. Lying supine while flexing the knees
5. Straining when having a bowel movement

573. For which clinical indicator should the nurse assess a client who just had a microdiscectomy for a herniated lumbar disk?

1. Cerebral edema
2. Sensory loss in legs
3. Spasms of the bladder
4. Pain referred to the flanks

574. What should the nurse include in the plan of care for a client who just had a posterior lumbar laminectomy?

1. Encourage the client to cough.
2. Reposition the client by log rolling.
3. Assess the client for indications of peritonitis.
4. Instruct the client to bend the knees when turning.

575. What does the nurse do for a client with a cervical laminectomy that differs from the nursing care for a client with a lumbar laminectomy?

1. Assist with the removal of oral secretions.
2. Maintain the client's head in a flexed position.
3. Elevate the head of the client's bed to a 45-degree angle.
4. Provide range-of-motion exercise early during the postoperative period.

576. A nurse finds a victim under the wreckage of a collapsed building. The individual is conscious, supine, breathing satisfactorily, and reporting back pain and an inability to move the legs. Which

action should the nurse take **first**?

1. Leave the individual lying on the back with instructions not to move, and seek additional help.
2. Roll the individual onto the abdomen, place a pad under the head, and cover with any material available.
3. Gently raise the individual to a sitting position to see whether the pain either diminishes or increases in intensity.
4. Gently lift the individual onto a flat piece of lumber and, using any available transportation, rush to the closest medical institution.

577. After a client is treated for a spinal cord injury, the health care provider informs the family that the client is a paraplegic. The family asks the nurse what this means. What explanation should the nurse provide?

1. Lower extremities are paralyzed.
2. Upper extremities are paralyzed.
3. One side of the body is paralyzed.
4. Both lower and upper extremities are paralyzed.

578. A client with a spinal cord injury has paraplegia. The nurse assesses for which major problem the client may experience early in the recovery period?

1. Bladder control
2. Nutritional intake
3. Quadriceps setting
4. Use of aids for ambulation

579. A nurse should expect a client with a spinal cord injury to have some spasticity of the lower extremities. What should the nurse include in the plan of care for this client to prevent the development of lower extremity contractures?

1. Deep massage
2. Active exercise
3. Use of a tilt board
4. Proper positioning

580. A client has paraplegia as a result of a motorcycle accident. What is the reason the nursing care plan should include turning the client every 1 to 2 hours?

1. Maintain comfort
2. Prevent pressure ulcers
3. Prevent flexion contractures of the extremities
4. Improve venous circulation in the lower extremities

581. What problem is the nurse primarily attempting to prevent when encouraging a client with a spinal cord injury to increase oral fluid intake?

1. Dehydration
2. Skin breakdown
3. Electrolyte imbalances
4. Urinary tract infections

►582. A client has a functional transection of the spinal cord at C7-8, resulting in spinal shock. Which clinical indicators does the nurse expect to identify when assessing the client immediately after the injury? **Select all that apply.**

1. Spasticity
2. Incontinence

3. Flaccid paralysis
4. Respiratory failure
5. Lack of reflexes below the injury

583. After a traumatic spinal cord severance, a young client is having difficulty accepting the paralysis. One day the client has severe leg spasms and says, “My strength is coming back, and I know I will walk again.” The nurse’s response should be based on what understanding?

1. The nerves are regenerating and motor function is returning.
2. Motor function may be returning now that the edema is subsiding.
3. Spinal shock has subsided and the client’s reflexes are hyperactive.
4. The client has developed thrombophlebitis and is experiencing pain.

584. What should the nurse assess for when a client with a cervical injury reports a severe headache and nasal congestion?

1. Suprapubic distention
2. Increased spinal reflexes
3. Adventitious breath sounds
4. Imminent development of shock

585. A client with quadriplegia is placed on a tilt table daily. Each day the angle of the head of the table gradually is increased. What should the nurse identify as its purpose when the client asks the reason for the tilt table?

1. Facilitates turning
2. Prevents pressure ulcers
3. Promotes hyperextension of the spine
4. Limits loss of calcium from the bones

586. A nurse in a rehabilitation center teaches clients with quadriplegia to use an adaptive wheelchair. Why is it important that the nurse provide this instruction?

1. They usually will never walk.
2. It prepares them for wearing braces.
3. It assists them in overcoming orthostatic hypotension.
4. They have the strength in the upper extremities for self-transfer.

587. A client who had a total hip replacement asks the nurse about the continuous regional analgesia being used. What information should the nurse include when explaining the benefits of this treatment over conventional methods to control pain?

1. Adjusting the dose is easily done.
2. Neuropathic pain can be relieved.
3. Systemic side effects are minimal.
4. The need for parenteral medication is avoided.

588. Which nursing action is contraindicated when caring for a client with a newly applied long leg cast?

1. Elevating the cast on a pillow
2. Drying the cast by using a fan
3. Leaving the cast exposed to air
4. Handling the cast with fingertips

►589. Colchicine 1200 mcg orally is prescribed for client with gout. Each tablet contains 0.6 mg. How many tablets should the nurse administer? **Record your answer using a whole number.**

Answer: _____ tablets

590. What should the nurse consider as the goal of therapy when administering allopurinol (Zyloprim) to a client with gout?

1. Increase bone density
2. Decrease synovial swelling
3. Decrease uric acid production
4. Prevent crystallization of uric acid

591. A client is admitted with acute gouty arthritis. Which medication does the nurse anticipate the health care provider may prescribe to prevent and treat an acute attack of gout?

1. Ibuprofen (Motrin)
2. Colchicine (Colsalide)
3. Probenecid (Benemid)
4. Hydrocortisone (Cortef)

►592. Which foods should the nurse teach a client with gout to avoid to limit painful attacks? **Select all that apply.**

1. Eggs
2. Liver
3. Cheese
4. Salmon
5. Shellfish

593. A health care provider orders the application of warm compresses for a client with arthritis. What is the appropriate temperature range for the compresses that the nurse applies?

1. 65° to 79° F (18.3° to 26.1° C)
2. 80° to 92° F (26.6° to 33.3° C)
3. 93° to 97° F (33.8° to 36.1° C)
4. 98° to 105° F (36.6° to 40.5° C)

594. A nurse suspects the development of compartment syndrome for a client who has sustained blunt trauma to the forearm. For which early sign of compartment syndrome should the nurse assess the client?

1. Warm skin at site of injury
2. Escalating pain in the fingers
3. Rapid capillary refill in affected hand
4. Bounding radial pulse in the injured arm

595. A client experiences a traumatic amputation of a leg in a motor vehicle accident. Which nursing intervention **initially** should receive the lowest priority?

1. Teaching residual limb care
2. Monitoring hemoglobin levels
3. Maintaining the compression dressing
4. Using therapeutic interviewing techniques

596. A client has an amputation of a lower limb. What instructions should the nurse give the client to prevent a hip flexion contracture?

1. Turn from side to side every 1 to 2 hours.
2. Sit in a chair for 30 minutes three times a day.
3. Lie on the abdomen 30 minutes four times daily.
4. Perform quadriceps muscle setting exercises twice daily.

597. What should the nurse do to control edema of the residual limb 1 week after a client has an

above-the-knee amputation?

1. Administer the prescribed diuretic.
2. Restrict the client's oral fluid intake.
3. Rewrap the elastic bandage as necessary.
4. Keep the residual limb elevated on a pillow.

598. What should be included in the nurse's instructions to help a client prepare for walking with crutches?

1. Use of the trapeze to strengthen the biceps muscles
2. Exercises with or without weights to strengthen the muscles of the upper extremities
3. The importance of keeping the affected limb in extension and abduction to prevent contractures
4. Isometric exercises of the hamstring muscles while sitting in a chair until circulatory status is stable

599. What should the nurse do to promote early and efficient ambulation after a client has a midhigh amputation?

1. Keep the head of the bed elevated.
2. Place the residual limb on a pillow.
3. Turn the client to the prone position routinely.
4. Encourage the client to lie on the unaffected side.

600. A client has a total hip replacement. Which clinical indicators of pulmonary embolism indicate that the plan to prevent postoperative thrombus formation has been ineffective? **Select all that apply.**

1. Flushing of the face
2. Unilateral chest pain
3. Elevation of temperature
4. Sudden onset of shortness of breath
5. Pain rating increase from 2 to 8 in the hip

601. What instructions should the nurse provide when the client is allowed out of bed after an above-the-knee amputation?

1. Keep the hip in extension and alignment.
2. Keep the hip raised with the residual limb elevated.
3. Lift the shoulder and hip of the affected side when taking a step.
4. Use the ordered crutches until the residual limb is completely healed.

602. A client has a total knee replacement, and a continuous passive motion device is being used. The nurse concludes that the teaching was effective when the client states, "The goal of this therapy is to:

1. improve joint flexion."
2. maintain muscle tone."
3. prevent tissue breakdown."
4. avoid formation of a blood clot."

603. When should the nurse begin the process of rehabilitation when a client is scheduled for an amputation?

1. Before the surgery
2. During the convalescent phase
3. On discharge from the hospital
4. When it is time for a prosthesis

604. After an above-the-knee amputation of a leg, a client reports pain in the foot that is no longer there. What should the nurse include about phantom limb pain in a discussion with the client?

1. Tactile illusions associated with severed blood vessels

2. Nerve endings in the limb are still intact and react to stimuli
 3. An unconscious phenomenon to aid with grieving over the lost body part
 4. Hallucinations secondary to emotional symptoms associated with the distress of amputation
605. Which crutch gait should the nurse teach the client wearing a prosthesis after a single-leg amputation?
1. Tripod
 2. Four-point
 3. Three-point
 4. Swing-through
606. A client had an above-the-knee amputation of the left leg because of trauma from a motor vehicle collision. The health care provider orders ambulation with crutches until the residual limb is healed and the client can be fitted with a prosthesis. What should be the nurse's **first** intervention?
1. Demonstrate the swing-through crutch walking gait.
 2. Determine if the client has ever used crutches before.
 3. Introduce the client to another client who is using crutches.
 4. Provide a pamphlet that has information about using crutches.
607. Which principle should the nurse consider when assisting a client with crutches to learn the four-point gait?
1. Elbows should be kept in rigid extension.
 2. Most of the weight should be supported by axillae.
 3. The client must be able to bear weight on both legs.
 4. The affected extremity should be kept off the ground.
608. A client is in skin traction while awaiting surgery for repair of a fractured femur. The client reports leg discomfort and asks the nurse to release the traction. Which is the nurse's **best initial** response?
1. "I can't because the weights are needed to keep the bone aligned."
 2. "I will remove half of the weights and notify your health care provider."
 3. "I'll get your prescribed pain medication to help relieve your discomfort."
 4. "I have to follow the health care provider's directions, and releasing weights is not ordered."
- ▶609. For what clinical findings of compromised circulation should the nurse assess in a client with a long leg cast? **Select all that apply.**
1. Foul odor
 2. Swelling of the toes
 3. Drainage on the cast
 4. Increased temperature
 5. Prolonged capillary refill
610. A client has a long leg cast. What instructions should the nurse give the client in preparation for crutch walking?
1. Use the trapeze to strengthen the biceps
 2. Keep the affected limb in extension and abduction
 3. Sit up straight in a chair to develop the back muscles
 4. Do exercises in bed to strengthen the upper extremities
611. What intervention should the nurse avoid to prevent contractures of the joints of the lower extremities in a client with paraplegia?
1. Changing the client's bed position hourly

2. Using supportive devices to maintain alignment
3. Providing the client with active exercise instructions
4. Performing passive range-of-motion exercises several times daily

612. What does the nurse determine is the **most** likely cause of renal calculi in clients with paraplegia?

1. High fluid intake
2. Increased intake of calcium
3. Inadequate kidney function
4. Accelerated bone demineralization

613. A client who has been immobilized for an extended period questions the need for a tilt table. The nurse's **best** response is "The tilt table is used to help:

1. prevent hypertension."
2. encourage increased activity."
3. maintain circulation to the skin."
4. prevent loss of calcium from long bones."

614. A client is placed into a whirlpool tub for range-of-motion exercises. The client asks the nurse about the need to exercise in water. The nurse should explain that rehabilitating exercises carried out underwater utilize the water's:

1. pressure.
2. temperature.
3. buoyant force.
4. vapor production.

615. Which clinical indicator should the nurse expect to identify when assessing a client with a fracture of the neck of the femur?

1. Adduction with internal rotation
2. Abduction with external rotation
3. Shortening of the affected extremity with external rotation
4. Lengthening of the affected extremity with internal rotation

616. A client with a fractured hip is placed in traction until surgery can be performed. What should the nurse explain is the purpose of the traction?

1. Relieve muscle spasm and pain
2. Prevent contractures from developing
3. Keep the client from turning and moving in bed
4. Maintain the limb in a position of external rotation

617. A client is admitted with a fracture of the neck of the femur. In what position should the nurse maintain the client's affected extremity?

1. Internal rotation with flexion of the knee and hip
2. External rotation with flexion of the knee and hip
3. Internal rotation with extension of the knee and hip
4. External rotation with extension of the knee and hip

618. The care plan for a client with a fractured hip includes nursing actions to prevent which type of contracture?

1. Flexion of the hip
2. Abduction of the hip
3. Hyperextension of the hip

4. Internal rotation of the hip

619. A nurse is caring for a client who developed aseptic necrosis after a fracture of the head of the femur. The nurse understands that aseptic necrosis is associated with which factor?

1. Infection at the site of the wound
2. Weight-bearing before the fracture is healed
3. Immobilization after reduction of the fracture
4. Loss of blood supply to the head of the femur

620. To reduce a hip fracture, the client is placed in traction before surgery for an open reduction and internal fixation. Because the client keeps slipping down in bed, increased countertraction is ordered. How does the nurse increase the countertraction?

1. Elevate the head of the bed
2. Add more weight to the traction
3. Use a slight Trendelenburg position
4. Tie a chest restraint around the client

621. A nurse is caring for a client who had an open reduction and internal fixation of a femoral neck fracture. The client has an order for ambulation with slight weight-bearing on the affected extremity. During the physical assessment the nurse identifies that the client has kyphosis and strong upper arm strength. What assistive device does the nurse expect the health care provider to order for this client?

1. Crutches
2. Quad cane
3. Straight cane
4. Standard walker

622. Which position should a nurse avoid placing a client who had surgery for a total hip replacement?

1. Supine
2. Lateral
3. Orthopneic
4. Semi-Fowler

623. A nurse is caring for a client who had a total hip replacement. What nursing action should be incorporated into the plan of care to prevent thrombus formation?

1. Turning the client from side to side
2. Encouraging the client to perform ankle exercises
3. Getting the client up to sit in a chair for as long as tolerated
4. Ambulating the client when the effects of anesthesia subside

624. Nursing care of a client with a fractured hip should include the assessment of pedal pulses. The nurse should assess for which important characteristics of the pedal pulses?

1. Contractility and rate
2. Color of skin and rhythm
3. Amplitude and symmetry
4. Local temperature and visible pulsations

►625. A nurse receives a change-of-shift report for a client who had a total hip replacement 24 hours ago. After reviewing the client's clinical record (shown here) and completing a physical assessment, which complication should the nurse conclude that the client is experiencing?

Client Chart

History

The client is a 43-year-old ironworker who experienced a crushing occupational injury requiring a total hip replacement. He is relatively healthy but is 10% overweight, smokes 2 packs a day, and is borderline for type 2 diabetes.

Vital Signs

T: 101.4° F, P: 100, R: 30, BP: 160/100

Physical Assessment

Dyspnea

Altered mental state

Restlessness and agitation

Petechial rash on the neck and chest

Urine collection bag contains 50 mL output for last hour, and the I&O flow sheet indicates 250 mL output over the last 4 hours.

1. Fat embolism
2. Urinary retention
3. Hypovolemic shock
4. Pulmonary embolism

626. A nurse is caring for a client who had a total hip replacement. What is the **priority** assessment when monitoring the client for hemorrhage?

1. Checking vital signs every four hours
2. Examining the bedding under the client
3. Measuring the circumference of the thigh
4. Observing for ecchymosis at the operative site

627. When a client is in the right side-lying position after the insertion of a left hip prosthesis, the nurse ensures that the client has a pillow placed between the thighs and that the entire length of the upper leg is supported. What does this pillow prevent?

1. Strain on the operative site
2. Thrombus formation in the leg
3. Flexion contractures of the hip joint
4. Skin surfaces from rubbing together

628. Which is an example of the principles of body mechanics that the nurse uses when caring for immobilized clients?

1. Bending at the waist to provide the power for lifting
2. Placing the feet apart to increase the stability of the body
3. Keeping the body straight when lifting to reduce pressure on the abdomen
4. Relaxing the abdominal muscles while using the extremities to prevent strain

►629. After an open reduction and internal fixation of a fractured hip, what assessments of the client's

affected leg should the nurse make? **Select all that apply.**

1. Skin temperature
2. Mobility of the hip
3. Sensation in the toes
4. Condition of the pins
5. Presence of pedal pulse

630. A client with a fractured hip is helped from the bed to a chair after surgery. The nurse instructs the client to bear most of the weight on the unaffected leg before sitting in a chair. What should the nurse explain is the benefit of bearing most of the weight on the unaffected leg?

1. Can increase circulation in the lower extremities
2. Will help maintain the strength of the unaffected limb
3. Is the quickest method of getting the client to and from the bed
4. Reduces the amount of help necessary to lift the client from the bed to the chair

631. On the first postoperative day after a total hip replacement a client asks for assistance onto the bedpan. What should the nurse instruct the client to do?

1. Use the elbows and hands to lift the pelvis off the bed.
2. Extend both legs and pull on the trapeze to lift the pelvis.
3. Turn gently toward the operative side while lifting the pelvis off the bed.
4. Flex the knee on the unoperated leg and pull on the trapeze to lift the pelvis.

632. A client is ready to walk with crutches after knee surgery. Which crutch-walking technique will the nurse **most** likely have to reinforce after the client returns from physical therapy?

1. Two-point
2. Four-point
3. Three-point
4. Swing-through

633. A nurse is teaching crutch walking to a client who had arthroscopic surgery of the knee. On which part of the body should the nurse instruct the client to place weight?

1. The upper arms
2. The axillary region
3. Palms of the hands
4. Both lower extremities

►634. A nurse provides discharge teaching for a client who had a total hip replacement. Which activities to avoid identified by the client indicate an understanding of the teaching? **Select all that apply.**

1. Climbing stairs
2. Crossing the legs
3. Stretching exercises
4. Sitting in a low chair
5. Lying prone for 30 minutes

635. What is the nurse's **primary** consideration when caring for a client with rheumatoid arthritis?

1. Surgery
2. Comfort
3. Education
4. Motivation

636. A nurse is caring for a client with rheumatoid arthritis. Based on the client's diagnosis, the nurse

should review the result of which laboratory test?

1. Pancreatic lipase
 2. Bence Jones protein
 3. Antinuclear antibody
 4. Alkaline phosphatase
- 637.

Health Care Provider Progress Note

Client has stage III rheumatoid arthritis, which is progressively causing more joint deformity, stiffness, and pain.

Nurse's History and Physical Assessment

Client has ulnar drift of both hands and hallux valgus deformity of both feet. Client reports pain when walking and joint stiffness for several hours in the morning, particularly the small joints of the hands and feet. Joints of the hands reflect signs and symptoms of inflammation (heat, swelling, tenderness).

Laboratory Results

Rheumatoid factor (RF): 1 : 70 (positive for rheumatoid arthritis)

Erythrocyte sedimentation rate (ESR): 40 mm/hour

C-reactive protein (CRP): 20 mg/dL

WBC 13,000/ μ l

A nurse is caring for a client attending a community-based health center and reviews the client's medical record. What should the nurse encourage the client to do?

1. Wring a sponge repeatedly when washing dishes.
2. Install faucets that require turning rather than pushing.
3. Engage in a sewing project several hours each morning.
4. Push with the palms rather than the fingers when rising from a chair.

638. A nurse plans care to prevent deformities in a client with rheumatoid arthritis. Which intervention should be alternated with periods of rest?

1. Active exercise
2. Passive massage
3. Bracing of joints
4. Isometric exercises

639. A regimen of rest, exercise, and physical therapy is ordered for a client with rheumatoid arthritis. What should the nurse explain is the intended purpose of this regimen?

1. Prevent arthritic pain
2. Halt the inflammatory process
3. Help prevent the crippling effects of the disease
4. Provide for the return of joint motion after prolonged loss

►640. A nurse is completing the health history of a client admitted to the hospital with osteoarthritis.

Which joints does the nurse expect the client to report were **initially** involved? **Select all that apply.**

1. Hips
2. Knees
3. Ankles
4. Shoulders
5. Metacarpals

641. A client with rheumatoid arthritis asks the nurse why it is necessary to inject hydrocortisone into the knee joint. What reason should the nurse include in a response to this question?

1. Lubricate the joint
2. Reduce inflammation
3. Provide physiotherapy
4. Prevent ankylosis of the joint

642. What should the nurse take into consideration when planning nursing care for a client experiencing an acute episode of rheumatoid arthritis?

1. Inflammation of the synovial membrane rarely occurs.
2. Bony ankylosis of a joint is irreversible and causes immobility.
3. Complete immobility is desired during the acute phase of inflammation.
4. Redness and swelling of a joint signify irreversible damage has occurred.

643. When preparing an individualized teaching plan for a client with rheumatoid arthritis, which topic should the nurse omit from the generalized teaching plan for clients with arthritis?

1. Ulnar drift
2. Heberden nodes
3. Swan neck deformity
4. Boutonnière deformity

644. The nurse questions a client with rheumatoid arthritis about pain. When should the nurse expect the client to experience increased pain and limited movement of the joints?

1. After assistive exercise
2. When the room is cool
3. In the morning on awakening
4. When the latex fixation test is positive

645. A client who has intermittently been having painful, swollen knee and wrist joints during the past 3 months is diagnosed with rheumatoid arthritis. What type of diet should the nurse expect the health care provider to order?

1. Salt-free, low-fiber diet
2. High-calorie, low-cholesterol diet
3. High-protein diet with minimal calcium
4. Regular diet with vitamins and minerals

646. Which medication should the nurse anticipate the health care provider will prescribe to relieve the pain experienced by a client with rheumatoid arthritis?

1. Aspirin
2. Codeine
3. Meperidine
4. Alprazolam

►647. What should the nurse do to prevent deformities of the knee in a client with an exacerbation of arthritis? **Select all that apply.**

1. Encourage motion of the joint.
2. Maintain a knee brace on the leg.
3. Keep the client on a regimen of bed rest.
4. Maintain joints in functional alignment when resting.
5. Immobilize the joint with pillows until pain subsides.

648. A client with rheumatoid arthritis has severe pain and swelling of the joints in both hands. Range-of-motion exercises for this client should be:

1. passively performed by the nurse.
2. avoided if the client reports discomfort.
3. preceded by the application of heat or cold.
4. gradually increased to improve mobility and independence.

649. A client with arthritis reports receiving the following dietary suggestions over the years. Which recommendation for a daily diet should the nurse reinforce?

1. Wheat germ and yeast
2. Yogurt and blackstrap molasses
3. Multiple vitamin supplements in large doses
4. Adequate foods in a variety of different food groups

Urinary/Reproductive Systems

(For additional questions, see Childbearing and Women's Health Nursing Review Questions with Answers and Rationales, [Chapter 28](#).)

650. When caring for a male client who is to receive chemotherapy for a cancerous condition, at which time should the nurse consider that spermatogenesis occurs?

1. At the time of puberty
2. At any time after birth
3. Immediately following birth
4. During embryonic development

651. A nurse is caring for a client with an undescended testicle. The nurse teaches the client that the main reason why the testicles are suspended in the scrotum is to:

1. protect the sperm from the acidity of urine.
2. facilitate the passage of sperm through the urethra.
3. protect the sperm from high abdominal temperatures.
4. facilitate their maturation during embryonic development.

652. A client is admitted to the hospital with a tentative diagnosis of urinary retention related to benign prostatic hyperplasia. There is a secondary diagnosis of delirium related to urosepsis. The health care provider prescribes the insertion of an indwelling urinary retention catheter. What nursing action is **most** important for this client's safety?

1. Secure an order for wrist restraints.
2. Orient the client to time, place, and person.
3. Involve family members in the client's care.
4. Determine if any unsafe behavior patterns exist.

653. A nurse is caring for a client with a diagnosis of cancer of the prostate. Which serum level should the nurse teach the client to have monitored to follow the course of the disease?

1. Serum creatinine
2. Blood urea nitrogen
3. Nonprotein nitrogen
4. Prostate-specific antigen

654. A nurse is caring for a client with a diagnosis of benign prostatic hyperplasia (BPH). Which information about this condition is important for the nurse to consider when caring for this client?

1. It is a congenital abnormality.
2. A malignancy usually results.
3. It predisposes to hydronephrosis.
4. An increase in the acid phosphatase level occurs.

655. A nurse is caring for a male client who is scheduled for a dilation of the urethra. Which structure surrounding the male urethra should the nurse include in a teaching program when explaining the procedure?

1. Epididymis
2. Prostate gland
3. Seminal vesicle
4. Bulbourethral gland

656. A nurse is counseling a woman who had recurrent urinary tract infections. What factor should the nurse explain is the reason why women are at a greater risk than men for contracting a urinary

tract infection?

1. Altered urinary pH
2. Hormonal secretions
3. Juxtaposition of the bladder
4. Proximity of the urethra to the anus

657. A routine urinalysis is ordered for a client. What should the nurse do if the specimen cannot be sent immediately to the laboratory?

1. Take no special action.
2. Refrigerate the specimen.
3. Store it in the dirty utility room and send it later.
4. Discard the specimen and collect another specimen later.

658. A client with a urinary retention catheter reports discomfort in the bladder and urethra. What should the nurse do **first**?

1. Milk the tubing gently.
2. Notify the health care provider.
3. Check the patency of the catheter.
4. Irrigate the catheter with prescribed solutions.

659. A client experiences difficulty in voiding after an indwelling urinary catheter is removed. To what does the nurse determine that this is **most** probably related?

1. Fluid imbalance
2. Sedentary lifestyle
3. Interruption in previous voiding habits
4. Nervous tension following the procedure

▶660. A client with urge incontinence is receiving oxybutynin (Ditropan XL) 30 mg orally. Each tablet contains 5 mg. How many tablets should the nurse administer? **Record your answer using a whole number.**

Answer: _____ tablets

661. A client with cancer of the prostate requests the urinal at frequent intervals but either does not void or voids in very small amounts. What does the nurse conclude is **most** likely the causative factor?

1. Edema
2. Dysuria
3. Retention
4. Suppression

662. Which nursing action can **best** prevent infection from a urinary retention catheter?

1. Cleansing the perineum
2. Encouraging adequate fluids
3. Irrigating the catheter once daily
4. Cleansing around the meatus routinely

663. A nurse is caring for a client with a continuous bladder irrigation. Which is the **most** important nursing action?

1. Monitoring urinary specific gravity to determine hydration
2. Subtracting irrigant from output to determine urine volume
3. Recording urinary output every hour to determine kidney function
4. Obtaining a twenty-four-hour urine specimen to determine urine concentration

664. A nurse is providing client teaching to a woman who has recurrent urinary tract infections. Which information should the nurse include concerning the reason why women are more susceptible to urinary tract infections than men?

1. Inadequate fluid intake
2. Poor hygienic practices
3. The length of the urethra
4. The continuity of mucous membranes

665. A client in a nursing home is diagnosed with urethritis. What should the nurse plan to do before initiating antibiotic therapy prescribed by the health care provider?

1. Prepare for urinary catheterization.
2. Teach how to perform perineal care.
3. Start a twenty-four-hour urine collection.
4. Obtain a urine specimen for culture and sensitivity.

666. A nurse is assessing the urine of a client with a urinary tract infection. For which characteristic should the nurse assess each specimen of urine?

1. Clarity
2. Viscosity
3. Glucose level
4. Specific gravity

▶667. Nitrofurantoin (Macrobid) 0.1 gm is prescribed for a client with a urinary tract infection. Each tablet contains 50 mg. How many tablets should the nurse administer? **Record your answer using a whole number.**

Answer: _____ tablets

668. A nurse is caring for a client with glomerulonephritis. What should the nurse instruct the client to do to prevent recurrent attacks?

1. Take showers instead of tub baths.
2. Continue the same restrictions on fluid intake.
3. Avoid situations that involve physical activity.
4. Seek early treatment for respiratory tract infections.

669. A nurse is caring for a client who is admitted with ureteral colic and hematuria. The client also has stage 1 hypertension and is overweight. The decrease of which clinical indicator associated with this client's status should the nurse be **most** concerned about at this time?

1. Pain
2. Weight
3. Hematuria
4. Hypertension

▶670. A nurse is caring for a client with a ureteral calculus. Which are the **most** important nursing actions? **Select all that apply.**

1. Limiting fluid intake at night
2. Monitoring intake and output
3. Straining the urine at each voiding
4. Recording the client's blood pressure
5. Administering the prescribed analgesic

▶671. The pathology report states that a client's urinary calculus is composed of uric acid. Which nutrients should the nurse instruct the client to avoid? **Select all that apply.**

1. Eggs
2. Fruit
3. Organ meats
4. Meat extracts
5. Raw vegetables

672. A lithotripsy to break up renal calculi is unsuccessful, and a nephrolithotomy is performed. Which postoperative clinical indicator should the nurse report to the health care provider?

1. Passage of pink-tinged urine
2. Pink drainage on the dressing
3. Intake of 1750 mL in 24 hours
4. Urine output of 20 to 30 mL/hr

►673.

Health Care Provider Orders

Morphine 4 mg IV every 4 hours for severe pain prn

Ketorolac (Toradol) 15 IM every 6 hours for mild to moderate pain prn

Ondansetron (Zofran) 4 mg IVPB every 6 hours for nausea prn

Strain all urine through gauze

Encourage oral fluid intake

Urine C/S

Ciprofloxacin (Cipro) 400 mg every 12 hours IVPB

IV 0.9% NaCl 150 mL per hour for 3 liters

Emergency Department Discharge Note

1125: Client admitted to the Emergency Department at 0700 reporting unbearable pain of 10 on a 1 to 10 pain scale radiating down into the groin. Medicated with 6 mg of morphine IV at 0730. Client reported pain relief on a level 3. Bladder and pelvic ultrasound and abdominal and pelvic CT scan without contrast indicate 5 mm obstructing stone in left proximal ureter with mild hydronephrosis. Urinalysis reveals: positive nitrite, blood, and leukocyte esterase; 10 to 20 RBCs; 25 to 50 WBC; few squamous epithelial cells; and moderate bacteria. C&S is pending. Client admitted for further management.

Nursing Assessment of Client on Admission to Unit

1130: Client splinting abdomen and stated, "I have excruciating, horrendous, wave-like pain on the left side of my belly moving down to my groin, and I feel like I am going to throw up. I can't stand it." Client asked for the bedpan and voided 50 ml of pink-tinged urine.

clinical record and performs an admission assessment. What is the **priority** nursing action?

1. Strain the client's urine.
2. Administer the prescribed morphine.
3. Position in the high-Fowler position.
4. Collect a urine specimen for culture and sensitivity.

674. A nurse is caring for a client with a diagnosis of renal calculi of calcium phosphate composition. Which type of diet should the nurse explore with the client when providing discharge information?

1. Low purine
2. Low calcium
3. High phosphorus
4. High alkaline ash

675. A pathology report states that a client's urinary calculus is composed of uric acid. Which should the nurse instruct the client to avoid?

1. Milk
2. Liver
3. Cheese
4. Vegetables

►676. A nurse is caring for a client with end-stage renal disease. Which clinical indicators of end-stage renal disease should the nurse expect? **Select all that apply.**

1. Polyuria
2. Jaundice
3. Azotemia
4. Hypertension
5. Polycythemia

677. A client has a heminephrectomy and returns from the postanesthesia care unit with a nephrostomy tube and an indwelling urinary catheter. The client's urinary output is 50 mL/hr. What is the nurse's **next** action?

1. Record the findings.
2. Irrigate the nephrostomy tube.
3. Encourage the intake of oral fluids.
4. Notify the health care provider immediately.

678. A client is diagnosed with bladder cancer, and a cystectomy and an ileal conduit are scheduled. What should the nurse plan to do preoperatively?

1. Limit fluid intake for twenty-four hours.
2. Teach range-of-motion and Kegel exercises.
3. Explain the procedure for irrigating the ileal conduit.
4. Administer cleansing enemas and laxatives as ordered.

679. A nurse is caring for a client after surgical creation of a conduit diversion. What is the major disadvantage of a conduit diversion that the nurse should consider when caring for this client?

1. Peristalsis is greatly decreased.
2. Stool continuously oozes from it.
3. Urine continuously drains from it.
4. Absorption of nutrients is diminished.

680. After a nephrectomy a client arrives in the postanesthesia care unit in the supine position. Which action should be employed by the nurse to assess the client for signs of hemorrhage?

1. Turn the client to observe the dressings.
2. Press the client's nail beds to assess capillary refill.
3. Observe the client for hemoptysis when suctioning.
4. Monitor the client's blood pressure for a rapid increase.

681. A client had a suprapubic prostatectomy. Which type of tube can the nurse expect the client to have when he returns to his room from the postanesthesia care unit?

1. Cystostomy
2. Nasogastric
3. Nephrostomy
4. Ureterostomy

682. A client who had a suprapubic prostatectomy returns from the postanesthesia care unit and accidentally pulls out the urethral catheter. What should the nurse do **first**?

1. Reinsert a new catheter.
2. Notify the health care provider.
3. Check for bleeding by irrigating the suprapubic tube.
4. Take no immediate action if the suprapubic tube is draining.

683. A nurse is caring for a client with an indwelling urinary catheter. What is the **most** important action for the nurse to implement when irrigating the bladder?

1. Use sterile equipment.
2. Instill the fluid under high pressure.
3. Warm the solution to body temperature.
4. Aspirate immediately to ensure return flow.

684. What should the nurse do to obtain an accurate urine output for a client with a continuous bladder irrigation (CBI)?

1. Measure the contents of the bedside drainage bag.
2. Stop the irrigation and determine the urine output.
3. Subtract the volume of irrigant from the total drainage.
4. Ensure the urine and irrigant drain into two separate bags.

685. A nurse is assessing a client with a diagnosis of kidney failure for clinical indicators of metabolic acidosis. What should the nurse conclude is the reason why metabolic acidosis develops with kidney failure?

1. Inability of the renal tubules to secrete hydrogen ions and conserve bicarbonate
2. Depressed respiratory rate by metabolic wastes, causing carbon dioxide retention
3. Inability of the renal tubules to reabsorb water to dilute the acid contents of blood
4. Impaired glomerular filtration, causing retention of sodium and metabolic waste products

686. A nurse is caring for a client with acute kidney failure who is receiving a protein restricted diet. The client asks why this diet is necessary. What information should the nurse include in a response to the client's questions?

1. A high-protein intake ensures an adequate daily supply of amino acids to compensate for losses.
2. Essential and nonessential amino acids are necessary in the diet to supply materials for tissue protein synthesis.
3. This supplies only essential amino acids, reducing the amount of metabolic waste products, thus decreasing stress on the kidneys.
4. Urea nitrogen cannot be used to synthesize amino acids in the body, so the nitrogen for amino acid synthesis must come from the dietary protein.

687. A client with acute kidney failure states, “Why am I twitching and my fingers and toes tingling?” The nurse should respond, “This is caused by:

1. acidosis.”
2. calcium depletion.”
3. potassium retention.”
4. sodium chloride depletion.”

688. A client with acute kidney failure becomes confused and irritable. Which does the nurse determine is the **most** likely cause of this behavior?

1. Hyperkalemia
2. Hyponatremia
3. A limited fluid intake
4. An increased blood urea nitrogen level

▶689. A nurse is caring for a client with chronic kidney failure. Which clinical findings should the nurse expect when assessing this client? **Select all that apply.**

1. Polyuria
2. Lethargy
3. Hypotension
4. Muscle twitching
5. Respiratory acidosis

690. A student nurse is caring for a client with chronic kidney failure who is to be treated with continuous ambulatory peritoneal dialysis (CAPD). Which statement by the student nurse indicates to the primary nurse that the student nurse understands the purpose of this therapy?

1. “It provides continuous contact of dialyzer and blood to clear toxins by ultrafiltration.”
2. “It exchanges and cleanses blood by correction of electrolytes and excretion of creatinine.”
3. “It decreases the need for immobility because it clears toxins in short and intermittent periods.”
4. “It uses the peritoneum as a semipermeable membrane to clear toxins by osmosis and diffusion.”

691. A nurse is evaluating a client’s understanding of peritoneal dialysis. Which information in the client’s response indicates an understanding of the purpose of the procedure?

1. Reestablish kidney function
2. Clean the peritoneal membrane
3. Provide fluid for intracellular spaces
4. Remove toxins in addition to other metabolic wastes

692. A nurse is caring for a client with a diagnosis of chronic kidney failure who has just been told by the health care provider that hemodialysis is necessary. Which clinical manifestation indicates the need for hemodialysis?

1. Ascites
2. Acidosis
3. Hypertension
4. Hyperkalemia

▶693. When receiving hemodialysis, the complication of the removal of too much sodium may occur. For which clinical findings associated with hyponatremia should the nurse assess the client? **Select all that apply.**

1. Chvostek sign
2. Muscle cramps
3. Extreme fatigue

4. Cardiac dysrhythmias

5. Increased temperature

694.▶ A nurse is caring for a client with end-stage renal disease who has a mature arteriovenous (AV) fistula. What nursing care should be included in the client's plan of care? **Select all that apply.**

1. Auscultate for a bruit

2. Palpate the site to identify a thrill

3. Irrigate with saline to maintain patency

4. Avoid drawing blood from the affected extremity

5. Keep the fistula clamped until ready to perform dialysis

695. A client is to have hemodialysis. What must the nurse do before this treatment?

1. Obtain a urine specimen to evaluate kidney function

2. Weigh the client to establish a baseline for later comparison

3. Administer medications that are scheduled to be given within the next hour

4. Explain that the peritoneum serves as a semipermeable membrane to remove wastes

696. When assessing a client during peritoneal dialysis, a nurse observes that drainage of the dialysate from the peritoneal cavity has ceased before the required volume has returned. What should the nurse instruct the client to do?

1. Drink a glass of water.

2. Turn from side to side.

3. Deep breathe and cough.

4. Rotate the catheter periodically.

697. A client with an invasive carcinoma of the bladder is receiving radiation to the lower abdomen in an attempt to shrink the tumor before surgery. What should the nurse do considering the side effects of radiation?

1. Observe feces for the presence of blood.

2. Monitor the blood pressure for hypertension.

3. Administer enemas to remove sloughing tissue.

4. Provide a high-bulk diet to prevent constipation.

698. During the postoperative period after surgery for a kidney transplant, the client's creatinine level is 3.1 mg/dL. What should the nurse do **first** in response to this laboratory result?

1. Notify the health care provider.

2. Check the intravenous infusion.

3. Obtain current blood test results.

4. Assess for decreased urine output.

Infectious Diseases

699. A client is concerned about contracting malaria while visiting relatives in Southeast Asia. What should the nurse teach the client to avoid to **best** prevent malaria?

1. Mosquito bites
2. Untreated water
3. Undercooked food
4. Overpopulated areas

700. A nurse is reviewing the physical examination and laboratory tests of a client with malaria. For which important clinical indicators should the nurse be alert when reviewing data about this client?

Select all that apply.

1. Polyuria
2. Leukopenia
3. Hyperthermia
4. Splenomegaly
5. Erythrocytosis

701. Which action should the nurse take when caring for a client with malaria?

1. Institute seizure precautions.
2. Prepare for blood transfusions.
3. Maintain isolation precautions.
4. Provide nutrition between paroxysms.

702. A nurse is teaching a client about drug therapy against *Plasmodium falciparum*. What information should the nurse include in the teaching plan?

1. The infection can be controlled.
2. Immunity will prevent reinfestation.
3. The infection generally can be eliminated.
4. Immunity from the original infection is temporary.

703. Blackwater fever occurs in some clients with malaria. For which response should the nurse assess this client?

1. Dark red urine
2. Low grade fever
3. Clay-colored diarrhea
4. Coffee-ground emesis

704. A client who abused intravenous drugs was diagnosed with the human immunodeficiency virus (HIV) several years ago. The nurse explains that the diagnostic criterion for acquired immunodeficiency syndrome (AIDS) has been met when the client:

1. contracts HIV-specific antibodies.
2. develops an acute retroviral syndrome.
3. is capable of transmitting the virus to others.
4. has a CD4⁺ T lymphocyte level of less than 200 cells/ μ L.

705. A nurse is caring for a client who is HIV positive. For which complication associated with this diagnosis is it **most** important for the nurse to teach prevention strategies?

1. Infection
2. Depression
3. Social isolation

4. Kaposi sarcoma

706. A mother with the diagnosis of AIDS states that she has been caring for her baby even though she has not been feeling well. What important information should the nurse determine?

1. If she has kissed the baby
2. If the baby is breastfeeding
3. When the baby last received antibiotics
4. How long she has been caring for the baby

707. A nurse is caring for a client with a diagnosis of AIDS. The IV infiltrates and needs to be restarted. What is necessary to protect the nurse when restarting the IV? **Select all that apply.**

1. Mask
2. Gown
3. Gloves
4. Face shield
5. Hand hygiene

708. A nurse is planning to provide discharge teaching to the family of a client with AIDS. Which statement should the nurse include in the teaching plan?

1. "Wash used dishes in hot, soapy water."
2. "Let dishes soak in hot water for 24 hours before washing."
3. "You should boil the client's dishes for 30 minutes after use."
4. "Have the client eat from paper plates so they can be discarded."

709. During an AIDS education class a client states, "Vaseline works great when I use condoms." Which conclusion about the client's knowledge of condom use can the nurse draw from this statement?

1. An understanding of safer sex
2. An ability to assume self-responsibility
3. Ignorance related to correct condom use
4. Ignorance concerning the transmission of HIV

710. A client is diagnosed with gastroenteritis. What does the nurse determine is the basic intention underlying the unique dietary management for this client?

1. Provide optimal amounts of all important nutrients.
2. Increase the amount of bulk and roughage in the diet.
3. Eliminate chemical, mechanical, and thermal irritation.
4. Promote psychologic support by offering a wide variety of foods.

711. A nurse is caring for a client who had *Clostridium welchii* (*Clostridium perfringens*) cultured from a wound of the lower extremity. Which disease results when this organism enters a wound, causing crepitus?

1. Tetanus
2. Anthrax
3. Botulism
4. Gangrene

712. A client in the emergency department states, "I was bitten by a raccoon while I was fixing a water pipe in the crawl space of my basement." Which is the **most** effective first-aid treatment for the nurse to use for this client?

1. Administering an antivenin
2. Maintaining a pressure dressing

3. Cleansing the wound with soap and water

4. Applying a tourniquet proximal to the wound

713. A nurse in a public health clinic is teaching clients how to prevent toxoplasmosis. What should the nurse instruct the clients to avoid?

1. Contact with cat feces

2. Working with heavy metals

3. Ingestion of freshwater fish

4. Excessive radiation exposure

►714. A client is admitted with the diagnosis of tetanus. For which clinical indicators should the nurse assess the client? **Select all that apply.**

1. Restlessness

2. Muscular rigidity

3. Atony of facial muscles

4. Respiratory tract spasms

5. Spastic voluntary muscle contractions

►715. A client is suspected of having rabies after being bitten by a raccoon. For which clinical indicators should the nurse assess the client? **Select all that apply.**

1. Diarrhea

2. Forgetfulness

3. Urinary stasis

4. Nuchal rigidity

5. Pharyngeal spasm

716. A client is admitted to the hospital for general paresis as a complication of syphilis. Which therapy should the nurse anticipate will **most** likely be prescribed for this client?

1. Penicillin therapy

2. Major tranquilizers

3. Behavior modification

4. Electroconvulsive therapy

717. A nurse is counseling a client who has gonorrhea. What additional fact about gonorrhea, besides the fact that it is highly infectious, should the nurse teach this client?

1. It is easily cured.

2. It occurs very rarely.

3. It can produce sterility.

4. It is limited to the external genitalia.

718. A female client is upset with her diagnosis of gonorrhea and asks the nurse, "What can I do to prevent getting another infection in the future?" The nurse evaluates that the teaching is understood when the client states, "My **best** protection is to:

1. douche after every intercourse."

2. avoid engaging in sexual behavior."

3. insist that my partner use a condom."

4. use a spermicidal cream with intercourse."

719. A nurse is caring for a client with a diagnosis of acute salpingitis. Which condition **most** commonly causing inflammation of the fallopian tubes should the nurse include when planning a teaching program for this client?

1. Syphilis

2. Gonorrhea
3. Hydatidiform mole
4. Spontaneous abortion

720. A client is diagnosed with herpes genitalis. What should the nurse do to prevent cross-contamination?

1. Institute droplet precautions.
2. Arrange transfer to a private room.
3. Wear a gown and gloves when giving direct care.
4. Close the door and wear a mask when in the room.

721. Which prescribed medication should the nurse expect to administer to a female client who exhibits the genital lesions presented in the illustration at the right?



1. Zidovudine (Retrovir)
2. Metronidazole (Flagyl)
3. Ceftriaxone (Rocephin)
4. Acyclovir sodium (Zovirax)

722. A client cannot understand how syphilis was contracted because there has been no sexual activity for several days. Which length of time associated with the incubation of syphilis should the nurse include in the teaching plan?

1. 1 week
2. 4 months
3. 2 to 6 weeks
4. 48 to 72 hours

723. A nurse is preparing a teaching plan for a client with syphilis. The nurse includes that syphilis is not considered contagious in the:

1. tertiary stage.
2. primary stage.
3. secondary stage.
4. incubation stage.

724. A nurse is concerned about the public health implications of gonorrhea diagnosed in a 16-year-old adolescent. Which should be of **most** concern to the nurse?

1. Finding the client's contacts
2. Interviewing the client's parents
3. Instructing the client about birth control measures
4. Determining the reasons for the client's promiscuity

725. A nurse is teaching a client about drug therapy for gonorrhea. Which fact about drug therapy should the nurse emphasize?

1. Cures the infection
2. Prevents complications
3. Controls its transmission
4. Reverses pathologic changes

Drug-Related

726. A nurse is assessing the therapeutic action of drugs classified as tumor necrosis factor inhibitors. What client response indicates to the nurse that a drug with this classification is effective?

1. Continued remission in a client with ovarian cancer
2. Increased insulin production in a client with diabetes mellitus
3. Vasodilation of coronary arteries in a client with ischemic heart disease
4. Reduction of inflammatory joint pain in a client with rheumatoid arthritis

727. What effect of povidone-iodine (Betadine) does a nurse consider when using it on the client's skin before obtaining a specimen for a blood culture?

1. Makes the skin more supple
2. Avoids drying the skin as does alcohol
3. Eliminates surface bacteria that may contaminate the culture
4. Provides a cooling agent to diminish the feeling from the puncture wound

728. Which drug does a nurse anticipate may be prescribed to produce diuresis and inhibit formation of aqueous humor for a client with glaucoma?

1. Chlorothiazide (Diuril)
2. Acetazolamide (Diamox)
3. Bendroflumethiazide (Naturetin)
4. Demecarium bromide (Humorsol)

729. A client reports fatigue and dyspnea and appears pale. The nurse questions the client about medications currently being taken. In light of the symptoms, which medication causes the nurse to be **most** concerned?

1. Famotidine (Pepcid)
2. Methyldopa (Aldomet)
3. Ferrous sulfate (Feosol)
4. Levothyroxine (Synthroid)

730. Which drug requires the nurse to monitor the client for signs of hyperkalemia?

1. Furosemide (Lasix)
2. Metolazone (Zaroxolyn)
3. Spironolactone (Aldactone)
4. Hydrochlorothiazide (HydroDIURIL)

731. A client is receiving albuterol (Proventil) to relieve severe asthma. For which clinical indicators should the nurse monitor the client? **Select all that apply.**

1. Tremors
2. Lethargy
3. Palpitations
4. Visual disturbances
5. Decreased pulse rate

732. In the postanesthesia care unit it is reported that the client received intrathecal morphine intraoperatively to control pain. Considering the administration of this medication, what should the nurse include as part of the client's **initial** 24-hour postoperative care?

1. Assessing the client for tachycardia
2. Monitoring of respiratory rate hourly
3. Administering naloxone every 3 to 4 hours

4. Observing the client for signs of CNS excitement

733. What should the nurse include in a teaching plan to help reduce the side effects associated with diltiazem (Cardizem)?

1. Lie down after meals.
2. Change positions slowly.
3. Avoid dairy products in diet.
4. Take the drug with an antacid.

734. A nurse is providing discharge instructions for a client with angina who has a prescription for sublingual nitroglycerin tablets. The nurse should teach the client that the nitroglycerin sublingual tablets have lost their potency when:

1. sublingual tingling is experienced.
2. the tablets are more than three months old.
3. the pain is unrelieved, but facial flushing is increased.
4. onset of relief is delayed, but the duration of relief is unchanged.

735. What should the nurse expect the health care provider to prescribe if a client exhibits clinical indicators of warfarin (Coumadin) overdose?

1. Heparin
2. Vitamin K
3. Iron dextran
4. Protamine sulfate

736. Metoprolol (Lopressor) is prescribed for a client. The nurse should question the prescription if the client has which diagnosis?

1. Hypertension
2. Angina pectoris
3. Sinus bradycardia
4. Myocardial infarction

737. Which client's health problem motivates the nurse to question a prescription for a beta blocker?

1. Heart failure
2. Hypertension
3. Sinus tachycardia
4. Coronary artery disease

738. A nurse concludes that the simvastatin (Zocor) being administered to a client is effective. A decrease in what clinical finding supports this conclusion?

1. INR
2. Heart rate
3. Triglycerides
4. Blood pressure

739. A client with a history of arthritis has an acute episode of right ventricular heart failure and is receiving furosemide (Lasix). The health care provider lowers the client's usual dosage of aspirin. The client asks the nurse the reason for the lower dose. What is the nurse's **best** response?

1. "Aspirin accelerates metabolism of furosemide and decreases the diuretic effect."
2. "Aspirin in large doses after an acute stress episode increases the bleeding potential."
3. "Competition for renal excretion sites by the drugs causes increased serum levels of aspirin."
4. "Use of furosemide and aspirin concomitantly increases formation of uric acid crystals in the nephron."

740. What instructions should a nurse give a client for whom nitroglycerin tablets are prescribed?

1. Limit the number of tablets to four per day.
2. Discontinue the medication if a headache develops.
3. Ensure that the medication is stored in a dark container.
4. Increase the number of tablets if dizziness is experienced.

741. A nurse is taking the health history of a client who is to have surgery in 1 week. The nurse identifies that the client is taking ibuprofen (Advil) for discomfort associated with osteoarthritis and notifies the health care provider. Which drug does the nurse expect will **most** likely be prescribed instead of the Advil?

1. Naproxen (Aleve)
2. Ibuprofen (Motrin)
3. Ketorolac (Toradol)
4. Acetaminophen (Tylenol)

742. A client who is obtund has a blood pressure of 80/35 mm Hg after a blood transfusion. In an effort to support renal perfusion, the nurse administers DOPamine (Intropin) at 2 mcg/kg/min as prescribed. What is the **most** relevant outcome indicating effectiveness of the medication for this client?

1. A decrease in blood pressure
2. An increase in urinary output
3. A decrease in core temperature
4. An increase in level of consciousness

▶743. A nurse identifies that a client receiving chemotherapy has lost weight. What are appropriate nursing interventions for this client? **Select all that apply.**

1. Providing low-carbohydrate meals
2. Explaining the effect of chemotherapy
3. Encouraging the intake of preferred foods
4. Promoting the intake of small, frequent meals
5. Administering ordered antiemetics before meals

▶744. Ibuprofen (Motrin) and hydroxychloroquine (Plaquenil) are prescribed for an older client with arthritis. The nurse teaches the client about these medications. What responses to the medication should the client be taught to report? **Select all that apply.**

1. Blurred vision
2. Urinary retention
3. Bleeding tendencies
4. Difficulty swallowing
5. Feelings of irritability

745. One week after being hospitalized for an acute myocardial infarction, a client reports a loss of appetite and feeling nauseated. Which of the client's prescribed medications should be withheld and the health care provider notified?

1. Digoxin (Lanoxin)
2. Furosemide (Lasix)
3. Propranolol (Inderal)
4. Spironolactone (Aldactone)

▶746. For which side effects should a nurse assess a client with cancer who is being treated with chemotherapeutic agents? **Select all that apply.**

1. Diarrhea
2. Leukocytosis
3. Bleeding tendencies
4. Lowered sedimentation rate
5. Increased hemoglobin levels

747. A nurse is providing discharge instructions about digoxin (Lanoxin). Which response should a nurse include as a reason for a client to withhold the digoxin?

1. Chest pain
2. Blurred vision
3. Persistent hiccups
4. Increased urinary output

748. For what client response must the nurse monitor to determine the effectiveness of amiodarone (Cordarone)?

1. Results of fasting lipid profile
2. Presence of cardiac dysrhythmias
3. Degree of blood pressure control
4. Incidence of ischemic chest pain

749. The laboratory INR results of a client receiving warfarin (Coumadin) have been variable. The nurse interviews the client to determine factors contributing to the problem. Which is **most** important for the nurse to identify?

1. Use of analgesics
2. Serum glucose level
3. Serum potassium levels
4. Adherence to the prescribed drug regimen

750. Warfarin (Coumadin) is prescribed for a client who has been receiving IV heparin for a partial occlusion of the left common carotid artery. The client expresses concern about why both drugs are needed at the same time. The nurse explains that this approach:

1. allows clot dissolution while preventing new clot formation.
2. permits the administration of smaller doses of each medication.
3. immediately provides maximum protection against clot formation.
4. provides an anticoagulant intravenously until the oral drug reaches therapeutic levels.

751. A client with a partial occlusion of the left common carotid artery is to be discharged while still receiving warfarin (Coumadin). Which clinical adverse effect should the nurse identify as a reason for the client to seek medical consultation?

1. Presence of blood in urine
2. Increased swelling of the ankles
3. Diminished ability to concentrate
4. Occurrence of transient ischemic attacks

752. A client is receiving warfarin (Coumadin) for a pulmonary embolism. Which drug is contraindicated when taking warfarin?

1. Ferrous sulfate
2. Acetylsalicylic acid
3. Atenolol (Tenormin)
4. ChlorproMAZINE (Thorazine)

753. Tissue plasminogen activator (t-PA) is to be administered to a client in the emergency

department. Which is the **priority** nursing assessment?

1. Apical pulse rate
2. Electrolyte levels
3. Signs of bleeding
4. Tissue compatibility

754. A client with tuberculosis asks the nurse why vitamin B₆ (pyridoxine) is given with isoniazid (INH). What explanation should the nurse provide?

1. "It will improve your immunologic defenses."
2. "The tuberculostatic effect of isoniazid is enhanced."
3. "Isoniazid interferes with the synthesis of this vitamin."
4. "Destruction of the tuberculosis organisms is accelerated."

755. A client receiving morphine is being monitored by the nurse for signs and symptoms of overdose. Which clinical findings support a conclusion of overdose? **Select all that apply.**

1. Polyuria
2. Lethargy
3. Bradycardia
4. Dilated pupils
5. Slow respirations

756. Which medication should the nurse anticipate will be prescribed to relieve anxiety and apprehension in a client with pulmonary edema?

1. Morphine
2. Phenobarbital
3. HydrOXYzine
4. Chloral hydrate

757. Some clients self-prescribe over-the-counter glucosamine to help relieve joint pain and stiffness. Which condition should the nurse identify as a reason for a client to reconsider taking this medication?

1. Osteoarthritis
2. Heart disease
3. Hyperthyroidism
4. Diabetes mellitus

758. Carbidopa/levodopa (Sinemet) is prescribed for a client with Parkinson disease. What should the nurse teach the client about this medication?

1. "Take this medication between meals."
2. "Blood levels of the drug should be monitored weekly."
3. "It can cause happy feelings followed by feelings of depression."
4. "You may experience dizziness when moving from sitting to standing."

759. A nurse is providing instructions for a client who is receiving phenytoin (Dilantin) but has limited access to health care. What side effect is the basis for the nurse's emphasis on meticulous oral hygiene?

1. Hyperplasia of the gums
2. Alkalinity of the oral secretions
3. Irritation of the gingiva and destruction of tooth enamel
4. Promotion of plaque and bacterial growth at the gum lines

760. The nurse explains to the family of a client suspected of having myasthenia gravis that

edrophonium (Enlon) is used to establish the diagnosis. An increase in which factor will confirm the diagnosis?

1. Symptoms
2. Consciousness
3. Blood pressure
4. Muscle strength

761. A client is receiving phenytoin (Dilantin) for a seizure disorder and heparin for a deep vein thrombosis. Warfarin (Coumadin) is added in preparation for discontinuing the heparin. Why must the nurse observe the client closely during the **initial** days of treatment with Coumadin?

1. Warfarin affects the metabolism of phenytoin.
2. Phenytoin decreases warfarin's anticoagulant effect.
3. Warfarin's action is greater in clients with seizure disorders.
4. Seizures increase the metabolic degradation rate of warfarin.

762. A client who is receiving phenytoin (Dilantin) asks why folic acid (Folate) was prescribed. What is the **best** explanation by the nurse?

1. Absorption from foods is inhibited.
2. The action of phenytoin is potentiated.
3. Absorption of iron from foods is improved.
4. Neuropathy caused by phenytoin is prevented.

763. What should the nurse monitor to evaluate the effectiveness of carbamazepine (Tegretol) in the management of a client's trigeminal neuralgia?

1. Pain intensity
2. Liver function
3. Cardiac output
4. Seizure activity

▶764. Ceftriaxone (Rocephin) 2.5 g IVPB every 8 hours is prescribed for a client with a severe infection. The pharmacy sends a vial labeled 5 g per 10 mL. What volume of ceftriaxone should the nurse add to the IVPB solution? **Record your answer using a whole number.**

Answer: _____ mL

▶765. A nurse is caring for a client after a total knee replacement who is requesting Vicodin in addition to the patient-controlled analgesia (PCA). The client reports having taken 2 Vicodin tablets every 4 hours for several weeks before surgery. If each tablet contains 500 mg of acetaminophen, how much acetaminophen had the client been ingesting per day? **Record your answer using a whole number.**

Answer: _____ mg

▶766. A health care provider prescribes 500 mg of an antibiotic IVPB every 12 hours. The vial of antibiotic contains 1 g and indicates that the addition of 2.5 mL of sterile water will yield 3 mL of reconstituted solution. How many milliliters of the antibiotic should be added to the 50 mL IVPB bag? **Record your answer using one decimal place.**

Answer: _____ mL

767. A client is to have mafenide (Sulfamylon) cream applied to burned areas. For which serious side effect of mafenide therapy should the nurse monitor this client?

1. Curling ulcer
2. Renal shutdown
3. Metabolic acidosis

4. Hemolysis of red blood cells

768. After several days of IV therapy for chloroquine-resistant malaria, the health care provider replaces the IV medication with oral quinine, 2 g per day in divided doses. The nurse advises the client to take this medication after meals to:

1. delay its absorption.
2. minimize gastric irritation.
3. decrease stimulation of appetite.
4. reduce its antidysrhythmic action.

769. Preparation of a client for a subtotal thyroidectomy may include the administration of potassium iodide solution. The client refuses to take the medication. What explanation should the nurse give as to why this medication should be taken?

1. The metabolic rate of the body will increase.
2. It will reduce the risk of hemorrhage during surgery.
3. It will maintain the functioning of the parathyroid glands.
4. The amount of thyroid hormones being secreted will decrease.

770. What information should the nurse include when teaching a client about antacid tablets?

1. Take them at 4-hour intervals.
2. Take them 1 hour before meals.
3. They are as effective as the liquid forms.
4. They interfere with the absorption of other drugs.

771. A client who has been diagnosed with Lyme disease is started on doxycycline (Vibramycin) as part of the therapy. What should the nurse do when administering this drug?

1. Administer the medication with meals or a snack.
2. Provide orange or other citrus fruit juice with the medication.
3. Give the medication an hour before milk products are ingested.
4. Offer antacids thirty minutes after administration if GI side effects occur.

772. An ambulatory female client with relapsing-remitting multiple sclerosis is to receive every-other-day injections of interferon beta-1a (Avonex). What adverse effects should the nurse explain may occur when taking this medication? **Select all that apply.**

1. Depression
2. Constipation
3. Flulike symptoms
4. Increased heart rate
5. Decreased perspiration

773. Hydrocortisone (Cortef) is prescribed for a client with Addison disease. Before discharge, the nurse teaches the client about this medication. What did the nurse include as a therapeutic effect of the drug?

1. Supports a better response to stress
2. Promotes a decrease in blood pressure
3. Decreases episodes of shortness of breath
4. Controls an excessive loss of potassium from the body

774. A nurse administers the drug desmopressin acetate (DDAVP) to a client with diabetes insipidus. What should the nurse monitor to evaluate the effectiveness of the drug?

1. Arterial blood pH
2. Intake and output

3. Fasting serum glucose

4. Pulse and respiratory rates

775. A client receiving morphine by patient-controlled analgesia has a respiratory rate of 6 breaths/min. What intervention should the nurse anticipate?

1. Nasotracheal suction

2. Mechanical ventilation

3. Naloxone administration

4. Cardiopulmonary resuscitation

776. A client will be taking nitrofurantoin (Macrobid) 50 mg orally every evening at home to manage recurrent urinary tract infections. What instructions should the nurse give to the client?

1. Increase your intake of fluids.

2. Strain the urine for crystals and stones.

3. Stop the drug if your urinary output increases.

4. Maintain the exact time schedule for taking the drug.

▶777. Aspirin is prescribed for a client with rheumatoid arthritis. Which clinical indicators of aspirin toxicity should the nurse teach the client to report? **Select all that apply.**

1. Nausea

2. Joint pain

3. Blood in the stool

4. Ringing in the ears

5. Increased urine output

▶778. What should the nurse include in a teaching plan for a client taking calcium channel blockers such as NIFEdipine (Procardia)? **Select all that apply.**

1. Reduce calcium intake.

2. Change positions slowly.

3. Report peripheral edema.

4. Expect temporary hair loss.

5. Avoid drinking grapefruit juice.

779. A nurse is planning care for a client with cancer who is receiving the plant alkaloid vinCRISTine. In contrast to the side effects of most chemotherapeutic agents, what is a common side effect of vinCRISTine that the nurse must address in the client's care plan?

1. Nausea

2. Alopecia

3. Constipation

4. Hyperuricemia

780. A client receiving chemotherapy asks the nurse why an antibiotic was also prescribed. Which tissue affected by chemotherapy should the nurse consider when formulating a response?

1. Liver

2. Blood

3. Bone marrow

4. Lymph nodes

781. A client receiving chemotherapy for cancer develops sores in the mouth and asks the nurse why this happened. What is the nurse's **best** response?

1. "The sores occur because of the direct irritating effects of the drug."

2. "These tissues are poorly nourished because you have a decreased appetite."

3. "The rapidly dividing cells of the gastrointestinal tract are damaged by the drug."
4. "This side effect occurs because it targets the cells of the gastrointestinal system."
782. A nurse administers leucovorin calcium to a client before the prescribed methotrexate (Trexall). The client asks the reason for this. What effect of leucovorin calcium should the nurse consider when formulating a response?
1. Potentiates metabolite required for destruction of cancer cells
 2. Supplies levels of folic acid required by blood-forming organs
 3. Acts synergistically with antineoplastic drugs to destroy cancer cells
 4. Increases production of phagocytes to help remove debris from destroyed cancer cells
783. A client with a head injury has been receiving dexamethasone (Decadron). The health care provider plans to reduce the dexamethasone (Decadron) dosage gradually and to continue a lower maintenance dosage. Which effect associated with the gradual dosage reduction of the drug should the nurse explain to the client?
1. Builds glycogen stores in the muscles
 2. Produces antibodies by the immune system
 3. Allows the increased intracranial pressure to return to normal
 4. Promotes return of cortisone production by the adrenal glands
784. A client with rheumatoid arthritis has been taking a steroid medication for the past year. For which complication of prolonged use of this medication should the nurse assess the client?
1. Decreased white blood cells
 2. Increased C-reactive protein
 3. Increased sedimentation rate
 4. Decreased serum glucose levels
785. Which test result should a nurse review to determine if the antibiotic prescribed for the client will be effective?
1. Serologic test
 2. Sensitivity test
 3. Serum osmolality
 4. Sedimentation rate
786. After receiving streptomycin sulfate for 2 weeks as part of the medical regimen for tuberculosis, the client states, "I feel like I am walking like a drunken seaman." The nurse withholds the drug and promptly reports the problem to the health care provider. Which part of the body does the nurse determine is being affected as indicated by the symptom reported by the client?
1. Pyramidal tracts
 2. Cerebellar tissue
 3. Peripheral motor end-plates
 4. Eighth cranial nerve's vestibular branch
787. A client says, "I take baking soda in water when I get heartburn." The nurse suggests an antacid containing aluminum and magnesium hydroxide instead of baking soda. What is the advantage these antacids have over baking soda?
1. They contain little, if any, sodium.
 2. Absorption by the stomach mucosa is markedly enhanced.
 3. There is no direct effect on the systemic acid-base balance when taken as directed.
 4. Few side effects such as diarrhea or constipation are experienced when they are used properly.
788. Famotidine (Pepcid) is prescribed for a client with peptic ulcer disease. The client asks the nurse

what this medication does. The nurse responds, "It:

1. increases gastric motility."
2. neutralizes gastric acidity."
3. facilitates histamine release."
4. inhibits gastric acid secretion."

789. A terminally ill client in a hospice unit for several weeks is receiving a morphine drip. The dose is now above the typical recommended dosage. The client's spouse tells the nurse that the client is again uncomfortable and needs the morphine increased. The prescription states to titrate the morphine to comfort level. What should the nurse do?

1. Add a placebo to the morphine to appease the spouse.
2. Discuss with the spouse the risk for morphine addiction.
3. Assess the client's pain before increasing the dose of morphine.
4. Check the client's heart rate before increasing the morphine to the next level.

790. Isoniazid (INH) is prescribed as a prophylactic measure for a client whose spouse has active TB. What statements by the client indicate that there is a need for further teaching? **Select all that apply.**

1. "I plan to start taking vitamin B₆ with breakfast."
2. "I'll still be taking this drug six months from now."
3. "I sometimes allow our children to sleep in our bed at night."
4. "I know I also have tuberculosis because the skin test was positive."
5. "I'll be skipping the wine but enjoying the cheese at my neighbor's party."

791. A nurse is reviewing the history and physicals of several clients from the clinic who are taking rifampin (Rifadin) for the treatment of tuberculosis. Which client presents a specific concern for the nurse?

1. 45-year-old taking a loop diuretic
2. 26-year-old taking oral contraceptives
3. 32-year-old taking a proton pump inhibitor
4. 72-year-old taking intermediate-acting insulin

792. After surgery a client develops a deep vein thrombosis and a pulmonary embolus. Heparin via a continuous drip at 1200 units/hr is prescribed. Several hours later, vancomycin (Vancocin) 500 mg intravenously every 12 hours is prescribed. The client has one IV site: a peripheral line in the left forearm. What action should the nurse take?

1. Stop the heparin, flush the line, and administer the vancomycin.
2. Use a piggyback setup to administer the vancomycin into the heparin.
3. Start another IV line for the vancomycin and continue the heparin as prescribed.
4. Hold the vancomycin and tell the health care provider that the drug is incompatible with heparin.

793. Valsartan (Diovan), an angiotensin II receptor antagonist, is prescribed for a client. For which possible side effects should the nurse monitor the client? **Select all that apply.**

1. Constipation
2. Hypokalemia
3. Irregular pulse rate
4. Change in visual acuity
5. Orthostatic hypotension

794. A female client whose ECG exhibits multiple premature ventricular complexes is to take oral disopyramide (Norpace). Which side effects should the nurse include when teaching the client about this drug? **Select all that apply.**

1. Dry mouth
2. Rhinorrhea
3. Constipation
4. Hyperglycemia
5. Stress incontinence

795. A nurse provides instruction when the beta blocker atenolol (Tenormin) is prescribed for a client with moderate hypertension. What action identified by the client indicates to the nurse that the client needs further teaching?

1. Move slowly when changing positions.
2. Take the medication before going to bed.
3. Expect to feel drowsy when taking this drug.
4. Count the pulse before taking the medication.

796. A client with type 2 diabetes develops gout, and allopurinol (Zyloprim) is prescribed. The client is also taking metformin (Glucophage) and an over-the-counter nonsteroidal antiinflammatory drug (NSAID). When teaching about the administration of allopurinol, what should the nurse instruct the client to do?

1. Decrease the daily dose of NSAIDs.
2. Limit fluid intake to one quart a day.
3. Take the medication on an empty stomach.
4. Monitor blood glucose levels more frequently.

797. A health care provider prescribes a vitamin tablet that contains vitamin B complex. What should the nurse teach the client?

1. It may turn the urine bright yellow.
2. The daily fluid intake should be increased.
3. The drug should be taken on an empty stomach.
4. It may accumulate in the body if an excessive amount is taken.

798. A nurse is administering 40 mg of furosemide (Lasix) intravenously. Which sensation reported by the client does the nurse consider when determining that it is being administered too quickly?

1. "Bladder feels full"
2. "Ears are plugged up"
3. "Heart is beating fast"
4. "Left arm feels numb"

799. Nesiritide (Natrecor), a vasodilator, is prescribed for a client with acute heart failure and pulmonary edema. The nurse is assessing the client's response to the medication. Which clinical manifestation should decrease when the medication is effective?

1. Dyspnea
2. Hypotension
3. Unstable angina
4. Premature heartbeats

800. A client with a history of tuberculosis reports difficulty hearing. Which medication should the nurse consider is related to this response?

1. Streptomycin
2. Pyrazinamide
3. Isoniazid (INH)
4. Ethambutol (Myambutol)

Answers and Rationales

Growth and Development

1. **4** Accidents are common during young adulthood because of immature judgment and impulsivity associated with this stage of development.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 5, General Nursing Care of Young Adults
2. **3** Neurologic aging causes forgetfulness and a slower response time; repetition increases learning.
1, **4** This principle is applicable to all learning regardless of the client's age. **2** Learning occurs, but it may take longer.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 5, General Nursing Care of Middle-Older and Old-Older Adults
3. **4** Osteoporosis is not restricted to women; it is a potential major health problem of all older adults; estimates indicate that half of all women have at least one osteoporotic fracture, and the risk in men is estimated between 13% and 25%; a bone mineral density (BMD) measurement assesses the mass of bone per unit volume or how tightly the bone is packed.
1 Osteoporosis also can occur in men. **2** Exercise may decrease the occurrence of, but will not prevent, osteoporosis; a regimen including weight-bearing exercises is advised. **3** A small frame is a risk factor for osteoporosis.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 5, General Nursing Care of Middle-Older and Old-Older Adults
4. **1** Smoking is a major risk factor for cardiovascular disease and hypertension, major health problems of middle-age adults.
2 Middle-age adults are not at greater risk for infection. **3** Alcohol intake should be limited, but total abstinence is not required for prevention of health problems. **4** HDL levels should be increased to help prevent cardiovascular disease.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 5, The Middle-Older and Old-Older Adult, Data Base
5. **2** Bones become more fragile because of loss of bone density associated with the aging process; this often is associated with lower circulating levels of estrogens or testosterone.
1 Carelessness is a characteristic applicable to certain individuals rather than to people within a developmental level. **3** Although prolonged lack of weight-bearing activity is associated with bone demineralization, hip fractures also occur in active older adults. **4** Rheumatoid diseases can affect the skeletal system but do not increase the incidence of hip fractures.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 5, The Middle-Older and Old-Older Adults, Data Base
6. Answer: 3, 4.
1 There should be no interference with swallowing in older individuals. **2** Older individuals tend to feel the cold and rarely complain of the heat. **3** Changes in the ciliary muscles, decrease in pupil size, and a more rigid pupil sphincter contribute to an increased sensitivity to glare. **4** This may

make an older individual unaware of a serious illness, thermal extremes, or excessive pressure. **5** There is a decreased response to stimuli in the older individual.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 5, The Middle-Older and Old-Older Adults, Data Base

7. Answer: 1, 3.

1 Cerumen (ear wax) becomes drier and harder as a person ages. **2** There is no greater incidence of tympanic tears caused by the aging process. **3** Generally, female voices have a higher pitch than male voices; older adults with presbycusis (hearing loss caused by the aging process) have more difficulty hearing higher-pitched sounds. **4** The hair in the auditory canal increases, not decreases. **5** The epithelium of the lining of the ear becomes thinner and drier.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 5, General Nursing Care of Middle-Older and Old-Older Adults

8. **3** Aged clients may display psychomotor retardation and need more time to complete the tasks associated with the activities of daily living; mealtimes should be relaxing and social.

1 Supplemental drinks should augment meals and be offered between meals, not as a substitute for meals. **2** Clients should be encouraged to feed themselves to remain as independent as possible; spoon feeding may not mirror the pace of eating preferred by the client, and forcing the client to eat all of the food may precipitate anxiety, frustration, and agitation. **4** Placement of a gastrostomy tube is premature.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 5, General Nursing Care of Middle-Older and Old-Older Adults

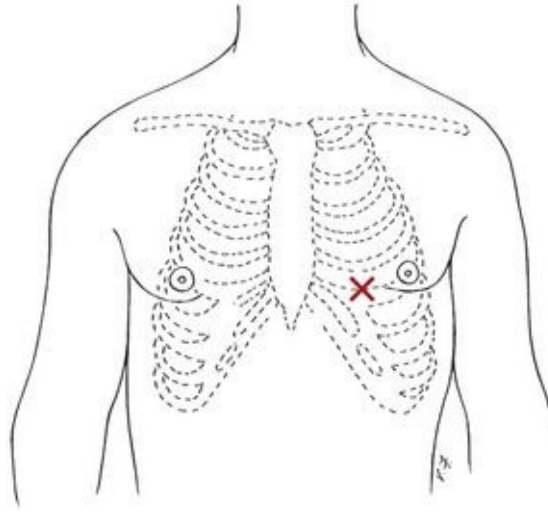
9. **2** With aging there is a decreased vasomotor response and diminished elasticity of blood vessels that do not respond quickly to changes from horizontal to vertical; orthostatic hypotension may occur. Changing positions slowly allows the body to adjust, which prevents dizziness and loss of balance.

1 Usual fluid intake patterns can be maintained. **3** Furosemide (Lasix) should be taken with meals to prevent gastric irritation. It is best to take it in the morning rather than at night so that sleep is not interrupted with the need to void. **4** There is no link between furosemide and skin breakdown.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 5, General Nursing Care of Middle-Older and Old-Older Adults

Circulatory System (Cardiovascular, Blood, and Lymphatic Systems)

10. The heart's apex is between the fifth and sixth ribs at the midclavicular line. It is closest to the chest wall here, so auscultation is easier.



Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Review of Anatomy and Physiology, Heart

11. **4** The cardiac rhythm is monitored and rhythm disturbances documented; disturbances are stored, printed, and then analyzed in relation to the client's activity/symptom diary.

1 The monitor must remain in place constantly for accurate recordings. **2** The client must keep a record of activities and symptoms while the monitor records cardiac rhythm disturbances, and then an analysis of correlations between the two is made. **3** A chest radiograph, not a Holter monitor, will reveal the size and contour of the heart.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

12. **3** A day's activities should be recorded so that they can be compared with the occurrence of dysrhythmias.

1 It is not necessary to discontinue medications. **2** It is not necessary to avoid using a microwave oven. **4** Obtaining blood pressure readings while wearing a Holter monitor is not necessary.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

13. **4** Caffeine is a stimulant that causes vasoconstriction and is contraindicated for a client with a dysrhythmia.

1, 2 Although this is a true statement, it does not provide information as to why it is not good for the heart. Adherence to a medical regimen increases when the client understands the rationale for recommendations. **3** Tea contains caffeine and should be avoided by a client with a dysrhythmia.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Coronary Artery Disease (CAD), Nursing Care

14. **1** This test evaluates the heart's ability to meet the need for additional oxygen in response to the stress of exercising. Changes in the ECG identify dysrhythmias and ST changes indicative of myocardial ischemia.

2 This test assists in the differential diagnosis of chest pain; the diagnosis of heart disease is made via the results of a variety of diagnostic procedures and laboratory tests. **3** This is a valuable test that will influence the diagnosis and treatment of heart disease. **4** This is a noninvasive test.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

15. **2** Temperature may increase within the first 24 hours as a result of the inflammatory response to tissue destruction and persist as long as a week.

1 Diaphoresis is caused by activation of the sympathetic, not parasympathetic, nervous system and may indicate cardiogenic shock. **3** Pain is persistent and constant, not intermittent; it is caused by oxygen deprivation and the release of lactic acid. **4** The blood pressure increases initially but then drops because there is a decrease in cardiac output.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Coronary Artery Disease, Data Base

16. **2** Pulse pressure is obtained by subtracting the diastolic from the systolic reading after the blood pressure has been recorded.

1 This is the definition of cardiac output; it is not the pulse pressure. **3** This is not pulse pressure. **4** This is the pulse deficit.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Review of Anatomy and Physiology, Blood Vessels

17. **2** Temperatures of 102° F (38° C) or greater lead to an increased metabolism and cardiac workload.

1 Although diaphoresis is related to an elevated temperature, it is not the reason for notifying the health care provider. **3** An elevated temperature is not an early sign of cerebral edema. Open heart surgery is not associated with cerebral edema. **4** Fever is unrelated to hemorrhage; in hemorrhage with shock, the temperature decreases.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Cardiac Surgery, Nursing Care

18. **2** Constriction of the peripheral blood vessels and the resulting increase in blood pressure impair circulation and limit the amount of oxygen being delivered to body cells, particularly in the extremities.

1 Nicotine constricts all peripheral vessels, not just superficial ones; its primary action is vasoconstriction; it will not dilate deep vessels. **3, 4** Nicotine constricts rather than dilates peripheral vessels.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Vascular Disease, Nursing Care

19. **2** Disimpaction can cause vagal stimulation, which slows the heart. The vagus is the principal nerve of the parasympathetic portion of the autonomic nervous system, and its axon terminals release acetylcholine. The response of the viscera to acetylcholine varies, but in general the organ is in a relaxed state.

1 This is an action of the sympathetic nervous system (accelerator nerve) caused by the release of norepinephrine. **3** Stimulation of the sympathetic nervous system dilates bronchioles in the lungs; the vagus nerve constricts them. **4** There are parasympathetic fibers to the coronary blood vessels; sympathetic impulses dilate these vessels.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Review of Anatomy and Physiology, Regulatory Mechanisms Affecting Circulation

20. Answer: 1, 5.

1 Stasis ulcers result from edema or minor injury to the limb; they frequently form over the medial malleolus (inner ankle). **2** Necrotic tissue is associated with peripheral arterial disease. **3** Ecchymosis is caused by bleeding. **4** Diminished pulses are associated with peripheral arterial disease. **5** The release of iron from hemoglobin as erythrocytes disintegrate in tissue results in ferrous sulfide formation, causing darkening of the tissues.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Vascular Disease, Data Base

21. **4** Diminished sensation decreases awareness of injury. Injured tissue cannot heal properly because of cellular deprivation of oxygen and nutrients; ulceration and gangrene may result.

1 Emotional stress does not cause tissue injury; however, because of vasoconstriction, it may prolong healing. **2** Inadequate hygiene is only one stress that may cause tissue trauma; protein is not related to this disease. **3** Although caffeine stimulates the peripheral vessels to constrict, limiting oxygen to cells, it is not the major cause of ulceration.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Vascular Disease, Data Base

22. **2** The pulmonary capillary beds are the first small vessels that the embolus encounters once it is released from the calf veins.

1, 4 This will not occur because the embolus will enter the pulmonary system first. **3** Dry gangrene occurs when the arterial rather than the venous circulation is compromised.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Vascular Disease, Nursing Care

23. **4** A drop in blood pressure; rapid pulse rate; cold, clammy skin; and oliguria are signs of decreased blood volume and shock, which if not treated promptly can lead to death.

1 This is an expected response; the client will push out the airway as the effects of anesthesia subside. **2, 3** This is a common response to depressant effects of anesthesia.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Shock, Data Base

24. **2** Localized sensory changes may indicate nerve damage, impaired circulation, or thrombophlebitis. Activity should be limited and the health care provider notified.

1 Symptoms may indicate a serious problem, and the health care provider must be notified. While fluids may be helpful to prevent hemoconcentration and the resulting risk of thrombus formation, fluids should be held in case a surgical procedure or diagnostic test is performed that requires the client to refrain from oral intake. **3** Rubbing or massaging the legs is contraindicated because of possible dislodging of a thrombus if present. **4** Bed rest is indicated to prevent the possibility of further damage or creation of an embolus.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Vascular Disease, Data Base

25. **4** A sympathectomy causes dilation of the blood vessels in the lower extremities; the resulting shift in the blood volume lowers the systemic blood pressure.

1 Fluid losses associated with surgery may gradually lower the blood pressure; this is compensated by endocrine and renal mechanisms. **2** Although anesthesia depresses vital signs, generally there is not a sudden drop in blood pressure postoperatively. **3** Epinephrine will increase the blood pressure by stimulating cardiac contractility.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Review of Anatomy and Physiology, Regulating Mechanisms Affecting Circulation

26. **2** The clinical findings indicate the presence of inflammation. The intravenous catheter should be removed to prevent the development of thrombophlebitis.

1, 3 This is unsafe. It may further irritate the vein and precipitate a thrombophlebitis. **4** Although this may relieve the discomfort, it is not an intervention that will resolve the problem.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Vascular Disease, Data Base

27. Answer: 1, 3, 6.

1 Pain is related to the edema associated with the inflammatory response. **2** Intermittent claudication (pain when walking, resulting from tissue ischemia) may occur with peripheral arterial disease. **3** Redness is related to vasodilation and the inflammatory response. **4** Although some localized edema occurs, pitting edema does not occur in thrombophlebitis. **5** Ecchymosis is a sign of bleeding; thrombophlebitis is caused by a clot. **6** Thrombophlebitis is inflammation of a vein that occurs with the formation of a clot. Warmth is related to vasodilation.

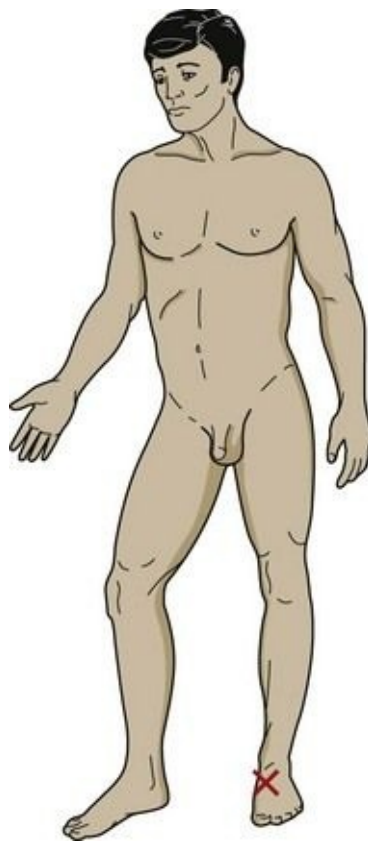
Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Vascular Disease, Data Base

28. **2** The clinical findings indicate a possible thrombophlebitis. Bed rest with the legs elevated should be maintained and the health care provider notified immediately. A thrombus may progress to a pulmonary embolus.

1 The legs should be kept elevated until the client is evaluated by the health care provider. **3** The application of warm soaks is a dependent function of the nurse that requires a health care provider's order. **4** Administering an analgesic for pain in a site other than the one for which it was prescribed is not an independent nursing function; in addition, the medication may obscure the problem in the calf, place the client in jeopardy, or further delay treatment.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Vascular Disease, Nursing Care

29. The pulse most distal to the graft should be assessed first to determine adequacy of circulation. The pedal pulse is located on the top of the foot and is the most distal peripheral pulse (see illustration on following page).



Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 6, Vascular Disease, Nursing Care

30. **3** Support hose apply external pressure on the veins, preventing the retrograde pressure or flow that may occur in the standing or sitting positions; application before arising prevents the veins from having the opportunity to become engorged.

1 If this schedule is followed, at some point the feet will be dependent before the stockings are put on; venous pooling and edema may occur; application of elastic stockings at this time can cause tissue trauma. **2** They usually need not be worn while in bed with the feet elevated during sleep because gravity prevents venous pooling. **4** Stockings must be removed so that the legs can be washed and dried at least daily.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Vascular Disease, Nursing Care

31. **4** An elastic bandage can be adjusted to the varying proportions of the client's legs.

1 This action requires a health care provider's order. **2** This is unsafe; this permits venous stasis. **3** This will increase the pressure in the popliteal space, which increases venous stasis and the risk of thrombophlebitis.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 6, Vascular Disease, Nursing Care

32. **4** Sitting on the edge of the bed before standing up gives the body a chance to adjust to the effects of gravity on circulation in the upright position.

1 Support hose may help prevent orthostatic hypotension by increasing venous return. However, they must be applied before getting out of bed and should not be worn continuously. **2** This will not prevent episodes of orthostatic hypotension. **3** Energetic tasks, once standing and acclimated, do not increase hypotension.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Hypertension, Nursing Care

33. **1** ACE (angiotensin-converting enzyme) increases the sensitivity of the cough reflex, leading to the common adverse effect sometimes referred to as an ACE cough.

2, 3, 4 A cough is not a side effect of this category of medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Antihypertensives

34. **4** Vasodilation will lower the blood pressure.

1 The pulse rate is not decreased and may increase. **2** Breath sounds are not directly affected by vasodilation, although vasodilator medications can decrease preload and afterload, which could indirectly affect breath sounds in heart failure. **3** The urine output is not affected immediately, although control of blood pressure can help preserve renal function over time.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Antihypertensives

35. **4** Angiotensin II receptor blockers (ARBs) lower the blood pressure; they block the receptor sites in smooth muscles and adrenal glands so vasoconstriction is prevented.

1, 2, 3 ARBs do not directly affect this.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Antihypertensives

36. **4** Cholesterol is a sterol found in tissue; it is attributed in part to diets high in saturated fats.

1 Only animal foods furnish dietary cholesterol. **2** Exercise, not cholesterol, increases HDL levels and helps decrease the risk of heart disease. **3** Cholesterol is also produced by the body and is needed for the synthesis of bile salts, adrenocortical and steroid sex hormones, and provitamin D.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Coronary Artery Disease, Nursing Care

37. **1** Fiber and fluids help prevent the most common adverse effect of constipation and its complication—fecal impaction.

2 The medication should be taken with meals. **3** The pulse is not affected. **4** Cholestyramine binds bile in the intestine; therefore, it reduces the incidence of jaundice.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antilipidemics

38. **1** Although oatmeal is a soluble fiber, whole milk is high in saturated fat and should be avoided.

2 Olive oil contains unsaturated fat. **3** Most fish have a low fat content; fruit does not contain fat. **4** Soluble fiber helps to lower cholesterol; skim milk does not contain fat.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Coronary Artery Disease, Nursing Care

39. Answer: 2, 3, 4, 6.

1 This is an unsaturated fat, which is a healthy choice. **2** This is high in sodium and should be avoided to prevent fluid retention and an elevated blood pressure. **3** This is high in saturated fats and contributes to hyperlipidemia; skim milk is the healthier choice. **4** These are high in saturated fats and should be avoided. **5** Vegetables and whole grains are low in fat and have soluble fiber, which may reduce the risk for heart disease. **6** These are high in cholesterol and should be avoided.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; Reference: Ch 6, Coronary Artery Disease, Nursing Care

40. Answer: 2, 3, 5.

1 Simvastatin (Zocor) does not affect levels of potassium. **2** Simvastatin increases photosensitivity; the client should avoid sun exposure and use sunblock. **3** The client should be monitored for the adverse effects of glaucoma and cataracts. **4** The medication is most effective when taken at bedtime because cholesterol synthesis is highest at night. **5** Gray-bronze skin and unexplained muscle pain are signs of rhabdomyolysis. Rhabdomyolysis, a life-threatening response, is the disintegration of muscle associated with myoglobin in the urine.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antilipidemics

41. **2** Hypertension is 78% more prevalent in African Americans than among Caucasian Americans; 30% of African Americans have hypertension.

1 African Americans have approximately 50% less risk for osteoporosis than Caucasian Americans. **3** Caucasian-American women are 30% more likely to be diagnosed with uterine cancer than African-American women. **4** Statistics indicate that African Americans are less likely to develop thyroid disorders than Caucasian Americans.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Hypertension, Data Base

42. **4** Dyspnea may indicate development of pulmonary edema, which is a life-threatening condition.

1 This CNS side effect may occur in some people, but it is not life-threatening. **2, 3** This is a common side effect of this medication, which is not life-threatening.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics

43. **Answer: 3 tablets.** Use the “Desire over Have” formula of ratio and proportion to solve the problem.

$$\frac{\text{Desire}}{\text{Have}} \frac{150 \text{ mg}}{50 \text{ mg}} = \frac{x \text{ tablets}}{1 \text{ tablet}}$$

$$50 x = 150$$

$$x = 3 \text{ tablets}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing

Responsibilities Related to Medication Administration

44. **2** Ischemia causes tissue injury and the release of chemicals, such as bradykinin, that stimulate sensory nerves and produce pain.

1 Arterial spasm, resulting in tissue hypoxia and pain, is associated with angina pectoris. **3** Arteries, not veins, are involved in the pathology of a myocardial infarction. **4** Tissue injury and pain occur in the myocardium.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Coronary Artery Disease, Data Base

45. **3** Anginal pain, which can be anticipated during certain activities, may be prevented by dilating the coronary arteries immediately before engaging in the activity.

1 One tablet is generally administered at a time; doubling the dosage may produce severe hypotension and headache. **2** The sublingual form of nitroglycerin is absorbed directly through the mucous membranes and should not be swallowed. **4** When the pain is relieved, rest will generally prevent its recurrence by reducing oxygen consumption of the myocardium.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Coronary Vasodilators

46. **3** The pulse should be assessed because the trauma at the insertion site may interfere with blood flow distal to the site. There is also danger of bleeding.

1 Rest is not a priority, although the extremity in which the catheter was inserted usually is immobilized for a period of time to prevent bleeding at the insertion site. **2** This is determined on an individual basis; it is not routine. **4** The client will be on a cardiac monitor, which will allow for continuous monitoring.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Procedures, Cardiac Catheterization

47. **1** Myocardial infarction (MI) may cause increased irritability of tissue or interruption of normal transmission of impulses. Dysrhythmias occur in about 90% of clients after an MI.

2 Hypokalemia may result when clients are taking cardiac glycosides and diuretics; this is a complication associated with therapy, not a pathologic entity related to the MI itself. **3** Anaphylactic shock is caused by an allergic reaction, not by an MI. **4** Cardiac enlargement is a slow process, so it will not be evident in the coronary care unit.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Coronary Artery Disease, Data Base

48. **4** The catheter is placed in the pulmonary artery. Information regarding left ventricular function is obtained when the catheter balloon is inflated.

1 Information on stroke volume, the amount of blood ejected by the left ventricle with each contraction, is not provided by a pulmonary catheter. **2** Although a central venous pressure reading can be obtained with the pulmonary catheter, it is not as specific as a pulmonary wedge pressure, which reflects pressure in the left side of the heart. **3** The patency of the coronary arteries usually is evaluated by cardiac catheterization.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Hemodynamic Monitoring With Pulmonary Artery Catheter

49. **Answer: 20 mL/hr.** Use “Desire over Have” formula of ratio and proportion to solve the problem.

$$\frac{\text{Desire}}{\text{Have}} \frac{1000 \text{ units}}{25,000 \text{ units}} = \frac{x \text{ mL}}{500 \text{ mL}}$$

$$25,000 x = 1000 \times 500$$

$$25,000 x = 500,000$$

$$x = 500,000 \div 25,000$$

$$x = 20 \text{ mL/hr}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

50. 2 Desired anticoagulant effect is achieved when the activated partial thromboplastin time is 1.5 to 2 times normal.

1 While anticoagulants help prevent thrombi that could block cerebral circulation, they do not increase cerebral perfusion, and so will not affect existing confusion. 3 Although absence of bleeding suggests that the drug has not reached toxic levels, it does not indicate its effectiveness. 4 This medication does not affect the viscosity of blood.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

51. 2 The high vascularity of the nose, combined with its susceptibility to trauma (e.g., sneezing, nose blowing), makes it a frequent site of hemorrhage.

1, 3, 4 This response usually is not associated with anticoagulant therapy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

52. 1 Warfarin (Coumadin) initially is prescribed day by day, based on international normalized ratio (INR) blood test results. This test provides a standard system to interpret prothrombin times.

2 APTT (accelerated partial thromboplastin time) is used to evaluate the effects of heparin, which acts on the intrinsic pathway. 3 Bleeding time is the time required for blood to cease flowing from a small wound; it is not used for warfarin dosage calculation. 4 Sedimentation rate is a test used to determine the presence of inflammation or infection; it does not indicate clotting ability.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

53. 4 The client is up more at home, so dependent edema usually increases.

1 These should not be expected and are, in fact, signs of postpericardiotomy

syndrome. **2** Serosanguineous drainage may persist after discharge. **3** These symptoms will persist longer.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Cardiac Surgery, Nursing Care

54. Answer: 1, 3, 4.

1 Digoxin increases kidney perfusion, which results in urine formation and diuresis. **2** Digoxin increases the force of contractions (inotropic effect) and decreases the heart rate (chronotropic effect). **3** Because of digoxin's inotropic and chronotropic effects, the heart rate will decrease. **4** The urine output increases because of improved cardiac output and kidney perfusion, resulting in a reduction in edema. **5** Digoxin does not affect a heart murmur. **6** This is a specific sign of right ventricular heart failure; it is treated with diuretics to reduce the intravascular volume and venous pressure.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Cardiac Glycosides

55. **1** Diuretic therapy that affects the loop of Henle generally involves the use of drugs (e.g., bumetanide [Bumex]) that directly or indirectly increase urinary sodium, chloride, and potassium excretion.

2 Sodium restriction does not necessarily accompany administration of bumetanide. **3** Dyspnea does not directly result in a depletion of electrolytes. **4** Unless otherwise ordered, oral intake is unaffected.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Diuretics

56. **2** Shock may have different etiologies (e.g., hypovolemic, cardiogenic, septic, anaphylactic) but always involves a drop in blood pressure and failure of the peripheral circulation because of sympathetic nervous system involvement. In cardiogenic shock, the failure of peripheral circulation is caused by the ineffective pumping action of the heart.

1 Shock can be reversed by the administration of fluids, plasma expanders, and vasoconstrictors. **3** It may be a reaction to tissue injury, but there are many different etiologies (e.g., hypovolemia, sepsis, anaphylaxis); it is not fleeting. **4** Hypovolemia is only one cause. Shock may also be septic, cardiogenic, or anaphylactic; it always involves a drop in blood pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Shock, Data Base

57. **1** With complete atrioventricular block, the ventricles take over the pacemaker function in the heart but at a much slower rate than that of the SA node. As a result there is decreased cerebral circulation, causing syncope.

2 Headache is not related to heart block. **3** The heart rate usually is slow because the ventricular rhythm is not initiated by the SA node. **4** This is not related to heart block unless decreased cerebral perfusion causes a brain attack.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

58. **3** Ventricular fibrillation will cause irreversible brain damage and then death within minutes because the heart is not pumping blood to the brain. Defibrillation or CPR until defibrillation is possible must be initiated immediately.

1, 2, 4 Although this condition requires prompt treatment, death is not as imminent as with ventricular

fibrillation.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

59. **4** Atropine blocks vagal stimulation of the SA node, resulting in an increased heart rate.

1 Digoxin (Lanoxin) slows the heart rate; hence it would not be indicated in this situation. **2** Lidocaine (Xylocaine) decreases myocardial sensitivity and will not increase the heart rate. **3** Amiodarone (Cordarone) is an antidysrhythmic drug used for ventricular tachycardia; it will not stimulate the heart rate.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Cardiac Stimulants

60. **4** Bundle branch block interferes with the conduction of impulses from the AV node to the ventricle supplied by the affected bundle. Conduction through the ventricles is delayed, as evidenced by a widened QRS complex.

1, 3 Changes in the T waves and/or ST segments usually occur as a result of cardiac damage. **2** P waves, produced when the SA node fires to begin a cycle, are present in bundle branch block.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Coronary Artery Disease, Data Base

61. **2** Pacemaker impulses are represented by a spike, which should be followed by a QRS complex.



Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Related Procedures, Implantable Cardiac Devices

62. **3** Ventricular fibrillation reflects a rapid feeble twitching of the ventricles; it has an irregular sawtooth configuration with unidentifiable PR intervals and QRS complexes.

1 Atrial flutter is characterized by an atrial rate of 250 to 350 beats/min and a ventricular rate of 60 to 150 beats/min; flutter to ventricular responses usually are 2 : 1, 3 : 1, or 4 : 1. **2** Atrial fibrillation is characterized by an atrial rate of 350 to 600 beats/min and a ventricular rate of 120 to 200 beats/min; the rhythm is grossly irregular. **4** Ventricular tachycardia has a rate of 140 to 200 beats/min; the rhythm is usually regular but may vary; P waves are unidentifiable; PR intervals are unmeasurable; QRS complexes are wide and bizarre.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

63. **3** Cardioversion involves administration of precordial shock, which is synchronized with the R wave to interrupt the heart rate. It is used for atrial fibrillation, supraventricular tachycardia, and ventricular tachycardia with a pulse when pharmaceutical preparations fail. The heart is stopped by the electric stimulation, and it is hoped that the SA node will take over as pacemaker.

- 1, 2** Because there are no R waves, cardioversion should not be done. **4** Premature ventricular complexes suggest an irritable myocardium and generally respond well to antidysrhythmic agents.
Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Cardioversion
- 64. 3** A permanent fixed (asynchronous) pacemaker is set at a predetermined rate; if a pulse rate is more or less than the preset rate, the pacemaker may be malfunctioning.
- 1** The client need not alter previous sleeping habits. **2** Regular activity may be resumed when healing has occurred. **4** This is the purpose of a pacemaker that provides on-demand pacing.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Implantable Cardiac Devices
- 65. 3** On-demand pacing initiates impulses when the client's pulse rate begins to fall below the preset rate. A rate below this indicates malfunction of the pacemaker.
- 1** The client's heart rate may still be irregular. **2** The pacemaker affects the rate, not the volume of the pulse. **4** The client's heart rate may exceed the pacemaker.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Procedures, Cardiac Pacemaker Insertion
- 66. 4** With ventricular tachycardia there are 100 to 250 beats/min with a regular or irregular rhythm, P waves usually are not present, PR intervals are not measurable, and QRS complexes are wide and distorted.
- 1** With atrial flutter there are 250 to 350 atrial beats/min with a regular rhythm, more than 100 ventricular beats/min with an irregular rhythm, P waves are sawtoothed, PR intervals are variable, and QRS complexes usually are normal. **2** With atrial fibrillation there are 350 to 600 atrial beats/min with an irregular rhythm, more than 100 ventricular beats/min with an irregular rhythm, P waves are chaotic, PR intervals are not measurable, and QRS complexes usually are normal. **3** With ventricular fibrillation the rate is not measurable, the rhythm is irregular, P waves are absent, PR intervals are not measurable, and QRS complexes are not measurable.
Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring
- 67. 2** Ventricular fibrillation is a lethal dysrhythmia and, once identified, must be terminated immediately by precordial shock (defibrillation) so the sinus node can again act as the heart's pacemaker. This usually is a standing order in a coronary care unit.
- 1** Oxygen is administered to correct hypoxia; it does not take priority over defibrillation. **3** CPR is instituted only when defibrillation fails to terminate the dysrhythmia. **4** Bicarbonate is administered to correct acidosis; it does not take priority over defibrillation.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring
- 68. 3** Amiodarone (Cordarone) decreases the irritability of the ventricles by prolonging the duration of the action potential and refractory period. It is used in the treatment of ventricular dysrhythmias.
- 1** Digoxin (Lanoxin) slows and strengthens ventricular contractions; it will not rapidly correct ectopic beats. **2** Furosemide (Lasix), a diuretic, does not affect ectopic foci. **4** Norepinephrine (Levophed) is a sympathomimetic and is not the drug of choice for ventricular irritability.
Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics
- 69. 2** The precordial shock during cardioversion must not be delivered on the T wave, or ventricular

fibrillation may ensue. By placing the synchronizer in the “on” position, the machine is preset so that it will not deliver the shock on the T wave.

1 The energy level may be set from 50 to 100 W/sec. **3, 4** This will not ensure that the shock is not delivered on the T wave.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Cardioversion

70. 1 Digoxin (Lanoxin) is used to treat atrial fibrillation, which is depicted in the strip.

2 This is a normal sinus rhythm; digoxin is not indicated. **3** This is ventricular tachycardia; digoxin is not indicated. **4** This is sinus bradycardia; digoxin is contraindicated.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

71. 2 Irreversible brain damage will occur if a client is anoxic for more than 4 minutes.

1 The age of the client does not affect the response by the arrest team. **3** The earlier heart rate is of minimal importance; the rhythm is more significant. **4** Although a variety of emergency medications must be available, their administration is prescribed by the health care provider.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

72. 1 Additional help and a cardiac defibrillator must be obtained immediately.

2 The carotid, not radial, pulse is used. **3** This is done after the nurse summons help. **4** Two lung inflations are given after 30 chest compression.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Basic Life Support (Cardiopulmonary Resuscitation) by Health Care Provider

73. 4 The sternum must be depressed at least 2 inches to compress the heart adequately between the sternum and vertebrae and to simulate cardiac pumping action.

1, 2, 3 This distance is ineffectual for an adult.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Basic Life Support (Cardiopulmonary Resuscitation) by Health Care Providers

74. 3 This provides the best leverage for depressing the sternum. Thus, the heart is adequately compressed, and blood is forced into the arteries. Grasping the fingers keeps them off the chest and concentrates the energy expended in the heel of the hand while minimizing the possibility of fracturing ribs.

1 Pressure spread over two hands may inadequately compress the heart and fracture the ribs. **2** Application of pressure by the fingers is less effective; this provides inadequate cardiac compression. **4** Both hands must be utilized; pressure on the lower portion of the sternum may fracture the xiphoid process, which can injure vital underlying organs.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Basic Life Support

75. 3 Right ventricular heart failure causes increased pressure in the systemic venous system, which leads to a fluid shift into the interstitial spaces. Because of gravity, the lower extremities are first affected in an ambulatory client.

1 Pulmonary edema results in severe respiratory distress and peripheral edema. **2** Myocardial infarction itself does not cause peripheral edema. **4** Pulmonary disease will not result in varying degrees of edema.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Heart Failure, Data Base

76. **2** Elevation of extremities promotes venous and lymphatic drainage by gravity.

1, 3 This is a dependent function of the nurse. **4** This procedure may have little effect on edema.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 6, Heart Failure, Nursing Care

77. Answer: 1, 4.

1 Heart failure is the failure of the heart to pump adequately to meet the needs of the body, resulting in a backward buildup of pressure in the venous system. Clinical manifestations include edema, ascites, hepatomegaly, tachycardia, dyspnea, and fatigue. **2** Vertigo generally is not related to right ventricular failure. **3** Because a diminished cardiac output decreases blood flow to the kidneys, there will be a decreased, not increased, urine output. **4** Dyspnea occurs because of pulmonary congestion and inadequate delivery of oxygen to all body cells. **5** Palpitations may indicate coronary insufficiency or infarction.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Heart Failure, Data Base

78. **1** In right ventricular heart failure, blood backs up in the systemic capillary beds; the increase in plasma hydrostatic pressure shifts fluid from the intravascular compartment to the interstitial spaces, causing edema.

2 This occurs with crushing injuries or if proteins pathologically shift from the intravascular compartment to the interstitial spaces. **3** Increased fluid pressure in the intravascular compartment causes fluid to shift to the tissues; the tissue hydrostatic pressure does not decrease. **4** Although a decrease in colloid osmotic (oncotic) pressure can cause edema, it results from lack of protein intake, not increased hydrostatic pressure associated with right ventricular heart failure.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Heart Failure, Data Base

79. **3** Failure of the right ventricle causes an increase in pressure in the systemic circulation. To equalize this pressure, fluid moves into the tissues, causing edema, and into the abdominal cavity, causing ascites; ascites leads to an increased abdominal girth.

1 There is no loss of the cellular constituents in blood with right ventricular heart failure. **2** Ascites is the accumulation of fluid in an extracellular space, not intracellular. **4** The opposite results when there is a pressure increase in the systemic circulation.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Heart Failure, Data Base

80. Answer: 1, 3.

1 Spironolactone (Aldactone) is potassium-sparing, and therefore beverages and foods containing potassium such as potatoes, bananas, avocados, oranges, dates, apricots, and raisins should be avoided to prevent hyperkalemia. **2** Red meat may need to be limited for other reasons not related to spironolactone. **3** Spironolactone is potassium-sparing, and therefore beverages and foods containing potassium such as cantaloupe should be avoided to prevent hyperkalemia. **4** Whole grains are associated with prevention of constipation and should not be avoided. **5** Dairy products are rich in sodium and calcium; spironolactone may cause hyponatremia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6,

Related Pharmacology, Diuretics

81. **3** Streptococcal infection can be spread through the circulation to the heart; endocarditis results and affects the valves of the heart.

1, 2, 4 This is not caused by beta-hemolytic streptococcus.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Inflammatory Diseases of the Heart, Data Base

82. **1** Irritability and restlessness associated with anxiety increase the metabolic rate, heart rate, and blood pressure; these complicate heart failure.

2 Anxiety does not directly interfere with respirations; an increase in cardiac workload will increase respirations. **3** Anxiety alone usually does not elevate the body temperature. **4** Anxiety can cause an increase in the amount of oxygen used and leads to an increased respiratory rate.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Coronary Heart Disease Heart Failure, Nursing Care

83. **4** The orthopneic position allows maximum lung expansion because gravity reduces the pressure of the abdominal viscera on the diaphragm and lungs.

1 Excessive coughing and mucus production is characteristic of pulmonary edema and does not need to be encouraged. **2** Elevation of the extremities should be avoided because it increases venous return, placing an increased workload on the heart. **3** Positioning for postural drainage does not relieve acute dyspnea; furthermore, it increases venous return to the heart.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 6, Heart Failure, Data Base

84. **2** Not adhering to the treatment regimen may interfere with effective resolution of the MI, and further intervention is necessary.

1, 3, 4 This statement is an appropriate response related to teaching concerning self-care after an MI.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Coronary Artery Disease, Nursing Care

85. **2** These symptoms are associated with compromised arterial perfusion. A thrombus is a complication of a femoral arterial cardiac catheterization and must be suspected in the absence of a pedal pulse in the extremity below the entry site.

1 A circulatory assessment should be conducted first; the health care provider may or may not need to be notified immediately concerning the results of the assessment. **3** This is unnecessary; the symptoms indicate a local peripheral problem, not a systemic or cardiac problem. **4** These symptoms are not expected.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 6, Related Procedures, Cardiac Catheterization

86. **4** Because the femoral artery is large, it has the potential for hematoma formation and hemorrhage after surgery.

1 The client should not be in pain after this procedure. **2** Although the leg used for circulatory access must be kept extended and immobile for several hours, this is not the priority.

3 The ability to swallow is not affected because conscious sedation, not general anesthesia, is used

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 6, Related Procedures, Cardiac Catheterization

87. **4** Troponin T (cTnT) has an extraordinarily high specificity for myocardial cell injury. Cardiac troponins elevate sooner and remain elevated longer than many of the other enzymes that reflect

myocardial injury.

1 ALT (alanine aminotransferase) is found predominantly in the liver; it is found in lesser quantities in the kidneys, heart, and skeletal muscles; it is used primarily to diagnose and monitor liver, not heart, disease. **2** AST (serum aspartate aminotransferase), also known as SGOT (serum glutamic-oxaloacetic transaminase), is elevated 8 hours after a myocardial infarction. **3** Total LDH (lactate dehydrogenase) levels elevate 24 to 48 hours after a myocardial infarction.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Coronary Artery Disease, Data Base

88. 2 With heart failure the left ventricle is not functioning effectively, which is evidenced by an increased heart rate and crackles associated with pulmonary edema.

1 This is done after vital signs and breath sounds are obtained and the client is stabilized. **3** Although an infection would complicate heart failure, there are no signs that indicate this client has an infection. **4** This is inappropriate for immediate monitoring; it should be done after vital signs and clinical assessments have been completed.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Heart Failure, Nursing Care

89. 4 Trauma to the artery can interfere with circulation to the accessed extremity. This is most easily assessed by checking the pulses bilaterally.

1 The client is prescribed bed rest after the procedure, so gait is not assessed. **2** The gag reflex is not affected by the test. **3** The blood pressure should not be taken in the affected arm; the increase in pressure may initiate bleeding.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 6, Related Procedures, Angiography

90. 2 Diabetes is twice as high a predictor of coronary heart disease in women than in men. Diabetes cancels the cardiac protection that estrogen provides premenopausal women.

1 This risk factor is common to both women and men. **3** An elevated C-reactive protein level, a marker of the inflammatory process, is heart-specific in predicting the likelihood of future coronary events in both women and men. **4** Low, not high, levels of HDL-C, a lipid factor, (less than 35 mg/dL) have a greater bearing on predicting CHD in women than in men.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6,

Coronary Artery Disease, Data Base

91. Answer: 1, 2.

1 Obesity increases cardiac workload associated with vascular changes that lead to ischemia, which causes an MI. **2** Hypertension damages blood vessels and increases peripheral resistance and cardiac workload, which may lead to an MI. **3** Increased levels of LDL, not HDL, increase the risk for heart disease. **4** Diabetes mellitus, not insipidus, is a risk factor for an MI. **5** The risk is higher for African Americans.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Coronary Artery Diseases, Data Base

92. 1 Although the balloon must be inflated to measure the capillary wedge pressure, leaving the balloon inflated will interfere with blood flow to the lung.

2 Bearing down will increase intrathoracic pressure and alter the reading. **3** Although a supine position is preferred, it is not essential. **4** Agency protocols relative to flushing of unused ports

must be followed.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Hemodynamic Monitoring with Pulmonary Artery Catheter

93. Answer: 1, 2.

1 The consistency of the RR intervals indicates a regular rhythm. **2** A normal P wave before each complex indicates the impulse originated in the SA node. **3** Elevation of the ST segment is a sign of cardiac ischemia and is unrelated to the rhythm. **4** The number of complexes in a 6-second strip is multiplied by 10 to approximate the heart rate; normal sinus rhythm is 60 to 100 beats/min. Fewer than six complexes per 6 seconds equals a heart rate less than 60 beats/min. **5** The QRS duration should be less than 0.12 seconds; the PR interval should be 0.12 to 0.2 second.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Related Procedures, Cardiac Monitoring

94. **4** Checking color and temperature, part of the neurovascular assessment, provides data about current perfusion of the extremity.

1 While pain assessment is essential, incisional pain does not provide data about the neurovascular status of the extremity. **2** While the presence and quality of the pedal pulse provide data about peripheral circulation, it is not necessary to count the rate. **3** Clients with peripheral arterial disease experience loss of extremity hair, which will not change suddenly because of surgery.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Vascular Disease, Nursing Care

95. Answer: 1, 3, 5.

1 Blood in the pericardial sac compresses the heart so the ventricles cannot fill; this leads to a rapid, thready pulse. **2** Tamponade causes hypotension and a narrowed pulse pressure. **3** As the tamponade increases, pressure on the heart interferes with the ejection of blood from the left ventricle, resulting in an increased pressure in the right side of the heart and the systemic circulation. **4** As the heart becomes more inefficient, there is a decrease in kidney perfusion and therefore a decrease in urine output. **5** The increased venous pressure associated with cardiac tamponade causes jugular vein distention.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Cardiac Surgery, Nursing Care

96. **3** Iron is needed in the formation of hemoglobin.

1 The client's anemia is caused by GI bleeding, not impaired RBC production. **2** Dextran is a plasma volume expander; it does not affect erythrocyte production. **4** Vitamin B₁₂ is a water-soluble vitamin that must be used as a supplement when an individual has pernicious anemia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Anemias and Blood Disorders, Data Base

97. **3** In hypovolemic shock, tachycardia is a compensatory mechanism in an attempt to increase blood flow to body organs.

1 Urine output would fall to less than 30 mL/hr because a decreased blood volume causes a decreased glomerular filtration rate. **2** The blood pressure is decreased because of the decreased blood volume. **4** This respiratory rate is within the accepted range of 12 to 20 breaths/min; the respiratory rate is rapid with hypovolemic shock.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Shock, Data Base

98. **1** Baseline vital signs should be obtained immediately before administering the blood product for future comparison purposes. Two licensed nurses should confirm the verifying data between the client and the blood product. The nurse should remain with and monitor the client's vital signs during the first 15 minutes of administration of the blood product and then follow the institution's protocol to monitor for a transfusion reaction or fluid overload.

2 Vital signs must be taken immediately before the blood product infusion is begun for accurate future comparisons. **3** It is not necessary for the licensed nurse verifying the data between the client and the blood product to be a supervisor. **4** Blood should not be hung without following the appropriate protocol for ensuring accuracy of the blood product for the client; the nurse should remain with and monitor the client's vital signs during the first 15 minutes of administration of the blood product to monitor for a transfusion reaction or fluid overload.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Blood Transfusion

99. **4** A slow rate provides time to recognize a transfusion reaction that is developing before too much blood has been administered.

1 Dextrose solution will cause lysis of the RBCs; saline must be used. **2** Warming the blood to body temperature may cause clotting and hemolysis. **3** Blood samples may be drawn after, not before, a transfusion, but this is not routinely done.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Blood Transfusion

100. **2** Chills, headache, nausea, and vomiting are all signs of a transfusion reaction.

1 The infusion must be stopped before treatment of symptoms begins. **3** Slowing the infusion will continue the reaction, which may lead to kidney damage. **4** The health care provider should be notified after the transfusion is stopped.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Blood Transfusion

101. **Answer: 1000 mL.** Each bag of packed RBCs contains 250 mL for a total of 500 mL of packed RBCs. The total amount of sodium chloride received is 500 mL. $500 + 500 = 1000$ mL of solution.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Communication/Documentation; **Nursing Process:** Evaluation/Outcomes;

Reference: Ch 6, Related Procedures, Blood Transfusion

102. **2** Massive amounts of clots formed in the microcirculation deplete platelets and clotting factors, leading to bleeding; the trauma of an injection may cause excessive bleeding.

1 This is associated with thrombophlebitis. **3** This could be traumatic and precipitate bleeding. **4** This is done to prevent thrombophlebitis.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 6, Disseminated Intravascular Coagulation, Nursing Care

103. **Answer: 1, 4.**

1 Raisins are high in iron. **2** Although squash contains some iron, it is not the best source.

3 Although carrots contain some iron, they are not the best source. **4** Spinach is high in iron. **5** Although apricots contain some iron, they are not the best source.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Anemias and Blood Disorders, Nursing Care

104. **3** Viscosity, a measure of a fluid's internal resistance to flow, is increased as the number of red cells suspended in plasma increases.

1 The number of cells does not affect the blood pH. **2** The hematocrit will be higher. **4** RBCs do not affect immunity.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Review of Anatomy and Physiology, Blood

105. Answer: 4, 3, 5, 1, 2.

4 A client must sign a consent for the transfusion before the procedure; clients have the right to refuse. **3** Vital signs should be obtained immediately before the transfusion to serve as a baseline for comparison if a reaction is suspected. **5** Two nurses must verify that the numbers, ABO type, and Rh type on the blood label and laboratory record match before hanging the transfusion to minimize risk of transfusion reactions. **1** Clean gloves must be worn before inserting the spike of the blood administration set. **2** The transfusion is run slowly for the first 15 to 20 minutes, but only after other steps have been completed.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Blood Transfusion

106. **2** Antibodies produced against group A beta-hemolytic streptococci sometimes interact with antigens in the heart's valves, causing damage and symptoms of rheumatic heart disease; early recognition and treatment of streptococcal infections have limited the occurrence of rheumatic heart disease.

1 Hepatitis A, an inflammation of the liver, is caused by the hepatitis A virus (HAV), not by bacteria. **3** The most common causes of meningitis, an infection of the membranes surrounding the brain and spinal cord, include *Streptococcus pneumoniae*, *Neisseria meningitides*, and *Haemophilus influenzae*. **4** This is thought to be an autoimmune disorder; it is not caused by microorganisms.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Review of Microorganisms

107. **2** Although blood is screened for the antibodies, there is a period between the time a potential donor is infected and the time when antibodies are detectable; there is still a risk, but it is minimal.

1 There is no current method of destroying the virus in a blood transfusion. **3** The screening tests involve identification of the antibody, not the virus itself; the virus can be identified by the polymerase chain reaction test but is not part of routine screening. **4** Although many people consider autotransfusion for elective procedures, a trauma victim does not have this option.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Blood Transfusion

108. **3** Brief pressure generally is enough to prevent bleeding.

1 No special positioning is required. **2** The site is cleansed before aspiration. **4** Frequent monitoring is unnecessary.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Procedures, Bone Marrow Aspiration

109. **1** Painless enlargement of the cervical lymph nodes often is the first sign of Hodgkin disease, a malignant lymphoma of unknown etiology.

2 Axillary node enlargement occurs after cervical lymph node enlargement. **3** Inguinal node enlargement occurs later. **4** Mediastinal node involvement follows after the disease progresses.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Lymphoma, Data Base

110. **2** The incidence increases with age; the median age when diagnosed is 67 years old.

1, 3, 4 Younger individuals have a lower incidence of non-Hodgkin lymphomas.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Lymphoma, Data Base

111. **2** Radiation exposure may lead to depression of the bone marrow, with subsequent insufficient WBCs to combat infection.

1 There is no increase in the number of cells; therefore, viscosity is not increased. **3** RBC production is decreased by radiation. **4** Pathologic fractures may occur in response to the disease, not treatment.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 6, Lymphoma, Data Base

112. **3** Activated partial thromboplastin time should be 1.5 to 2.5 the control for heparin therapy.

1, 2 INR and PT are used to evaluate therapeutic levels of warfarin (Coumadin). **4** The ACT increases to a range of 150 to 200 when heparin reaches therapeutic levels.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

113. **4** Clients with venous insufficiency often have edema, which may make palpation of an arterial pulse difficult. A Doppler uses sound waves so that the pulse can be heard.

1 The quality of the pedal pulse, not the rate, is assessed to determine the adequacy of peripheral arterial circulation; the most distal site is preferred. **2** The nurse must make other assessments of circulation before notifying the health care provider. **3** Lowering the legs will increase edema and make palpation of pulses more difficult.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Vascular Disease: Nursing Care

114. Answer: 1, 4.

1 The absence of hair on the toes occurs because of diminished circulation. **2** A superficial ulcer with irregular edges is associated with venous insufficiency; the ulcer associated with arterial insufficiency is deep, well demarcated, and may be gangrenous. **3** Pitting edema of the lower extremities is associated with venous insufficiency. **4** Reports of pain associated with exercising (intermittent claudication) are common because the increased need for oxygen leads to ischemia when arterial flow is impaired. **5** Increased pigmentation of the medial and lateral malleolus areas is associated with venous insufficiency and occurs as a result of degeneration of RBCs that leak into surrounding tissue.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 6, Vascular Disease: Data Base

115. **3** Protamine sulfate is the antidote for heparin overdose and naloxone (Narcan) will reverse the effects of opioids such as morphine.

1 Aspirin and warfarin (Coumadin) both interfere with coagulation. **2** While amoxicillin is used to treat some infections, an infection is not a medication, so amoxicillin (Amoxil) cannot be considered an antidote. **4** Both enoxaparin (Lovenox) and dalteparin (Fragmin) are low molecular weight heparins.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

116. **4** Vitamin K promotes the liver's synthesis of prothrombin, an important blood clotting factor,

and will reverse the effects of warfarin (Coumadin).

1, 3 This is not promoted by vitamin K. **2** Vitamin K does not affect calcium ionization.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Review of Anatomy and Physiology, Blood

117. 2 Polycythemia vera results in pathologically high concentrations of erythrocytes in the blood; increased viscosity promotes thrombus formation.

1 Hypertension usually is related to narrowing or sclerosing of arteries, not to an increased number of blood cells. **3** The fragility of blood cells does not affect the viscosity of the blood. **4** Erythrocyte immaturity is not related to increased viscosity.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Anemias and Blood Disorders, Data Base

118. 1 An elevated plasma bilirubin level could indicate an increased rate of RBC destruction (bilirubin is a product of free hemoglobin metabolism); the individual may have a hemolytic anemia (e.g., thalassemia major [Cooley anemia], glucose-6-phosphate dehydrogenase deficiency).

2 This does not involve the destruction of red blood cells with subsequent liberation of bilirubin. **3** Oxygen-carrying ability is reflected by hemoglobin levels. **4** A decreased amount of bile pigment is liberated with this condition.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 6, Anemias and Blood Disorders, Data Base

119. 4 Because the spleen is highly vascular, hemorrhage may occur and abdominal distention results.

1 Although an elevated temperature is common, usually it is not the result of infection; the incidence of infection is not higher after a splenectomy, except in children, and it will not occur in the immediate postoperative period. **2, 3** The incidence of this is not higher than for other abdominal surgery.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Anemias and Blood Disorders, Nursing Care

120. 3 Postoperative pain will cause splinting, shallow breathing, and underaeration of the lung's left lower lobe because of close proximity of the spleen to the diaphragm.

1, 2, 4 This is not specific to a splenectomy.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Anemias and Blood Disorders, Nursing Care

121. 2 Because of the location of the spleen, expansion of the thoracic cavity during inspiration causes pain at the operative site.

1 The presence of crackles indicates accumulation of secretions, which is not an expected outcome; nursing care is designed to prevent this complication. **3** Because limited activity decreases oxygen consumption, shortness of breath is not a common complaint. **4** This is not expected; accumulation of secretions can be prevented by coughing and deep breathing.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Anemias and Blood Disorders, Nursing Care

122. Answer: 1, 4, 5.

1 Because of its great blood supply and general fragility, the spleen may hemorrhage, causing shock. **2** The immediate postoperative period is too soon for the client to exhibit signs of infection. **3** An intestinal obstruction is not associated with a splenectomy. **4** Because of its great

blood supply and general fragility, the spleen may hemorrhage, causing abdominal distention. **5** Pulmonary complications may occur because the spleen is close to the diaphragm, resulting in defensive shallow breathing.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 6](#), Anemias and Blood Disorders, Nursing Care

123. Answer: 1, 3, 4.

1 One cup of cooked spinach contains 6.4 mg of iron, which is necessary to produce red blood cells. **2** One cup of cooked broccoli contains 1.2 mg of iron; this is not the best source of iron. **3** Three ounces of beef liver contains 5.2 mg of iron; this is an excellent source of iron. **4** One cup of baked beans contains 8.2 mg of iron. **5** One half chicken breast contains 0.6 mg of iron.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 6](#), Anemias and Blood Disorders, Nursing Care

124. **2** When the spleen ruptures, internal loss of blood may be profound, resulting in shock.

1 There are no signs that indicate that the respiratory rate is increased. **3** Although anxiety can cause hyperventilation, resulting in light-headedness, the data do not indicate that the client is anxious or has an increased respiratory rate. **4** These clinical findings are not inclusive enough to indicate infection.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 6](#), Anemias and Blood Disorders, Nursing Care

Respiratory System

125. Answer: 5, 2, 3, 4, 1.

5 Data collection precedes implementation. **2** IV access is necessary for emergency administration of medications, but cannot be initiated until the nurse has gathered some data (e.g., client may have shunt for dialysis in an arm, which would preclude use of that arm). **3** A sputum for culture and sensitivity should be obtained before antibiotic administration. **4** The antibiotic should be started as soon as possible to treat the pneumonia. **1** Peak and trough levels can only be done when the client has been receiving the medication.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Pneumonia, Data Base

126. Answer: 25 gtt/minute. Use the following formula to solve this problem.

$$\frac{\text{Drops}}{\text{per minute}} = \frac{\text{total mL to be infused (150)} \times \text{drop factor (15)}}{\text{total time in minutes (90)}}$$

$$\frac{150 \times 15}{90} = \frac{2250}{90} = 25 \text{ gtt/minute}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Fluid, Electrolyte, and Acid-Base Balance, General Nursing Care of Clients with Fluid and Electrolyte Problems

127. **2** The residual volume is the amount of air remaining in the lungs after maximum exhalation.

1, 3, 4 Usually this is under the individual's control. The force exerted by the abdominal thrust surpasses that which the individual is voluntarily capable of exerting.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Abdominal Thrust

128. **1** Tidal volume (TV) is defined as the amount of air exhaled after a normal inspiration.

2 This is the expiratory reserve volume (ERV). **3** This is the residual volume (RV). **4** The volume of air that can be forcibly inspired over and above a normal inspiration is the inspiratory reserve volume (IRV).

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Review of Anatomy and Physiology, Physiology of Respiration

129. **1** The client should exhale before inhaling slowly and deeply through the spirometer to maximize lung expansion.

2 Sitting in a chair will facilitate diaphragmatic excursion and help maximize lung expansion. **3** Coughing will help remove secretions mobilized by use of a spirometer. **4** The client's lips must form a seal around the mouthpiece to measure the volume of air inhaled.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 7, Chest

130. **1** The tidal volume is the amount of air inhaled and exhaled while breathing normally.

2 This is air that can be forcibly expired after maximum inspiration. **3** This is the maximum amount of air that can be expired after a normal expiration. **4** This is the maximum amount of air that can be inspired after a normal inspiration.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Review of Anatomy and Physiology, Physiology of Respiration

131. **3** The lower the PO_2 and the higher the PCO_2 , the more rapidly oxygen dissociates from the oxyhemoglobin molecule.

1 The pH will decrease with an increase in CO_2 pressure. **2** An increase in PO_2 will not increase oxygen dissociation from hemoglobin. **4** Oxygen dissociation will decrease with an increase in HCO_3 .

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 7, Review of Anatomy and Physiology, Physiology of Respiration

132. **1** The negative pressure from suctioning removes oxygen as well as secretions; suction should be applied only after the catheter is inserted and is being withdrawn.

2 This is too long; suctioning should be limited to 10 seconds. **3** Lubrication will facilitate insertion and minimize trauma; it will not prevent hypoxia. **4** The use of a sterile catheter helps prevent infection, not hypoxia.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Procedures, Suctioning of Airway

133. **2** This client is more mobile and will benefit from a less restrictive form of oxygen administration. The client will be able to talk without the impediment of a mask.

1 An upper respiratory infection causes nasal mucosal edema; the mucous membranes may be irritated by the nasal prongs, and the effectiveness of nasal oxygen may be diminished. **3** One nare is blocked by the nasogastric tube. The effectiveness of nasal cannula oxygen may be diminished. **4** If the client is a mouth breather, the effectiveness of nasal cannula oxygen may be diminished.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Procedures, Oxygen Therapy

134. **2** The orthopneic position is a sitting position that permits maximum lung expansion for gaseous exchange; it also enables the client to press the lower chest or abdomen against the overbed table, which increases pressure on the diaphragm to help with exhalation, reducing residual volume.

1 This position does not permit the diaphragm to descend by gravity, and pressure of the abdominal organs against the diaphragm limits its movement. **3, 4** This position does not maximize lung expansion to the same degree as the orthopneic position.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Review of Anatomy and Physiology, Physiology of Respiration

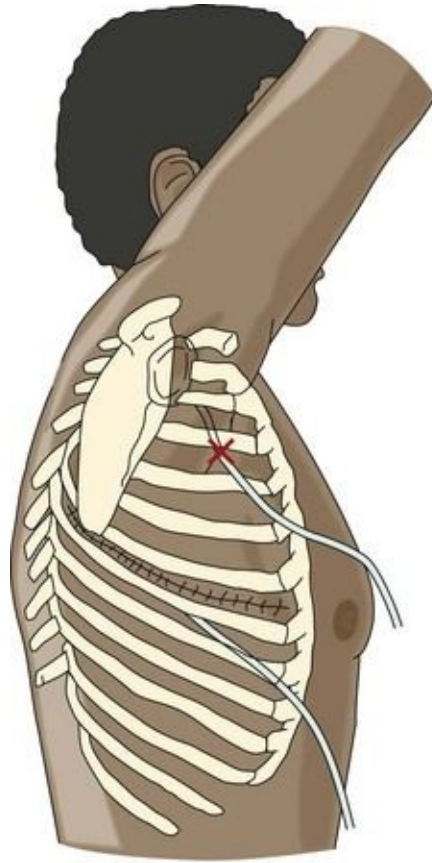
135. **4** Because atelectasis involves collapsing of alveoli distal to the bronchioles, breath sounds are diminished in the lower lobes.

1 The client will have rapid, shallow respirations to compensate for poor gas exchange. **2** Atelectasis

results in an elevated temperature. **3** Atelectasis results in a loose, productive cough.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 7, Review of Anatomy and Physiology, Physiology of Respiration

136. The nurse should palpate the area around a chest tube insertion site for the presence of a crackling sensation felt beneath the fingertips (crepitus), indicating that air is trapped in the tissues. Also, the chest tube insertion site should be assessed for an adequate seal.



Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 7, Related Procedures, Chest Tubes

137. **1** Air rises and is removed via a tube inserted in the upper intrapleural space.

2 This is accomplished by the tube placed at the base of the lung; fluid flows toward the base via gravity. **3** This will cause, not prevent, a pneumothorax. **4** Medication will not be instilled into the intrapleural space in this situation.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 7, Related Procedures, Chest Tubes

138. **1** Subcutaneous emphysema occurs when air leaks from the intrapleural space through the thoracotomy or around the chest tubes into the soft tissue; crepitus is the crackling sound heard when tissues containing gas are palpated.

2 These are unrelated to crepitus. Crackles and rhonchi occur within the lung; subcutaneous emphysema occurs in the soft tissues. **3** This is related to prolonged trapping of air in the alveoli associated with emphysema, a chronic obstructive pulmonary disease. **4** This is unrelated to subcutaneous emphysema, which involves gas in the soft tissues from a pleural leak.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 7, Related Procedures, Chest Tubes

139. **4** Once the drainage tube is patent, the fluctuation in the water column will resume; a lack of fluctuation because of lung reexpansion is unlikely 36 hours after a traumatic open chest injury.

1 This may be done eventually, but this is not the priority at this time. **2** This is unnecessary at this time; the chest tube is occluded, and nursing intervention should be attempted first. **3** This will compromise aeration of the unaffected lung.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Chest Tubes

140. **3** This is one method for the client to communicate after a laryngectomy; speech is produced by expelling swallowed air across constricted tissue in the pharyngoesophageal segment.

1 This is used for individuals who wish to communicate with someone who is deaf. **2** Although this may be an adjunct to verbal speech, it should not be the primary means of communication. **4** This does not allow for the spontaneous communication possible with a tracheoesophageal puncture, esophageal speech, or an electrolarynx.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Cancer of the Larynx, Nursing Care

141. **1** Water sports pose a severe threat; should water enter the stoma, the client will drown.

2 This is not harmful; as long as there is no obstruction, adequate oxygen will be available because the respiratory rate will increase. **3** Pillows are not contraindicated, although care should be taken not to occlude the airway by any bedding while asleep. **4** Humidity is desirable and helpful in keeping secretions liquefied.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 7, Cancer of the Larynx, Nursing Care

142. **2** Fluids will replace fluid loss from fever and decrease viscosity of secretions.

1 Capillary refill relates to peripheral tissue perfusion. **3** There are no data to suggest that secretions are blocking the airway; there is no support that suctioning is needed. **4** High concentrations of oxygen generally are not administered to clients with COPD; traditionally the reason given for this was clients with COPD become desensitized to carbon dioxide as a respiratory stimulus so that reduced oxygen levels act as the stimulus and high concentrations of oxygen levels may actually depress respirations. The newer theory suggests that the hypoxic drive is valid for a small number; the majority of cases involve the Haldane effect: as hemoglobin molecules become more saturated with oxygen, they are unable to transport carbon dioxide out of the body, leading to hypercapnia.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Obstructive Airway Disease, Nursing Care

143. **4** Streptococcal organisms are present on the skin, in the mucous membranes, and in the environment at all times. The most frequent portals of entry are the respiratory tract and breaks in the skin; once in the body, the organisms can be transmitted to the heart and kidneys via the circulation.

1 All are caused by streptococci. **2** Vaccinations are not available for most of these conditions; there is an antitoxin for scarlet fever, but antibiotics are now used. **3** Bacteria are not classified as parasites.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Review of Microorganisms

144. **1** Furosemide (Lasix) acts on the loop of Henle by increasing the excretion of chloride and

sodium.

2 Although used in the treatment of edema and hypertension, this drug is not as potent as furosemide. **3** This is a potassium-sparing diuretic; it is less potent than thiazide diuretics. **4** This drug is used in the treatment of glaucoma to lower intraocular pressure.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Pulmonary Edema, Data Base

145. **2** Coughing is needed to raise secretions for expectoration.

1 Oxygen will not mobilize the secretions. **3** A sitting position will allow secretions to remain in the lungs unless coughing is encouraged. **4** Rest should be encouraged only after coughing to bring up secretions mobilized by postural drainage.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Procedures, Chest Physiotherapy

146. **3** The etiology of a spontaneous pneumothorax is commonly the rupture of blebs on the lung surface. Blebs are similar to blisters, but are filled with air.

1 Pleural friction rub results in pain on inspiration, not a pneumothorax. **2** A tracheoesophageal fistula causes aspiration of food and saliva, resulting in respiratory distress. **4** The client has no history of trauma.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 7, Pneumothorax/Chest Injury, Data Base

147. **2** Loss of alveolar surface area causes retention of carbon dioxide, which, after exhausting the available bicarbonate ions functioning as buffers, will cause a lower pH (respiratory acidosis).

1 Tissue necrosis results from localized tissue anoxia and will not cause the systemic response of respiratory acidosis. **3** Normal oxygen saturation of hemoglobin is 95% to 100%, so this is not a sign of acidosis. **4** An increased respiratory rate may lead to respiratory alkalosis.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 7, Obstructive Airway Disease, Data Base

148. **4** Oxygen is supplied to prevent anoxia, but not in high concentrations without an order. In an individual with emphysema, a low oxygen level, not high carbon dioxide level, may be the respiratory stimulus. Another reason is the Haldane effect: as hemoglobin molecules become more saturated with high concentrations of oxygen, they are unable to transport carbon dioxide out of the body, leading to hypercapnia.

1 This might increase the risk for mediastinal shift and interfere with expansion of the unaffected lung. **2** Although oxygen is administered to prevent hypoxia, this concentration is too high for a client with emphysema because it may precipitate carbon dioxide narcosis. **3** This dependent action requires orders as to specific electrolytes.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Obstructive Airway Disease, Data Base

149. **1** As a person with a tear in the lung inhales, air moves through that opening into the intrapleural space. This creates a positive pressure and causes partial or complete collapse of the lung.

2 Mediastinal shift occurs toward the unaffected side. **3** This is normal; with a pneumothorax there is a loss of intrathoracic negative pressure. **4** This is not an impending problem.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Pneumothorax/Chest Injury, Data Base

150. Answer: 2, 3.

1 Bloody vomitus is unrelated to pneumothorax. **2** With the reduction of surface area for gaseous exchange the client experiences shortness of breath, tachycardia, and rapid, shallow respirations. **3** Sudden chest pain occurs on the affected side; it may also involve the arm and shoulder. **4** Decreased chest motion occurs because of failure to inflate the involved lung. **5** The shift toward the unaffected side results from pressure from the pneumothorax.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Pneumothorax/Chest Injury, Data Base

151. **3** The water seal chamber acts as a one-way valve to allow air from the pleural space to escape into the suction chamber but prevent a backflow of air from within the system to the client.

1 This chamber provides suction control. **2, 4** This chamber collects drainage from the client.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Related Procedures, Chest Tubes

152. **3** Destruction of the alveolar walls leads to diminished surface area for gaseous exchange and increased carbon dioxide levels in the blood.

1 Pleural effusion occurs when there is seepage of fluid into the intrapleural space; this does not occur with emphysema. **2** Infectious obstructions occur in conditions in which microorganisms invade lung tissue; emphysema is not an infectious disease. **4** Muscle paralysis may occur in diseases affecting the neurologic system; emphysema does not affect the neurologic system; therefore, it is not a neurologic disease.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Obstructive Airway Disease, Data Base

153. Answer: 3, 4.

1 Rising carbon dioxide levels cause lethargy rather than anxiety. **2** Cyanosis is caused by excessive amounts of reduced oxyhemoglobin; because oxygen is being administered, cyanosis will not occur. **3** Some clients with COPD respond only to the chemical stimulus of low oxygen levels. Administration of high concentrations of oxygen to these individuals will eliminate the stimulus to breathe, leading to decreased respirations, lethargy, and drowsiness. Clients with COPD experience the Haldane effect: as hemoglobin molecules become more saturated with oxygen, they are unable to transport carbon dioxide out of the body, leading to hypercapnia. **4** Increased levels of carbon dioxide depress the central nervous system, causing mental confusion and a lowered level of consciousness. **5** High concentrations of oxygen may eliminate the stimulus to breathe, so the respiratory rate will decrease, not increase.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Obstructive Airway Disease, Data Base

154. **1** Loss of elasticity causes difficult exhalation, with subsequent air trapping. Clients who have emphysema are taught to use accessory abdominal muscles and to breathe out through pursed lips to help keep the air passages open until exhalation is complete.

2 Expiration is difficult because of air trapping and poor elasticity. **3** There will be decreased vital capacity. **4** Diaphragmatic breathing is a learned mechanism that is beneficial.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Obstructive Airway Disease, Nursing Care

155. **1** These drugs cause increased heart contraction (positive inotropic effect) and increased heart rate (positive chronotropic effect). If toxic levels are reached, side effects occur and the drug should

be withheld until the health care provider is notified.

2 This is false reassurance and a false statement. **3, 4** Controlled breathing may be helpful in allaying a client's anxiety; however, the drug may be producing adverse effects and should be withheld.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Pharmacology, Bronchodilators and Antiasthmatics

156. 2 Clients with asthma use metered-dose inhalers to administer medications prophylactically and/or during times of an asthma attack; this is an important skill to have before discharge.

1 Pulse oximetry is rarely conducted in the home; home management usually includes self-monitoring of the peak expiratory flow rate. **3** Although this is important, it is not the priority; during a persistent asthma attack that does not respond to planned interventions, the client should go to the emergency department of the local hospital or call 911 for assistance. **4** Not all asthma is associated with food allergies.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Pharmacology, Bronchodilators and Antiasthmatics

157. 1 Hypersecretion of the mucous glands provides an excellent warm, moist medium for microorganisms.

2 Asthma is not a disease that is voluntarily controlled. **3** Coughing must be encouraged; it prevents retention of mucus, which is an excellent medium for microorganisms. Excessive secretions also limit gaseous exchange. **4** The anesthesiologist will make recommendations about the type of anesthesia best suited for the client and the surgical procedure.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Obstructive Airway Disease, Nursing Care

158. 3 A peak flow meter measures the peak expiratory flow rate, the maximum flow of air that can be forcefully exhaled in 1 second; this monitors the pulmonary status of a client with asthma.

1 The peak flow measurement should be done daily in the morning before the administration of medication or when experiencing dyspnea. **2** The client should be standing or sitting upright. **4** This will interfere with an accurate test; the mouthpiece should be in the mouth between the teeth with the lips creating a seal around the mouthpiece.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Obstructive Airway Disease, Nursing Care

159. 3 Pressure within the pleural cavity causes a shift of the heart and great vessels to the unaffected side. This not only decreases the capacity of the unaffected lung but also impedes the filling of the right side of the heart and leads to a decreased cardiac output.

1 This complication might occur with severe chest trauma, not with a mediastinal shift. **2** Infection is not caused by a mediastinal shift. **4** The volume of the unaffected lung may decrease because of pressure from the shift.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 7, Pneumothorax/Chest Injury, Data Base

160. 1 Fluctuations occur with inspiration and expiration until the lung is fully expanded. If these fluctuations do not occur, the chest tube may be clogged or kinked; coughing should be encouraged.

2 The client may not be agitated; morphine depresses respirations and usually is avoided. **3** The

binder does not prevent tension on the tube; its use is contraindicated because it limits thoracic expansion. **4** The tube should be clamped only if ordered or if an air leak is suspected.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Chest Tubes

161. **2** Leakage of air into the subcutaneous tissue is evidenced by a crackling sound when the area is gently palpated. This is referred to as crepitus.

1 Although hemostats should be readily available for any client with chest tubes in the event of a break in the drainage system, clamping the tube is not otherwise necessary and could cause backpressure. **3** The dressing is not routinely changed to minimize the risk for pneumothorax. **4** The system is kept closed to prevent the pressure of the atmosphere from causing a pneumothorax; drainage levels are marked on the drainage chamber to measure output. The chambers are not emptied; if they are filled, a new system will be attached.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Chest Tubes

162. **1** Clients who have had joint replacement have decreased mobility; they are at risk for developing thrombophlebitis, which may lead to pulmonary embolism if the clot becomes dislodged into the circulation.

2, 3 This is not associated with an increased risk for pulmonary embolism. **4** This leads to a decreased ability to clot, so it increases the risk of bleeding but decreases the risk of a thrombus or embolus.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Pulmonary Embolism and Infarction, Data Base

163. **1** This client has two risk factors for the development of pulmonary embolism: obesity and leg trauma.

2 This client has one risk factor for the development of pulmonary embolism: pregnancy. **3** This client has one risk factor for the development of pulmonary embolism: diabetes. **4** This client has no risk factors for the development of pulmonary embolism.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Pulmonary Embolism and Infarction, Data Base

164. **2** Oral intake should not be attempted until return of the gag reflex because the client could aspirate.

1 Although some slight irritation may occur following this test, there are usually no painful sequelae; oral intake would not be withheld because of painful swallowing, although the consistency of food may be changed. **3, 4** This is not a correct statement; there are additional factors that must be considered.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 7, Related Procedures, Bronchoscopy

165. **3** With the head elevated, rather than horizontal or dependent, fluid will not collect in the interstitial spaces around the trachea.

1, 2, 4 This may cause aspiration if the gag reflex has not returned.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Bronchoscopy

166. **3** Cancerous lesions in the pleural space increase the osmotic pressure, causing a shift of fluid to that space.

1 Excessive intake is usually balanced by increased urine output. **2** Inadequate chest expansion results

from pleural effusion and is not the cause of it. **4** A bronchoscopy does not involve the pleural space.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Malignant Lung Tumors, Data Base

167. **3** Cavities are evident on radiograph. Necrotic lung tissue may liquefy, leaving a cavity (cavitation), or granulose tissue can surround the lesion, become fibrous, and form a collagenous scar around the tubercle (Ghon tubercle).

1 This is determined by a positive reaction to a tuberculin skin test, not on radiograph; a skin test only determines the presence of antibodies; it does not confirm active disease. **2** This may be determined by a sputum culture, not by radiograph. **4** Microscopic primary infection may be so small it does not appear on a radiograph.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Pulmonary Tuberculosis, Data Base

168. Answer: 2, 3, 5, 1, 4.

2 Tuberculosis is transmitted via microorganisms that travel with air currents. The client should be placed in a room that has at least six exchanges of air per hour and is ventilated to the outside. Care givers should wear a high-efficiency particulate air respirator. **3** A chest x-ray study is the quickest way to determine the presence of suspicious lesions in the lung. **5** A purified protein derivative (PPD) test can be read in 48 to 72 hours. **1** A positive culture may not develop for 3 to 6 weeks. **4** The Department of Health should be notified when the diagnosis of tuberculosis is confirmed.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Pulmonary Tuberculosis, Data Base

169. Answer: 1, 3, 4.

1 The general adaptation syndrome is activated in response to *Mycobacterium tuberculosis* (a gram-positive, acid-fast bacillus), causing an infectious response, which contributes to fatigue; the altered gas exchange also contributes to fatigue because it decreases the available oxygen. **2** Anorexia, not polyphagia, is a common response to most infections. **3** Hemoptysis is a response caused by damage to lung tissue; it is associated with more advanced tuberculosis. **4** Night sweats are a common symptom of infectious diseases; the infectious process influences the temperature-regulating center of the brain that promotes peripheral vasodilation and increased permeability of the peripheral blood vessels, resulting in diaphoresis. **5** A black, hairy tongue is associated with fungal infection often seen with antibiotic therapy.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Pulmonary Tuberculosis, Nursing Care

170. **1** Rifampin (Rifadin) causes a reddish orange discoloration of secretions such as urine, sweat, and tears.

2 While liver enzymes should be monitored because of the risk of hepatitis, this action is not addressing the client's statement. **3** This is indicated for renal calculi, which are not related to rifampin. **4** The medication, not food, is responsible for the urine color.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Pharmacology, Antituberculars

171. **3** The absence of bacteria in the sputum indicates that the disease can no longer be spread by the airborne route.

1 Treatment is over an extended period; eventually the client may not have an active disease, but still remains infected. **2** Once an individual has been infected, the test will always be positive. **4** This is not evidence that the disease cannot be transmitted.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 7, Pulmonary Tuberculosis, Nursing Care

172. Answer: 1, 2, 5.

1 Bed rest is recommended because lymphatic flow increases with activity. **2** A chest tube drains the leaking chyle from the thoracic area. **3** A high-fat diet is contraindicated because it increases the production and flow of chyle. **4** A rectal tube has no relationship to the drainage of chyle from the thoracic area. **5** TPN boosts immune defenses, provides nutrition, and decreases thoracic duct flow.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Cancer of the Larynx, Data Base

173. **2** The client has a high risk for airway obstruction from the edema; restlessness and dyspnea indicate cerebral hypoxia.

1 Crackles come from the alveoli, part of the lower airway; the surgery involves the upper airway. There is no evidence of abdominal distention. **3** This is unimportant; the pharyngeal opening is sutured closed and a tracheal stoma is formed; the trachea is anatomically separate from the esophagus. **4** Cloudy drainage may indicate infection; however, this is not an immediate postoperative complication.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 7, Cancer of the Larynx, Nursing Care

174. **4** Secretions are increased because of alterations in structure and function. A patent airway must be maintained.

1 Whispering can put tension on the suture line; initially nonverbal and written forms of communication should be encouraged. **2** The outer tube is not removed because the stoma may close. **3** The orthopneic position may cause neck flexion and block the airway.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Cancer of the Larynx, Nursing Care

175. **2** During suctioning of a client's secretions, negative pressure (suction) should not be applied until the catheter is ready to be drawn out because, in addition to the removal of secretions, oxygen is being depleted.

1 The sterility of the catheter can be maintained during one suctioning session; a new sterile catheter should be used for each new session of suctioning. **3** A cough reflex may be absent or diminished in some clients; the catheter should be inserted approximately 12 cm (4 to 5 inches) or just past the end of the tracheostomy tube. **4** The inner cannula is not removed during suctioning; it may be removed during tracheostomy care.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Procedures, Suctioning of Airway

176. **2** Expectoration of blood is an indication that the lung itself was damaged during the procedure; a pneumothorax or hemothorax may occur.

1 It is too soon after a thoracentesis for an infection to develop. This is important for the client to assess for several days after the procedure. **3** Increased breath sounds are anticipated because the lung is closer to the chest wall after the fluid in the pleural space is removed. **4** A decreased rate may indicate improved gaseous exchange and is not evidence that the client is in danger.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 7, Related Procedures, Thoracentesis

177. **2** Suctioning also removes oxygen, which can cause cardiac dysrhythmias; the nurse should try to prevent this by hyperoxygenating the client before and after suctioning.

1 Suction should be applied only while removing the catheter to prevent trauma to the trachea. **3** Suction only as needed; excessive suctioning irritates the mucosa, which increases secretion production. **4** This kind of movement may cause tracheal damage.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Suctioning of Airway

178. Answer: 1, 5.

1 This is an excessive amount of drainage; 80 to 120 mL of drainage is expected in the first 24 hours postoperatively; vital signs should be taken to determine the systemic response to blood loss. **2** A fresh postoperative dressing should not be disturbed because the manipulation can cause further bleeding; it can be reinforced by the nurse if needed; the health care provider should change the first dressing. **3** Pressure should be applied in the event of life-threatening hemorrhage, but the blood is contained within the drainage system; appropriate intervention can prevent hemorrhage. **4** The head of the bed is kept elevated after neck surgery to decrease edema, which may compromise the airway. **5** This is an excessive amount of drainage; the health care provider should be notified.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Cancer of the Larynx, Nursing Care

179. Answer: 3, 4.

1 Vomiting is associated with a GI obstruction or cancer. **2** Chest pain is associated with a variety of respiratory conditions; it is not specific to tuberculosis. **3** Erosion of lung tissue causes blood in the sputum, a classic sign of tuberculosis. **4** Increased body temperature causes profuse diaphoresis, a classic sign of tuberculosis. **5** Bilateral crackles are associated with excess fluid volume.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 7, Pulmonary Tuberculosis, Nursing Care

180. **Answer: 2 mL.** First convert 1 g to its equivalent of 1000 mg and then use the “Desire over Have” formula of ratio and proportion to solve the problem.

$$\frac{\text{Desire}}{\text{Have}} = \frac{1000 \text{ mg}}{500 \text{ mg}} = \frac{x \text{ mL}}{1 \text{ mL}}$$

$$500 x = 1000$$

$$x = 1000 \div 500$$

$$x = 2 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

181. **2** Atelectasis with impaired gas exchange is a major complication when clients use shallow breathing to avoid pain; coughing and deep breathing help mobilize secretions.

1 This may impede deep breathing and coughing, which help prevent atelectasis. **3** Analgesics are essential to diminish pain caused by breathing and help motivate the client to cough and deep breathe. **4** The prone position may diminish breathing for both lungs and is contraindicated.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Pneumothorax/Chest Injury, Nursing Care

182. **3** Decreased oxygen to the vital centers in the brain results in restlessness and confusion.

1 This is a late sign of respiratory failure. **2** Tachycardia, not bradycardia, will occur as a compensatory mechanism to help increase oxygen to body cells. **4** This occurs with fluid volume excess (e.g., pulmonary edema).

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 7, Obstructive Airway Disease, Nursing Care

183. **3** Because the mask cannot be worn when eating, the client may become hypoxic. A nasal cannula may be needed to deliver oxygen while the client is eating.

1 Nasal drying usually is not a problem with the use of a Venturi mask. Nasal drying occurs more frequently when a nasal cannula is used. **2** Too tight a fit is uncomfortable and may cause damage to the skin. The mask should fit snugly, but not be too tight. **4** The oxygen should be set at the level ordered by the health care provider.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Procedures, Oxygen Therapy

184. Answer: 3, 5.

1 The oxygen source does not need to be higher than the client's airway because its flow does not depend on gravity. **2** The liter flow is adjusted according to the flow rate that corresponds to the percent of oxygen prescribed; this usually is identified on the base of each adaptor. **3** The adaptor's orifices allow room air to combine with the oxygen to provide a specific oxygen concentration. **4** A Venturi mask does not have a bag like a rebreather mask. **5** A Venturi mask uses one of several adaptors, which are usually color-coded, to deliver the prescribed FiO_2 .

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Procedures, Oxygen Therapy

185. **1** Oxygen via nasal cannula is the most comfortable and least intrusive, because the cannula extends minimally into the nose.

2 This is intrusive and may increase anxiety. **3, 4** This method is oppressive, and clients complain of feeling "suffocated" when it is used.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 7, Related Procedures, Oxygen Therapy

186. **2** This decrease in PaO_2 indicates respiratory failure; it warrants immediate medical evaluation.

1 While this may ultimately be ordered, it is not an action the nurse should take without first notifying the health care provider. **3** This is inappropriate and will compound the problem; the PaO_2 is a

measure of the pressure (tension) of oxygen in the plasma; this level is decreased in individuals who have perfusion difficulties, such as those with pneumonia. **4** This is negligent and dangerous; a falling PaO₂ level is a serious indication of worsening pulmonary status and must be addressed immediately; drawing another blood sample and waiting for results will take too long.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Acute Respiratory Distress Syndrome, Data Base

187. **4** Mechanical ventilation with positive end-expiratory pressure (PEEP) will help prevent alveolar collapse and improve oxygenation.

1 Fluid is not in the pleural space, so this is not indicated. **2, 3** This is contraindicated because of severe hypotension from the fluid shift into the interstitial spaces in the lungs.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Mechanical Ventilation

188. **1** Secretions in the airway will increase pressure by blocking air flow and must be removed.

2 The nurse must identify/correct the problem so that the set tidal volume can be delivered. **3** Connections that are not intact would cause a low-pressure alarm. **4** Arterial blood gases (ABGs) are used to assess client status, but are not taken each time a pressure alarm is heard.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Mechanical Ventilation

189. Answer: 1, 2, 3, 4, 5.

1 Obtaining the vital signs first provides a baseline for evaluating the client's response to suctioning if it is performed. **2** Next, the nurse should assess the client's lung sounds to determine if suctioning is needed and to provide a baseline for comparison to evaluate the effectiveness of the intervention. **3** Hyperoxygenation for 30 seconds before suctioning compensates for the removal of oxygen during the suctioning process, but it is done after auscultation of breath sounds. **4** Suctioning occurs after the lung sounds have been auscultated and the client has been preoxygenated; the catheter is inserted into the endotracheal tube. Suctioning for less than 15 seconds is appropriate because suctioning for longer than this irritates the mucosal lining of the respiratory tract as well as induces hypoxia. **5** This is done near the end of the procedure when the catheter is rotated and removed.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Related Procedures, Suctioning of Airway

190. **2** Surveillance and containment are the first lines of defense against outbreaks of infectious disease.

1 While it is important to have adequate supplies of antibiotics to treat illness, antibiotics do not prevent illness; vaccines should be administered to protect vulnerable populations. **3** Vaccines should be used to protect all vulnerable populations such as older adults, immunocompromised individuals, those with chronic medical conditions, those caring for individuals at high risk, and health care providers, not just children; some influenza vaccines are not administered to children younger than 5 years of age. **4** Most vaccination programs inoculate clients during the months of October and November in preparation for the influenza season, which is generally from November through March.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 7, Pneumonia, Data Base

191. **4** Honesty and openness are essential to understand the extent of the problem so that an appropriate local and global response can be mobilized to limit emerging pandemics.

1, 2, 3 While this helps, it can only be done in response to detection and reporting of the presence of an emerging health problem. In response to the severe acute respiratory syndrome (SARS) epidemic of 2002, the International Air Transport Association began work to standardize procedures that address passenger screening and the accurate and quick tracking of passenger travel.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 7](#), Pneumonia, Data Base

Gastrointestinal System

192. **2** In addition to this recommendation, the American Cancer Society (ACS) also recommends a colonoscopy every 10 years, flexible sigmoidoscopy every 5 years, double-contrast barium enema every 5 years, or CT colonography (virtual colonoscopy) every 5 years. If any of these tests (other than the colonoscopy) are positive, a colonoscopy should be done.

1 The ACS recommends that women have an annual mammography after age 40 years. Women with a risk greater than 20% (based on family history, genetic tendency, or certain other factors) should have an MRI and mammography yearly at 30 or sooner based on personal circumstances or preference. A clinical breast exam should be done starting at 20 and through the 30s every 3 years. **3** The ACS recommends that breast self-examinations be performed monthly beginning at age 20 years if a person chooses to do so; it is recommended that women be instructed about the potential benefits and limitations related to breast self-examination. **4** After a discussion with a health care provider, digital rectal examinations and PSA screening should be done annually at age 50 for men who are expected to live at least 10 years. African-American men and men with a father or brother with a history of prostate cancer before the age of 65 should begin testing at 45 years of age. Men at even a greater risk (brother or father with a diagnosis of prostate cancer at an early age) should begin testing at age 40. Screening should take place every 3 years with a PSA of less than 2.5 ng/mL and yearly for a PSA equal to or more than 2.5 ng/mL.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation, **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Data Base

193. **4** Orange juice has a higher proportion of simple sugars, which are readily available for conversion to energy.

1 Milk contains fat and protein, which require a longer digesting time, and lactose, which is a disaccharide. **2** Bread contains carbohydrates, which require a longer time to digest because they must be converted to simple sugars. **3** Chocolate candy bars do not contain the high proportion of simple sugars found in orange juice; they also contain fat, which takes longer to digest.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Review of Nutrients, Sources of Energy

194. **4** Vitamin K is synthesized by intestinal bacteria but is also found in large quantities in green leafy vegetables.

1 Vitamin K is found only in specific foods, not a wide variety. **2** Vitamin K is not easily absorbed; it is fat-soluble and requires bile salts for its absorption. **3** It is synthesized by intestinal bacteria, so a natural deficiency does not occur.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Review of Nutrients, Vitamins

195. **1** Milk and milk products are not tolerated well because they contain lactose, a sugar that is converted to galactose by lactase.

2 Sucrase assists in the digestion of sucrose, which is not a milk sugar. **3** Maltase assists in the digestion of maltose, which is not a milk sugar. **4** Amylase assists in the digestion of starch, which is not a milk sugar.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 8, Review of Chemical Principles, Carbohydrates

196. **4** A triglyceride is composed of three fatty acids and a glycerol molecule. When energy is required, the fatty acids are mobilized from adipose tissue for fuel. The nurse needs to consider that a client who is cachectic will have limited reserves to meet energy needs.

1 This is not the function of adipose tissue; its main function is storage. **2** This is not a function of adipose tissue; cholesterol is produced in the liver. **3** This is not the function of adipose tissue in fat metabolism.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 8, Functions of the Gastrointestinal System, Metabolism

197. **3** Saturated fats, found in animal tissue, are more dense than unsaturated fats, which are found in vegetable oils.

1, 2, 4 This characteristic of food has no bearing on fat saturation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8,

Review of Chemical Principles, Types of Compounds, Lipids

198. **3** Red meat is high in dense saturated fats and should be avoided.

1 Fruits do not contain saturated fats. **2** Grains do not contain saturated fats. **4** Vegetable oils contain unsaturated fats.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Review of Diets

199. **4** Cholesterol is an essential structural and functional component of most cellular membranes.

That it is associated with atherosclerotic plaques does not detract from its essential functions.

1 Cholesterol is not necessary for blood clotting; calcium and vitamin K are necessary. **2** Cholesterol is not essential for bone formation; calcium, phosphorus, and calciferol are necessary. **3** Cholesterol is not involved in muscle contraction; potassium, sodium, and calcium are necessary.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Review of

Chemical Principles, Types of Compounds, Lipids

200. **2** The body does not synthesize these amino acids; they must be ingested in the diet.

1 The essential amino acids cannot be made by the body. **3, 4** All amino acids are needed for metabolism; however, arginine and histidine are necessary for growth, but not during adulthood; essential amino acids cannot be synthesized by the body.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Review

of Chemical Principles, Types of Compounds, Amino Acids

201. **3** Fruits contain less natural sodium than do other foods.

1 Milk is higher in natural sodium than is fruit. **2** Meat is higher in natural sodium than is fruit. **4** Vegetables are higher in natural sodium than is fruit.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Review of Diets

202. **2** Vitamin A is a fat-soluble vitamin that accumulates in the body and is not significantly excreted even if extremely large amounts are ingested. After prolonged ingestion of extremely large doses, toxic effects (e.g., irritability, increased intracranial pressure, fatigue, night sweats, and severe headache) can occur.

1 Vitamin A is toxic only after prolonged large dosages. **3** Vitamin A can be stored in the liver. **4** Vitamin A cannot be synthesized by the body.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Review of Nutrients, Vitamins

203. Answer: 1, 5.

1 Yellow/orange vegetables contain large quantities of the pigments alpha-, beta-, and gamma-carotene; beta-carotene is the major chemical precursor of vitamin A in human nutrition. Cantaloupe, sweet potatoes, and apricots also are high in vitamin A.

2 Oranges are considered a good source of both vitamin C and potassium. **3** Tomatoes are a good source of vitamin C. **4** Levels of vitamin A are higher in whole milk than in skim milk. **5** Dark green leafy vegetables contain large quantities of the pigments alpha-, beta-, and gamma-carotene; beta-carotene is the major chemical precursor of vitamin A in human nutrition. Broccoli, cabbage, spinach, and collards also are high in vitamin A.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Review of Nutrients, Vitamins

204. **4** Vitamin A is used in the formation of retinol, a component of the light-sensitive rhodopsin (visual purple) molecule.

1 Melanin is a pigment of the skin. **2** Vitamin A does not influence color vision, which is centered in the cones. **3** The cornea is a transparent part of the anterior portion of the sclera; a cataract is opacity of the usually transparent crystalline lens. Vitamin A does not prevent cataracts.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Review of Nutrients, Vitamins

205. **3** The high-Fowler position promotes optimal entry into the esophagus aided by gravity.

1, 2 This position does not take full advantage of the effect of gravity. **4** This position will contribute to aspiration. The head of the bed should be raised, not lowered.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Gavage (Tube Feeding)

206. **2** Small meals are not as psychologically overwhelming and do not upset the stomach easily. They are therefore better tolerated.

1 Although this may be helpful, small, frequent meals is a better approach. **3** Administration of vitamins is a dependent nursing function; vitamins do not stimulate appetite. **4** This does not ensure adequate nutrition; if the portion size is decreased, frequency must be increased.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Stomach, Nursing Care

207. **1** Emptying the bladder before a paracentesis prevents its accidental puncture during the procedure.

2, 4 No bowel preparation is indicated. **3** The client may eat and drink as tolerated.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Paracentesis

208. **4** Barium salts used in a GI series and barium enemas coat the inner lining of the GI tract and then absorb x-rays passing through. Thus, they outline the surface features of the tract on a photographic plate.

1 Barium has no light-emitting properties. **2** Barium does not fluoresce. **3** Barium does not have the

properties of a dye.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Gastrointestinal Series

209. **1** To permit adequate visualization of the mucosa during the sigmoidoscopy, the bowel must be cleansed with a nonirritating enema before examination.

2 The client does not drink such a substance in preparation for a sigmoidoscopy. **3** Because only the lower bowel is being visualized, withholding food is unnecessary; a laxative may be given the day before to limit fecal residue. **4** Collecting a stool specimen is not part of the procedure for a sigmoidoscopy.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Gastrointestinal Series

210. **4** To promote understanding and allay anxiety, all diagnostic tests should be explained to the client.

1, 2, 3 Preparations for tests may vary depending on the client's condition.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Gastrointestinal Series

211. **2** For a high colonic enema, the fluid must extend higher in the colon. If the height of the enema fluid container above the anus is increased, the force and rate of flow also increase.

1 This is too low for a high cleansing enema. **3, 4** This is too high and may cause mucosal injury.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Enemas

212. **4** Administration of additional fluid when a client reports experiencing abdominal cramps adds to discomfort because of additional pressure. By clamping the tubing a few minutes, the nurse allows the cramps to subside and the enema can be continued.

1 Cramps are not a reason to discontinue the enema entirely; temporary clamping of the tubing usually relieves the cramps, and the procedure can be continued. **2** Slowing the rate decreases pressure but does not reduce it entirely. **3** This will reduce the flow of the solution, which will decrease pressure but not reduce it entirely.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Enemas

213. **2** A rise in the level of formula within the tube indicates a full stomach.

1 Passage of flatus reflects intestinal motility, which does not pose a potential problem. **3** A rapid inflow is the result of positioning the container too high or using a feeding tube with too large a lumen. **4** Epigastric tenderness is not necessarily caused by a full stomach.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Related Procedures, Gavage (Tube Feeding)

214. **2** X-ray verification of tube placement is required before anything is instilled into the nasogastric tube. Administering a feeding through a misplaced tube can cause the formula to enter the client's lungs.

1 This is unsafe. The normal saline will enter the client's lungs if the tube is in the wrong place. **3, 4** This is not a definitive way to ensure correct placement of the nasogastric tube. Once placement is verified by an x-ray, this method may be used before initiating a feeding.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Related Procedures, Gavage (Tube Feeding)

215. **1** The American Society for Parenteral and Enteral Nutrition (ASPEN) recommends that a gastric residual ≥ 250 mL should be checked again in 4 hours for critically ill clients and 6 to 8 hours in non-critically ill clients. If it is still ≥ 250 mL, the nurse should seek an order for a promotility agent. If the residual is > 500 mL, the nurse should hold the feeding until the following are accomplished: a gastrointestinal evaluation, assessment of glycemic control (hyperglycemia can cause decreased GI motility), minimization of sedation, and a prescription for a promotility agent if not already prescribed. Recommendations indicate that an enteral feeding should not be stopped for a residual < 500 mL unless other signs of feeding intolerance are present (e.g., emesis, abdominal distention, constipation, uncomfortable feeling of fullness, abdominal pain or nausea).

2 This evaluates fluid balance and is best performed over a 24-hour period. **3** This is a method for evaluating tube placement. **4** Although weighing the client regularly is important to evaluate overall nutritional progress, it does not provide information about absorption of a particular feeding.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Related Procedures, Gavage (Tube Feeding)

216. **4** The increased osmolarity (concentration) of many formulas draws fluid into the intestinal tract, which can cause diarrhea; such feedings may need to be diluted initially until the client develops tolerance.

1 Formulas frequently have reduced fiber content. **2** Bacterial contamination is not a factor if the manufacturer's recommendations are followed. **3** Inappropriate positioning may increase the risk for aspiration, but it does not cause diarrhea.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Related Procedures, Gavage (Tube Feedings)

217. **4** Because the cardiac sphincter of the stomach is slightly opened to admit the nasogastric tube, rapid instillation may result in regurgitation.

1 Distention is diminished by avoiding the instillation of air with the feeding. **2** The speed of a feeding does not cause flatulence, but the administration of air may. **3** This may or may not decrease indigestion.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Related Procedures, Gavage (Tube Feedings)

218. **2** Vomiting may result in aspiration of vomitus, because it cannot be expelled; this may cause pneumonia or asphyxia.

1, 3, 4 This generally is not a life-threatening problem.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Fracture of the Jaw, Nursing Care

219. **3** Pain and swelling should subside before 1 week postoperatively. Continued pain may indicate infection.

1 This is expected because of dried blood in the oral cavity. **2** This may occur because of generalized trauma resulting from surgery and is expected. **4** This is expected.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Fracture of the Jaw, Nursing Care

220. Answer: 2, 5, 6.

1 Halitosis is not an early sign of or specific to cancer of the mouth. **2** Leukoplakia are white, thickened patches that tend to fissure and become malignant; ulcerations in the mouth or on the tongue may indicate cancer. **3** Bleeding gums occur in gingival diseases. **4** Pain associated with cancer of the tongue does not radiate to the substernal area. **5** Taste buds in the tongue may be impaired, resulting in alterations in taste. **6** Regional lymph nodes enlarge as cancer cells begin to metastasize.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 8, Cancer of the Oral Cavity, Data Base

221. **4** A large amount of alcohol ingestion predisposes an individual to the development of oral cancer because it is a mucosal irritant.

1, 2, 3 This has no effect on the development of oral cancer.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 8, Cancer of the Oral Cavity, Data Base

222. **2** This elevates the upper torso and minimizes reflux of gastric contents.

1 Increasing the content of the stomach before lying down will aggravate the symptoms associated with gastroesophageal reflux. **3** This will have no effect on the reflux of gastric contents. **4** The effect of antacids is not long-lasting enough to promote a full night's sleep; sodium bicarbonate is not recommended as an antacid.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8,

Gastroesophageal Reflux Disease (GERD), Nursing Care

223. **Answer: 1.5 mL. Use the “Desire over Have” formula of ratio and proportion to solve this problem.**

$$\frac{\text{Desire } 15 \text{ mg}}{\text{Have } 10 \text{ mg}} = \frac{x \text{ mL}}{1 \text{ mL}}$$

$$10x = 15$$

$$x = \frac{15}{10}$$

$$x = 1.5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

224. **Answer: 1, 3, 4.**

1 Heavy lifting increases intraabdominal pressure, allowing gastric contents to move up through the lower esophageal sphincter (regurgitation), causing heartburn (pyrosis). **2** Lying down after eating promotes reflux and should be avoided. **3** Alcohol, in addition to peppermints, caffeine, and chocolate, decreases lower esophageal sphincter (LES) pressure, which permits gastric contents to move from the stomach into the esophagus. **4** Eating small, frequent meals limits the amount of food in the stomach, which limits gastroesophageal reflux. **5** Increasing fluids with meals increases gastric volume, causing distention and reflux. **6** Constrictive garments such as belts, binders, and girdles increase intraabdominal pressure and may lead to reflux.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Gastroesophageal Reflux Disease, Nursing Care

225. **3** Approximately two thirds of clients with peptic ulcer disease are found to have *Helicobacter pylori* infecting the mucosa and interfering with its protective function.

1, 2, 4 Antibiotics do not cause this effect.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Data Base

226. Answer: 3, 5.

1 Coffee and tea contain caffeine, which decreases esophageal sphincter pressure and should be avoided; milk does not have to be eliminated from the diet unless the client has lactose intolerance. **2** The head, not the foot, of the bed should be elevated to prevent nighttime reflux; at night infrequent swallowing and the recumbent position impair esophageal clearance. **3** Caffeine should be avoided because it decreases esophageal sphincter pressure, which permits reflux. **4** Three large meals increase the volume pressure in the stomach, which delays gastric emptying; four to six meals are preferred. **5** These actions promote digestion and prevent eructation (belching).

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Gastroesophageal Reflux Disease, Nursing Care

227. **4** Unless diluted by the increased blood flow, the highly concentrated solution can cause injury to the veins.

1 The potential of infection is high with parenteral nutrition because of the increased glucose levels. **2, 3** This is not the primary reason, although the infusion at this site is more secure and promotes free use of the arms and hands.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Parenteral Replacement Therapy

228. **2** TPN solutions are high in glucose and are administered at room temperature, factors that increase the risk of microbial growth in the solution; they should be changed daily or sooner if they appear cloudy.

1 Monitoring the blood glucose level q2h is too frequent; the client's blood glucose level should be monitored q4h to q6h to identify the presence of hyperglycemia, a metabolic complication of TPN. **3** The client should not breathe while the TPN catheter is changed because it may result in an air embolus; the Valsalva maneuver should be performed by the client for the few seconds it takes to switch the tubing. **4** An excess amount of glucose will be infused if the rate of the TPN is

increased, and the endogenous insulin will be inadequate to meet this demand, resulting in hyperglycemia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Parenteral Replacement Therapy

229. **3** The act of eating allows the hydrochloric acid in the stomach to work on and be neutralized by food rather than irritate the intestinal mucosa.

1 This symptom is not specific to duodenal ulcers. **2** This may indicate renal colic. **4** This is not specific to duodenal ulcers.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Peptic Ulcer Disease, Data Base

230. **Answer: 200 mL/hr. The rate on an infusion control device (ICD) is specified in mL/hr. Fifteen minutes is $\frac{1}{4}$ of an hour; the equivalent hourly rate is 4 times the volume. The nurse also programs the number of milliliters in the infusion as the volume to be infused (VTBI). The “Desire over Have” formula can be used to solve this problem.**

$$\frac{\text{Desire}}{\text{Have}} \frac{60 \text{ minutes}}{15 \text{ minutes}} = \frac{x \text{ mL}}{50 \text{ mL}}$$

$$15 x = 60 \times 50$$

$$15 x = 3000$$

$$x = 3000 \div 15$$

$$x = 200 \text{ mL/hr}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

231. **4** The vagus nerve stimulates the stomach to secrete hydrochloric acid. When it is severed, this neural pathway is interrupted and stomach secretions are decreased.

1 The portion of the vagus nerve that is severed innervates the stomach, not the heart; therefore, the heart rate is not affected. **2** The vagus nerve controls hydrochloric acid secretion, not gastric emptying; emptying is determined by the nature of foods being digested. **3** The vagus nerve is not a sensory nerve.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Data Base

232. **4** When high-osmotic fluid passes rapidly into the small intestine, it causes hypovolemia. This results in a sympathetic response with tachycardia, diaphoresis, and dizziness. The symptoms also are attributed to a sudden increase and subsequent decrease in blood glucose level.

1 The stomach is not full; its contents rapidly empty into the jejunum. **2** This may occur with gastroesophageal reflux disease; dumping syndrome is associated with increased motility involving the stomach and the jejunum. **3** This usually is associated with paralytic ileus; dumping syndrome leads to increased intestinal motility.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

233. **2** This is an expected response during the first 24 hours after a gastric resection because of oozing of blood and blood coagulation.

1 These are normal characteristics of gastric contents, which are unexpected after gastric surgery. **3** This indicates hemorrhage, which is unexpected. **4** Coffee ground material results from blood that has been digested by the gastric acid; gastric bleeding with a nasogastric tube in place will be red because gastric acids will not have time to act on the blood.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

234. **3** Nasogastric drainage is expected to be bright red during the first 12 hours after surgery; bleeding lessens gradually during the 12 hours after surgery in response to hemostasis in the surgical area.

1 This is unnecessary; bloody drainage is expected this soon after surgery. **2** Nasogastric suction must be working, and the tube must remain patent to prevent stress on the suture line. **4** The nasogastric tube is only irrigated if the health care provider orders it because of the danger of injury to the suture line; generally saline at room temperature is ordered.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

235. **1** Patency of the tube should be maintained to ensure continued suction. Use of normal saline minimizes fluid and electrolyte disturbances during irrigation.

2 The stomach is not considered a sterile body cavity, so medical asepsis is indicated. **3** Care must be taken to avoid traumatizing the mucosa. **4** Ice chips and water represent fluid intake, which must be approved by the health care provider; being hypotonic in nature, such intake may lower the level of serum electrolytes.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

236. **1** Physiologic normal saline is used in gastric instillations to prevent electrolyte imbalance. Because of the fresh gastric sutures, slow and gentle instillation of saline should be performed to reestablish patency of the tube, and then the tube should be reconnected to suction to ensure stomach decompression.

2, 4 The purpose of the instillation is to maintain the patency of the tube for gastric decompression; with disconnection from suction, a buildup of secretions and air can occur, or the tube can become blocked by viscous drainage. **3** Increasing the pressure may cause damage to the suture line.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

237. **4** Fluid and electrolytes are lost through intestinal decompression; on a daily basis about 20% of the total body water is secreted into and almost completely reabsorbed by the GI tract.

1 Because the client is kept NPO, there is no stimulus to cause enzymes to be secreted into the GI tract. **2** IV dextrose supplies some carbohydrates as a source of energy; carbohydrates will not be drawn from storage by intestinal decompression. **3** Because the client is being kept NPO, vitamins and minerals are not entering the GI tract and therefore are not lost.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Intestinal Obstruction, Nursing Care

238. **3** Dehydration is a danger because of fluid loss with GI suction.

1, 2, 4 Based on the data provided, this clinical finding is not likely to occur.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Intestinal Obstruction, Nursing Care

239. **1** Symptoms of dumping syndrome occur to some degree in about 50% of all individuals who have undergone a gastrectomy. They include weakness, faintness, heart palpitations, and diaphoresis. It is therefore important to explain to the client that such symptoms can be minimized by reclining after meals, eating small meals, and omitting concentrated and highly refined carbohydrates.

2 Modification of roughage is part of the management of intestinal rather than gastric disorders. **3** Gas-forming foods affect the intestines, not the stomach. **4** Eating habits must be modified to prevent rapid emptying of the stomach.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

240. **3** Pernicious anemia is caused by a lack of vitamin B₁₂. Intrinsic factor, produced by the parietal cells of the gastric mucosa, is necessary for B₁₂ absorption.

1 B₁₂ is absorbed in the ileum. **2** The hemopoietic factor is the combination of B₁₂ and intrinsic factor. The intrinsic factor is secreted by the stomach, and food is the source of vitamin B₁₂. **4** Chief cells secrete the enzymes of the gastric juice.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Peptic Ulcer disease, Data Base

241. **2** To promote drainage of different lung regions, clients should turn every 2 hours. Deep breathing inflates the alveoli and promotes fluid drainage.

1 During physical effort individuals with abdominal incisions often revert to shallow breathing. **3** Oxygen administration is a dependent function and is not generally required unless there is underlying cardiac or respiratory disease. **4** The airway is expelled when the gag reflex returns.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

242. **3** Small, frequent feedings are tolerated best after a subtotal gastrectomy.

1 Roughage may be irritating to the GI tract after surgery. **2** As soon as edema subsides, the individual generally is given small amounts of fluid and then the diet is progressed gradually. **4** Recuperation from gastric surgery may take up to 3 months; allowing only food preferences does not ensure inclusion of nutrients necessary for recovery.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Peptic Ulcer Disease, Nursing Care

243. Answer: 1, 4, 5.

1 Calcium deficiency is a late complication of bariatric surgery because of inadequate absorption, even with an intake of calcium-rich foods; calcium supplementation may be necessary. **2** Three small feedings daily will not provide adequate calories and nutrients; six small feedings with a total of 600 to 800 calories a day is routine once the client is eating. **3** Clients need to increase, not limit, fluid intake; the dumping syndrome contributes to diarrhea, which can cause dehydration and electrolyte imbalance. **4** Foods high in protein exit the stomach more slowly than foods high in carbohydrates, which minimizes the dumping syndrome. **5** Vitamin B₁₂ deficiency is a late complication of bariatric surgery because of a lack of intrinsic factor; gastric secretion is necessary for the absorption of vitamin B₁₂. Lifelong supplementation may be necessary.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Obesity, Nursing Care

244. **3** When ingested food rapidly enters the jejunum without having gone through the usual mixing and digestive process, the hypertonic bolus causes rapid movement of extracellular fluid into the bowel; this rapid shift decreases the circulating blood volume. Decreased peripheral vascular resistance, visceral pooling of blood and reactive hypoglycemia are also implicated. Also, the distended jejunum increases intestinal peristalsis and motility.

1 Backward flow of gastric contents into the esophagus causes heartburn, dysphagia, water brash, acid regurgitation, or belching (eructation). **2** Reflux gastritis is a chronic inflammation of the lining of the stomach caused by reflux of duodenal contents; epigastric pain, nausea, vomiting, and hematemesis are common clinical manifestations. **4** Abdominal peritonitis is an inflammation of the peritoneal membrane; rigidity of abdominal muscles, abdominal pain, low-grade fever, malaise, absent bowel sounds, and shallow respirations are common clinical manifestations.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Obesity, Nursing Care

245. **2** Clients need to be prepared emotionally for the body image changes that occur after bariatric surgery. Clients generally experience excessive abdominal skin folds after weight stabilizes, which may require a panniculectomy. Body image disturbance often occurs in response to incorrectly estimating one's size; it is not uncommon for the client to still feel fat no matter how much weight is lost.

1 The client needs to increase protein intake and avoid foods high in sugar and fat; alcohol and sweetened fluids should be avoided. **3** Barring complications, clients are ambulated and transferred to a chair within 8 hours of surgery. **4** Six small feedings for a total calorie intake of 600 to 800 calories in 24 hours plus fluids to prevent dehydration are routine once the health care provider orders a regular diet.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Obesity, Nursing Care

246. **1** This allows for easier digestion and absorption of medication in the stomach.

2 This client should lie on the left side for 20 to 30 minutes to delay gastric emptying. **3** This client should be ingesting a high-protein diet with limited carbohydrates and no simple sugars; this will help minimize the dumping syndrome. **4** Barring any complications, this client should be

discharged in 5 days and will not need patient-controlled analgesia.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Obesity, Nursing Care

247. **2** ERCP involves the insertion of a cannula into the pancreatic and common bile ducts during an endoscopy. The test is not performed if the client's bilirubin level is more than 3 to 5 mg/dL because cannulation may cause edema, which will increase obstruction of bile flow.

1, 3, 4 This is not directly related to this test.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Cholelithiasis/Cholecystitis, Data Base

248. Answer: 4, 3, 1, 2, 5.

4 Getting out of bed is the activity that should be implemented first. It allows the client to adjust to the upright position before ambulating. **3** Light exercise such as walking can begin after tolerating sitting in a chair. **1** A client may shower or bathe 1 to 2 days after surgery. **2** A client may drive 3 to 4 days after surgery. **5** Objects exceeding 10 lb may be lifted 1 week after surgery.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cholelithiasis/Cholecystitis, Nursing Care

249. **2** When bile does not mix with foods in the intestine, emulsification of fats cannot occur and fat digestion is impaired. Stomach motility is also reduced, because increased stomach peristalsis depends on fat digestion in the small intestine.

1 Once emulsified by bile, fatty foods are readily broken down by digestive enzymes. **3** The production of bile is unaffected. **4** Obstruction, not inadequate closure, of the ampulla of Vater causes discomfort. Bile and pancreatic secretions enter the duodenum through the ampulla of Vater. With obstruction, edema and spasms occur, blocking the flow of enzymes and causing pain.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cholelithiasis/Cholecystitis, Data Base

250. Answer: 1, 2, 5.

1 Inadequate bile flow interferes with vitamin K absorption, contributing to ecchymosis, hematuria, and other bleeding. **2** Yellow sclera results from failure of bile to enter the intestines, with subsequent backup into the biliary system and diffusion into the blood. The bilirubin is carried to all body regions, including the skin and mucous membranes. **3** With obstructive jaundice the stool is clay-colored, not dark brown; the presence of bile causes stool to be brown. **4** When bile levels in the bloodstream are high, as in obstructive jaundice, there is bile in the urine, causing it to have a dark color. **5** Pain in the right upper quadrant occurs especially after eating foods high in fat and is characteristic of acute cholecystitis and biliary colic.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Cholelithiasis/Cholecystitis, Data Base

251. Answer: 1, 2, 4.

1 When bile levels in the bloodstream are high, as in obstructive jaundice, there is bile in the urine, causing it to have a dark color. **2** Jaundice (bile pigments causing yellow skin, sclera, and mucous membranes) results from failure of bile to enter the intestines, with subsequent backup into the biliary system and diffusion into the blood; the bilirubin is carried to all body regions. **3** Pain is experienced in the right upper quadrant, not on urination, because of spasm of the gallbladder, whether or not there is biliary obstruction. **4** The stools are clay-colored, not brown, because the

bile pigments are not present in the GI tract as a result of the obstruction of the common bile duct. **5** Coffee-ground vomitus indicates gastric bleeding; it is not a unique sign of cholelithiasis with obstructive jaundice.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Cholelithiasis/Cholecystitis, Data Base

252. **2** Vitamin K is necessary in the formation of prothrombin to prevent bleeding. It is a fat-soluble vitamin and is not absorbed from the GI tract in the absence of bile.

1 Bilirubin is the bile pigment formed by the breakdown of erythrocytes. **3** Thromboplastin converts prothrombin to thrombin during the process of coagulation. **4** Cholecystokinin is the hormone that stimulates contraction of the gallbladder.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Review of Nutrients, Vitamins

253. **2** The location of the incision results in pain on inspiration or coughing. The subsequent reluctance to cough and deep breathe facilitates respiratory complications from retained secretions.

1 This surgery does not take a prolonged period of time. **3** Bile does not impair inflammatory or immune responses. **4** Cholelithiasis and cholecystitis generally are inflammatory, not infectious, processes.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Cholelithiasis/Cholecystitis, Nursing Care

254. **3** A pseudocyst of the pancreas is an abnormally dilated space that contains blood, necrotic tissue, and enzymes, and is surrounded by connective tissue.

1, 2, 4 This is an incorrect definition of a pseudocyst.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Acute Pancreatitis, Data Base

255. **4** Alcohol stimulates pancreatic enzyme secretion and an increase in pressure in the pancreatic duct. The backflow of enzymes into the pancreatic interstitial spaces results in partial digestion and inflammation of the pancreatic tissue.

1 Although blockage of the bile duct with calculi may precipitate pancreatitis, this is not associated with alcohol. **2** Alcohol does not deplete insulin stores; the demand for insulin is unrelated to pancreatitis. **3** Although the volume of secretions increases, the composition remains unchanged.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Acute Pancreatitis, Data Base

256. **1** Open communication helps to decrease anxiety.

2 Antibiotics will have no direct effect on the client's anxiety. **3** Knowledge does not always reduce anxiety and promote rest. **4** This response is false reassurance.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Pancreas, Nursing Care

257. Answer: 2, 3, 5.

1 The client would be kept NPO to decrease gastrointestinal activity and the secretion of pancreatic enzymes. **2** Analgesics, histamine-receptor antagonists, and anticholinergics may be administered to decrease gastrointestinal activity and the secretion of pancreatic enzymes. **3** Relaxation will decrease the metabolic rate, which will decrease gastrointestinal activity, including the secretion of

pancreatic enzymes. **4** Walking increases the metabolic rate, which will increase gastrointestinal activity, including the secretion of pancreatic enzymes. **5** This is necessary to assess for hypokalemia and fluid volume changes. **6** Hypocalcemia, not hypercalcemia, occurs because of trapping of calcium in fecal fat and in necrotic tissue.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Acute Pancreatitis, Nursing Care

258. Answer: 1, 4, 6.

1 Soft foods limit irritation of esophageal varices if present. **2** A regular diet will not meet the dietary requirements of this client. **3** A low-protein diet will not provide enough protein to correct the severe malnutrition associated with alcoholism in the absence of an increased serum ammonia level; in hepatic coma protein intake is reduced to 15 to 30 g. **4** A high-protein intake is necessary to correct severe malnutrition in the absence of an increased serum ammonia level. **5** A low-carbohydrate diet will not provide for energy needs. **6** A high-carbohydrate intake provides for energy needs.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatic Cirrhosis, Nursing Care

259. **1** Thiamine (vitamin B₁) and niacin (vitamin B₃) help convert glucose for energy and therefore influence nerve activity.

2 These vitamins do not affect elimination. **3** These vitamins are not related to circulatory activity. **4** Vitamin K, not thiamine and niacin, is essential for the manufacture of prothrombin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Review of Nutrients, Vitamins

260. **1** The liver detoxifies alcohol and is the organ most often damaged in chronic alcoholism. A high-calorie diet minimizes tissue breakdown and promotes healing.

2, 3, 4 This organ is not involved in detoxification of alcohol.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatic Cirrhosis, Nursing Care

261. **4** The temperature during steaming is never high enough or sustained long enough to kill microorganisms.

1 Processing destroys the virus. **2** Because of the extremely high temperature, broiling sufficiently destroys the virus. **3** Baking will destroy the virus.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatitis, Data Base

262. **4** Drugs are available to help reduce the viral load (antivirals), including lamivudine (Epivir-HBV), ribavirin (Rebetol), and adefovir dipivoxil (Hepsera).

1 Although this is a true statement, sedatives are given only prn and do not treat the hepatitis. **2** This is used only during the incubation period. **3** Vitamins are used as adjunctive therapy and will not eliminate the hepatitis.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatitis, Data Base

263. Answer: 2, 5.

1 Preventing constipation is not related to limiting the risk for contracting hepatitis B. **2** Contracting hepatitis B through blood transfusions can be prevented by screening donors and testing the blood. **3** Avoiding shellfish in the diet limits the risk for contracting hepatitis A. **4** This does not prevent transmission of hepatitis B. **5** Hepatitis B can be transmitted via contaminated body fluids such as semen, saliva, and urine. Multiple sexual partners increase the risk. A monogamous sexual relationship with an infection-free individual eliminates the risk.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hepatitis, Data Base

264. **3** The virus is present in the stool of clients with hepatitis A; therefore, standard precautions should be followed when handling excretions. The virus may also be present in urine and nasotracheal secretions.

1 The Centers for Disease Control and Prevention (CDC) indicate that only standard precautions are necessary when caring for a client who is positive for the presence of hepatitis A; if a client is incontinent or using an incontinence device, the CDC recommends contact precautions be implemented. **2** Bringing food to a client requires no precautions; however, disposable utensils should be used and utensils discarded following standard precautions because the client's nasotracheal secretions contain the virus. **4** Hepatitis A usually is not transmitted via the air.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Hepatitis, Nursing Care

265. **3** Hepatitis C is caused by an RNA virus that is transmitted parenterally. More effective blood screening for hepatitis C was introduced in June 1992; this brought about a dramatic decrease in hepatitis C infection caused by blood transfusions; recent studies document that the risk of contracting hepatitis C from a blood transfusion is 1 in 103,000 transfusions. The incubation period is 5 to 10 weeks.

1 Hepatitis A, also known as infectious hepatitis, is caused by an RNA virus that is transmitted via the fecal-oral route. The incubation period is 2 to 6 weeks. **2** Hepatitis B is transmitted parenterally, sexually, and by direct contact with infected body secretions. The incubation period is 1 to 6 months. It is not the major cause of posttransfusion hepatitis. **4** Hepatitis D is a complication of hepatitis B.

Client Need: Safety and Infection Control; **Cognitive Level:** Knowledge; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatitis, Data Base

266. **3** The diet should be high in carbohydrates with moderate to high protein and low fat content.

1, 4 This is too high in fat. **2** This is too low in carbohydrates.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Hepatitis, Data Base

267. **1** Hepatitis A microorganisms are transmitted via the anal-oral route; handwashing, particularly after toileting, is the most important precaution.

2 This will not deter the spread of the virus; handwashing is necessary. **3, 4** Hepatitis A microorganisms exit through the rectum, not the respiratory tract.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Hepatitis, Nursing Care

268. **2** Hepatitis C is a bloodborne pathogen that can be transmitted via contaminated tattoo needles.

1 Hepatitis A is not a bloodborne pathogen; it is spread through contaminated food or water. **3** Although hepatitis D is a bloodborne pathogen, it can be produced only when the hepatitis B virus is present. Also, hepatitis D is not the main virus associated with contaminated tattoo needles. **4** Hepatitis E is believed to be transmitted via the fecal-oral route; it is spread through contaminated food or water.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatitis, Data Base

269. **3** Weight is helpful in determining the extent of ascites; 1 L of retained fluid equals approximately 2.2 lb.

1 Diet history will not help in monitoring a client's condition. **2** Bowel sounds are objective data but do not help monitor the liver. **4** Pain is subjective.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Cancer of the Liver, Nursing Care

270. **3** With liver failure, the protein intake is limited to 20 g daily to decrease the possibility of hepatic encephalopathy.

1 A high-fat diet is avoided because of the related cardiovascular risks and the related demand for bile. **2** Regeneration of tissue requires a high-calorie, high-carbohydrate diet. **4** Sodium usually is restricted to decrease the accumulation of fluid and help limit ascites and edema.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatic Cirrhosis, Nursing Care

271. **4** The increased pressure within the portal circulatory system causes increased pressure in areas of portal systemic collateral circulation (most important, in the distal esophagus and proximal stomach). Hemorrhage is a possible complication.

1 Liver abscesses may occur as a complication of intestinal infections, not portal hypertension. **2** This may be caused by manipulation of the bowel during surgery, peritonitis, neurologic disorders, or organic obstruction, not portal hypertension. **3** Perforation of the duodenum usually is caused by peptic ulcers; it is not a direct result of portal hypertension or cirrhosis.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hepatic Cirrhosis, Data Base

272. **3** These activities should be avoided to prevent inaccurate test results.

1 The recorder should be checked every 15 minutes. **2** Avoiding food and fluid during the test is unnecessary. **4** The capsule should be held under the tongue for 1 minute while the unit verifies that the light source is functioning.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Gastrointestinal Series

273. **4** This tube includes an esophageal balloon that exerts pressure on inflation, which retards hemorrhage.

1 A Levin tube is used for gastric decompression, gavage, or lavage; it has one lumen. **2** A Salem sump tube is used for gastric decompression; it has two lumens, one for decompression and one for an air vent. **3** A Miller-Abbott tube is used for intestinal decompression.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatic Cirrhosis, Data Base

274. **1** Because the liver is unable to detoxify ammonia to urea, protein intake should be further restricted when coma is inevitable.

2, 3, 4 This relatively high intake of protein will increase blood ammonia levels.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatic Cirrhosis, Data Base

275. **Answer: 261 calories. Fat contains 9 kilocalories per gram; carbohydrates and proteins contain 4 kilocalories per gram; therefore, $117 + 124 + 20 = 261$ kilocalories.**

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Review of Nutrients, Sources of Energy

276. **Answer: 1, 4.**

1 An accumulation of nitrogenous wastes affects the central nervous system, causing mental confusion. **2** Increased cholesterol levels are not necessarily present. **3** Stool is often clay-colored because of lack of bile caused by biliary obstruction. **4** An accumulation of nitrogenous wastes in hepatic coma affects the nervous system. Flapping tremors and generalized twitching occur in the second stage of this disease. **5** As encephalopathy progresses to coma, all reflexes are absent.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hepatic Cirrhosis, Data Base

277. **1** Bile deposits will impart a yellowish tinge (jaundice or icterus) to the skin, often first observed in the sclerae.

2 Urticaria (or hives) generally is characteristic of an allergic response. **3** Uremic frost is characteristic of kidney failure. **4** Hemangioma is a benign lesion composed of blood vessels.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hepatic Cirrhosis, Data Base

278. **1** Increased ammonia levels indicate that the liver is unable to detoxify protein by-products. Neomycin reduces the amount of ammonia-forming bacteria in the intestines.

2 Culture and sensitivity testing is unnecessary; cirrhosis is an inflammatory, not infectious, process. **3** Increased white blood cell count may indicate infection; however, this will have no relationship to the need for neomycin enemas. **4** Alanine aminotransferase (ALT), also called serum glutamic-pyruvic transaminase (SGPT), assesses for liver disease but has no relationship to the need for neomycin enemas.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hepatic Cirrhosis, Data Base

279. **4** One of the many functions of the liver is the manufacture of clotting factors; there is interference in this process with cirrhosis of the liver, resulting in bleeding tendencies.

1 The storage of fat-soluble vitamins (A, D, E, and K), water-soluble vitamins (B₁, B₂, folic acid, and cobalamin), and minerals (including iron) is compromised in cirrhosis; therefore, these nutrients, including vitamin K, should not be limited. **2** Should the client bleed, the pulse rate may be increased, but it is not necessary for the client to check the pulse rate several times daily. **3** A client whose prothrombin time is prolonged and platelet count is low should not be taking aspirin, even with milk.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hepatic Cirrhosis, Data Base

280. **2** The diet should be high in protein and calories, low in fat, and gluten-free for individuals with malabsorption syndrome. Protein is needed for tissue rebuilding.

1 The client may prefer foods high in gluten, which will potentiate malabsorption. **3** IV therapy is a dependent function and does not provide all the necessary nutrients. **4** Diarrhea is caused by malabsorption, which accounts for the depressed nutritional status; once the diarrhea is corrected, it is essential to compensate by providing a nutritious diet.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Malabsorption Syndrome, Data Base

281. **4** Gluten, a cereal protein, appears to be responsible for morphologic changes of the intestinal mucosa with nontropical sprue (adult celiac disease).

1 Folic acid, along with antimicrobial agents, is used to treat tropical, not celiac, sprue; it causes dramatic improvement in tropical sprue. **2** Vitamin B₁₂ may be administered if macrocytic anemia or achlorhydria develops; however, it does not correct the major pathology. **3** The use of corticosteroids may be advantageous with either form of sprue; however, this does not produce the dramatic effect achieved by a gluten-free diet.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Malabsorption Syndrome, Data Base

282. Answer: 3, 4.

1 Gluten is not found in corn. **2** Gluten is not found in milk and dairy products. **3** Gluten is found in rye, oats, wheat, and barley, which should be avoided because gluten in these grains is irritating to the GI mucosa. **4** Gluten is found in rye bread and should be avoided. **5** Gluten is not found in fruit.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Malabsorption Syndrome, Data Base

283. **3** Undigested fat in the feces (steatorrhea) is associated with diseases of the intestinal mucosa (e.g., celiac sprue) or pancreatic enzyme deficiency.

1 Darkening of feces by blood pigments (melena) is related to upper GI bleeding. **2** Bright red blood in the stool is related to lower GI bleeding (e.g., hemorrhoids). **4** Stools containing blood and mucus (currant jelly stools) are associated with intussusception.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Malabsorption Syndrome, Data Base

284. **4** Neither of these foods contains gluten, and they are permitted in a diet for a client with malabsorption syndrome.

1 The breading on the veal cutlet contains gluten and cannot be eaten by this client. **2** The bread for the sandwich contains gluten. **3** Noodles and crackers contain gluten.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Malabsorption Syndrome, Data Base

285. Answer: 1, 2.

1 Green beans are a vegetable; fresh fruits and vegetables are permitted on a gluten-free diet. **2** A baked potato is permitted on a gluten-free diet. **3** Noodles are made of flour high in gluten and should be avoided. **4** Bread is made with flour high in gluten and should be avoided. **5** Whole wheat cereal is high in gluten and should be avoided.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Malabsorption Syndrome, Data Base

286. **3** Rebound tenderness is a classic subjective sign of appendicitis.

1 Urinary retention does not cause acute lower right quadrant pain. **2** Hyperacidity causes epigastric,

not lower right quadrant pain. **4** There generally is decreased bowel motility distal to an inflamed appendix.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Appendicitis, Data Base

287. Answer: 1, 5.

1 A moderate fever is associated with inflammation of the peritoneal membrane. **2** Malaise, rather than hyperactivity, is often associated with peritonitis. **3** Nausea, not hunger, is a common occurrence with peritonitis. **4** Urinary retention may occur following surgery as a complication of anesthesia, not peritonitis. **5** Muscular rigidity over the affected area is a classic sign of peritonitis.

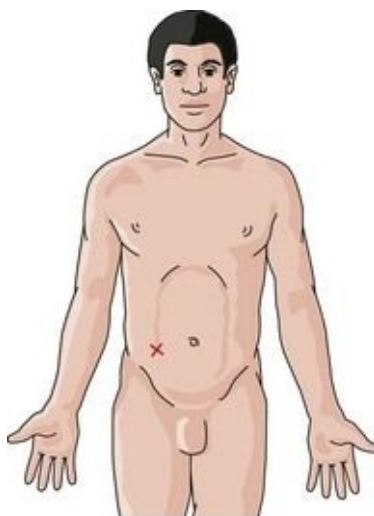
Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Peritonitis, Data Base

288. **2** The semi-Fowler position aids in localizing drainage to the lower abdominal cavity and prevents the spread of infection throughout the abdominal cavity.

1, 4 This position will not allow for localization of drainage. **3** The Trendelenburg position will contribute to the spread of infection throughout the abdominal cavity.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Peritonitis, Data Base

289. McBurney's point is located in the right lower quadrant of the abdomen over the appendix. This point is one third of the distance from the anterior iliac spine to the umbilicus; rebound tenderness in this area may indicate appendicitis.



Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Appendicitis, Nursing Care

290. **2** A rectal catheter should be inserted approximately 4 inches to pass the rectal sphincters.

1 A catheter inserted just 2 inches will not pass beyond the rectal sphincters. **3, 4** This may damage the intestinal mucosa.

Client Need: Basic Care and Comfort; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Enemas

291. Answer: 1, 2, 4.

1 Absorption through the GI tract is impaired and parenteral administration goes directly into the intravascular compartment. **2** Disease of the GI tract hampers absorption. **3** IV vitamins do not

decrease colonic irritability. **4** Because the mucosa of the intestinal tract is damaged, its ability to absorb vitamins taken orally is greatly impaired. **5** Route of administration does not affect allergic response.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Inflammatory Bowel Disease, Regional Enteritis (Crohn Disease), Data Base

292. **2** When the diseased bowel is removed, the client's symptoms cease.

1 Surgical removal of a body part is not temporary, but permanent. **3** Ulcerative colitis does not progress to Crohn disease; clients with ulcerative colitis have an increased risk for colorectal cancer. **4** This is not a true statement.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Data Base

293. **1** The caffeine in cola is chemically irritating to the intestinal mucosa. Caffeine also promotes secretion of gastric juice.

2 Amino acids are absorbed slowly and are not irritating. **3** Rice products do not irritate the bowel and need not be restricted. **4** This is too general; except for those that contain lactose sugars, products containing sugar generally are not irritating to the mucosa.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Irritable Bowel Syndrome, Nursing Care

294. Answer: 2, 5.

1 Fever may or may not be a sign. **2** The inflammatory process tends to increase peristalsis, causing diarrhea. As ulceration occurs, loss of blood leads to anemia. **3** The client will lose weight because of anorexia and malabsorption. **4** Hemoptysis (coughing up blood from the respiratory tract) is not a related sign. **5** The inflammatory process tends to increase peristalsis, causing spasms of the intestines.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Data Base

295. **2** Occult blood in the stool may indicate active bleeding.

1 This situation does not warrant examining the stool for fat. **3** There is no indication that parasites are present; the situation does not warrant examining the stool for an infestation. **4** This situation does not warrant culturing the stool for bacteria.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Data Base

296. Answer: 2, 4, 5, 1, 3.

2 A garden salad has 95 calories. **4** One slice of French toast has 126 calories. **5** Six chicken tenders have 236 calories. **1** An order of French fries has 372 calories. **3** A Whopper with cheese has 720 calories.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Review of Nutrients, Sources of Energy

297. **3** Weight loss usually is severe with Crohn disease; therefore, weight gain is a priority. This goal is specific, realistic, measurable, and has a time frame.

1, 2, 4 Although this is important, it is not as high a priority as weight gain.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Inflammatory Bowel Disease, Regional Enteritis (Crohn Disease), Nursing Care

298. Answer: 2, 3, 5.

1 Rice is not irritating to the GI tract and does not have to be avoided. **2** Milk contains lactose, which is irritating to the GI tract. **3** Cheese is a milk product that is irritating to the GI tract. **4** Table salt does not irritate the intestinal mucosa and does not need to be avoided. **5** Chocolate candy contains caffeine, which is chemically irritating to the intestinal mucosa and should be avoided.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Nursing Care

299. **1** The inflammatory process associated with colitis increases peristalsis, causing abdominal cramping, diarrhea, and weight loss.

2 Coughing up blood from the respiratory tract (hemoptysis) is not associated with colitis. **3** Anemia, not polycythemia, is associated with colitis. **4** The WBC count may be increased, not decreased.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Nursing Care

300. **2** This is low residue and is less irritating to the colon than the other foods.

1 Orange juice contains cellulose, which is not absorbed and irritates the colon. **3, 4** Milk contains lactose, which is irritating to the colon.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Nursing Care

301. **3** Intussusception is the telescoping or prolapse of a segment of the bowel into the lumen of an immediately connecting segment of the bowel.

1 Volvulus is a twisting of the bowel onto itself. **2** Adhesions are bands of scar tissue that can compress the bowel. **4** Herniation describes protrusion of an organ through the wall that contains it.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Intestinal Obstruction, Data Base

302. **4** Emotional stress of any kind can stimulate peristalsis and thereby increase the volume of drainage.

1 The client should be encouraged to eat a regular diet if possible. **2** Ileostomy drainage is liquefied and continuous, so irrigations are not indicated. **3** The stoma will start to drain within the first 24 hours after surgery.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Nursing Care

303. **2** Vitamin B₁₂ (extrinsic factor) combines with intrinsic factor, a substance secreted by the parietal cells of the gastric mucosa, forming hemopoietic factor. Hemopoietic factor is absorbed in the ileum, from which it travels to bone marrow and stimulates erythropoiesis.

1 Folic acid is not absorbed in the ileum. **3** Iron absorption does not occur in the ileum. **4** Trace elements of these substances are not absorbed in the ileum.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Review of Anatomy and Physiology, Structures of the

Gastrointestinal System Small Intestine

304. Answer: 1, 3.

1 Trauma to the abdominal wall and to the stoma should be avoided; contact sports, such as football, are contraindicated. **2** Trauma to the abdominal wall is a minimal risk when swimming. **3** Trauma to the abdominal wall and to the stoma should be avoided; contact sports, such as ice hockey, are contraindicated. **4** Track events are not associated with trauma to the abdominal wall. **5** Cross-country skiing is not associated with trauma to the abdominal wall.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Nursing Care

305. **1** To take advantage of the anatomic position of the sigmoid colon and the effect of gravity, the client should be placed in the left Sims or left side-lying position for the enema.

2, 3, 4 This position does not facilitate the flow of fluid into the sigmoid colon by gravity.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Related Procedures, Enemas

306. **2** Emptying the appliance when half full will help prevent the weight of the fecal drainage from pulling the appliance away from the seal, thus preventing leakage.

1 A colostomy of the ascending colon usually is not irrigated because the feces will be semi liquid. **3** The peristomal skin is cleaned with soap and water; an antiseptic is too caustic. **4** The pouch opening should be approximately 1/8 inch larger than the stoma. This limits exposure of peristomal skin to irritation from feces.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Implementation; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Data Base

307. **2** The client must be ready to accept changes in body image and function; this acceptance will facilitate mastery of the techniques of colostomy care and optimal use of community resources.

1, 3, 4 Specific knowledge can be imparted only when an individual is ready to learn; it requires acceptance of a new body image.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Nursing Care

308. **2** Neomycin provides preoperative intestinal antisepsis.

1 The desired effect of this drug is unrelated to kidney function; nephrotoxicity is a side effect. **3** It will not prevent metastasis. **4** This is not the purpose of administering this medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Data Base

309. **3** A brick red stoma indicates adequate vascular perfusion.

1, 2, 4 This indicates inadequate perfusion of the stoma.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 8, Inflammatory Bowel Disease, Ulcerative Colitis, Nursing Care

310. **3** When GI absorption is inadequate, total parenteral nutrition (TPN) is the nutritional therapy of choice because it provides needed nutrients.

1 TPN usually is used with chronic or long-term therapy, not for short-term therapy. **2** TPN is used

for total, not supplemental, nutrition. **4** This is not the indication for TPN; a feeding tube would be used in this instance.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning, **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 8](#), Related Procedures, Parenteral Replacement Therapy

311. **1** Because emotional stress can influence the progress of Crohn disease, initially the nurse should help the client to explore self-attitudes to aid in better understanding the feelings engendered by her boyfriend dating others.

2 Initially the nurse should help the client explore the situation and the feelings it engenders rather than involve the boyfriend. **3** The client should make the decision about seeing her boyfriend. **4** This is premature; the client is not ready for a joint counseling session.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 8](#), Inflammatory Bowel Disease, Regional Enteritis (Crohn Disease), Nursing Care

312. **4** In ulcerative colitis, pathology usually is in the descending colon; in Crohn disease, it is primarily in the terminal ileum, cecum, and ascending colon.

1 Ulcerative colitis, as the name implies, affects the colon, not the small intestine. **2** There is no direct correlation of colitis with malignancy of the bowel, although psychologic, environmental, genetic, and nutritional factors, as well as preexisting disease, appear to be influential in malignancy. **3** Involvement is in the distal portion of the colon, not the proximal portion.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** [Ch 8](#), Inflammatory Bowel Disease, Ulcerative Colitis, Data Base

313. **3** If medical management fails, this is the next logical choice because it removes the affected intestine.

1 Psychotherapy might improve the client's ability to cope with the disease, but it will not solve the physical problems. **2, 4** This is a classic intervention that probably had been tried during prior exacerbations and it has failed.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 8](#), Inflammatory Bowel Disease, Ulcerative Colitis, Data Base

314. **2** This takes advantage of the gastrocolic reflex that occurs after eating; also, it is important to establish a schedule that is at the same time every day; before leaving the house for the day is the most appropriate time for a person who has a job outside the home.

1, 3 This may not take advantage of the gastrocolic reflex that occurs after eating. **4** New bowel habits have to be established; irrigations take time to accomplish and need to be scheduled before or after the day's work activities begin.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 8](#), Related Procedures, Colostomy Irrigation

315. **3** The stoma of a colostomy must be dilated with a lubricated, gloved finger to prevent strictures and subsequent obstruction.

1 Once healing has occurred, activity is not limited. **2** Clothing need not be special, but should be nonconstricting. **4** Diet should be as close to normal for the individual as possible; gas-forming foods should be avoided.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Nursing Care

316. **3** Although foods that produce gas are generally avoided, the diet should be as close to normal as possible for optimal physiologic and psychologic adaptation.

1 A high-protein diet is important until healing occurs; but a balanced diet generally meets nutritional needs for protein. **2** There is no need to limit fiber; it provides bulk necessary for soft, formed stools. **4** Absorption of nutrients is unaffected; there is no need to increase the caloric intake.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Nursing Care

317. **2** Isotonic saline most closely resembles body fluids; it will not cause an imbalance by pulling fluids and electrolytes out of the intravascular compartment.

1, 3 Hypotonic solutions will allow absorption of fluid into the intravascular compartment, resulting in dilution of electrolytes and possible circulatory overload. **4** Hypertonic solutions will draw fluids out of the intravascular compartment into the GI tract; glucose provides a medium for bacterial growth.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Intestinal Obstruction, Nursing Care

318. **1** Surgery on the bowel has no direct anatomic or physiologic effect on sexual performance. However, psychologic factors may hamper this function, and the nurse should encourage verbalization.

2 Although it may take several months to resume satisfying sexual relationships, the surgery has no direct physiologic effect. **3** There is no reason why sexual activity must be curtailed. **4** Although a partner should understand the nature of the surgery, the focus at this time should be on the client.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Nursing Care

319. **4** A transverse colostomy is an opening created in the transverse colon. The rectal tube should be pointed to the proximal intestine, which contains the feces.

1 A water-soluble lubricant should be used to facilitate insertion. **2** There are no sphincters, so bearing down is unnecessary. **3** Continual pressure may traumatize the mucosa; lack of nerve endings diminishes sensation.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Colostomy Irrigation

320. **3** An enema or ostomy irrigation can cause cramping. Cramping generally will subside if the tubing is clamped for a few minutes; the procedure can be continued when the cramping subsides.

1 Discontinuing the irrigation may lead to ineffective evacuation of the colon. **2** Lowering the container will decrease the rate of flow, but fluid will continue to enter the colon if the container remains above the stoma. **4** This can injure the mucosa and does not affect cramping.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Colostomy Irrigation

321. **2** Three inches is far enough to direct the flow of solution into the bowel.

1 Two inches is inadequate; fluid may leak back around the catheter. **3, 4** This may cause trauma to the mucosa.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 8, Related Procedures, Colostomy Irrigation

322. **3** A colostomy irrigation is much like a tap-water enema. The solution must be held high enough to allow it to flow into the bowel but not so high that it flows rapidly, or it causes cramping or mucosal injury.

1, 2 This does not represent the maximum height permitted and may not ensure flow of solution into the bowel. **4** This is too high and may cause intestinal trauma.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Procedures, Colostomy Irrigation

323. **4** If the area is not kept both clean and dry, drainage from the colostomy can quickly cause a breakdown of the skin around the stoma. This, in combination with a warm, moist surface, predisposes the individual to infection.

1, 2 Although oral fluids are withheld until peristalsis returns, it is essential that parenteral fluids be administered to replace the losses incurred by surgery. **3** The client is often unable to accept the altered body image and must be given time to adjust before participating actively in self-care.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, and Rectum, Nursing Care

324. **1** There are few physical restraints on activity postoperatively, but the client may have emotional problems resulting from the body image changes.

2 Independence should be encouraged; however, some activities may require up to 3 months before resumption. **3** Swimming is not prohibited because water does not harm the stoma. **4** Changes in activities are not necessary.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Cancer of the Small Intestine, Colon, or Rectum, Nursing Care

325. **3** A client with a fecal impaction has the urge to defecate but is unable to do so.

1 Flatulence may occur as a result of immobility, not just obstruction. **2** Anorexia may occur with an impaction but also may be caused by other conditions. **4** The frequency of bowel movements varies for individuals; it may be normal for this individual not to have a bowel movement for several days.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Intestinal Obstruction, Data Base

326. Answer: 1, 2, 3.

1 Peristalsis increases in an attempt to evacuate the hardened feces; spasms of the intestine may occur. **2** When the bowel is impacted with hardened feces, there often is seepage of liquid feces around the obstruction and thus uncontrolled diarrhea. **3** Intestinal gas builds up behind the obstruction; peristaltic waves initiate movement of intestinal contents that cause gurgling sounds in the intestine (borborygmi). **4** This is indicative of lower GI bleeding. **5** There are often frequent liquid bowel movements in the presence of an impaction.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Intestinal Obstruction, Data Base

327. **4** Prune juice and warm water can be administered prophylactically by the nurse to promote defecation. Prune juice irritates the bowel mucosa, stimulating peristalsis. Fiber in the diet increases fecal volume, which stimulates intestinal motility and the reflex for defecation.

- 1** Enemas should be avoided because they can promote dependency and can result in electrolyte imbalance. **2** The routine use of laxatives promotes dependency. **3** The client is bedbound and is unable to use a commode.
- Client Need:** Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Intestinal Obstruction, Nursing Care
328. **4** Fiber absorbs water, swells, and consequently stretches the bowel wall, promoting peristalsis, mass movements, and defecation. Smooth muscle tends to contract when stretched because of the reflex activity of stretch receptors.
- 1** Bulk caused by fiber does not irritate the bowel wall. **2** There is no chemical stimulation. **3** Bacterial action is not involved in the process by which bulk stimulates defecation.
- Client Need:** Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Review of Diets
329. **4** A low-residue diet limits stool formation.
- 1** Bland diets usually are employed in the management of upper, not lower, GI disturbances. **2** Although a clear diet is low in residue, it does not meet nutritional needs. **3** A high-protein diet is indicated postoperatively to promote healing.
- Client Need:** Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hemorrhoids, Data Base
330. Answer: 1, 5.
- 1** Straining at stool increases intraabdominal, systemic, and portal venous pressures that promote the development of hemorrhoids. **2** Hypertension does not contribute to the development of hemorrhoids. **3** Spicy foods may irritate hemorrhoids but do not cause them. **4** Bowel incontinence is unrelated to the development of hemorrhoids. **5** The enlarging uterus puts pressure on the inferior vena cava that leads to increased portal venous pressure, causing anorectal varicosities.
- Client Need:** Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hemorrhoids, Data Base
331. Answer: 2, 3, 4, 5.
- 1** Flatulence is unrelated to hemorrhoids. **2** Pruritus occurs as varicosities enlarge and become inflamed. **3** Blood and mucus in the stool occur as varicosities enlarge and become inflamed. **4** Rectal pressure occurs as portal venous pressure increases and varicosities enlarge. **5** Pain occurs when varicosities enlarge and thromboses occur; pain increases on defecation.
- Client Need:** Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hemorrhoids, Nursing Care
332. Answer: 2, 3.
- 1** Enemas may be ordered several days after surgery if the client has not had a bowel movement. **2** Moist heat dilates the blood vessels, thereby increasing circulation to the area; this is soothing and promotes healing. **3** Stool softeners are prescribed to avoid straining on defecation and constipation. **4** Baths, especially sitz baths, are advised to promote healing and cleaning of the area. **5** Occlusive dressings are not used. Light applications of witch hazel may be used to promote drainage and healing.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Hemorrhoids, Nursing Care
333. **1** Any situation in which a needle is inserted under the skin is a potential source of hepatitis; according to the CDC, the range for the incubation period is 45 to 180 days; however, the average

incubation period is 60 to 90 days.

2 The range for the incubation period is 45 to 180 days. **3** Hepatitis B is not transmitted via inadequate sanitation or a contaminated water supply. **4** Hepatitis B is not transmitted by casual proximity to others.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Hepatitis, Data Base

334. **1** The client is exhibiting classic symptoms of hyperglycemia, and simple serum glucose monitoring evaluated by a glucose monitoring machine will help guide the nurse's next action.

2 This is a useless assessment; urinary output must be evaluated in relation to intake. **3** Assessing the blood pressure may be a secondary action to assess for overhydration; if headache alone were present, rather than the classic signs of hyperglycemia, taking the blood pressure might be the initial action. **4** This is unnecessary; the symptoms do not indicate infection.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 8, Related Procedures, Parenteral Replacement Therapy

335. **2** This is the only vegetable listed that is included in a low-residue diet; this vegetable is low in fiber.

1, 3, 4 This vegetable contains more fiber than creamed potatoes.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Review of Diets

336. **3** This drug inhibits peristalsis and prolongs transit time by its effect on the nerves in the muscle wall of the intestines.

1 This drug is a laxative, not an antidiarrheal; it increases GI motility. **2** This is not an antidiarrheal; it is a bulk laxative that promotes easier expulsion of feces. **4** This drug corrects constipation, not diarrhea; water and fat are increased in the intestine, permitting easier expulsion of feces.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Pharmacology, Antidiarrheals

Endocrine System

337. Answer: 1, 3, 6.

1 As excessive fluid is lost through urination, dehydration triggers the thirst response. **2** Diabetes insipidus is not a disorder of glucose metabolism; blood glucose levels are not affected. Diabetes mellitus affects glucose metabolism. **3** As excessive fluid is lost through urination, dehydration occurs, resulting in dry mucous membranes and poor skin turgor. **4** Loss of fluid may decrease the blood pressure because fluid is lost from the intravascular compartment. **5** As fluid is lost from the intravascular compartment, serum osmolarity increases, not decreases. **6** Because water is not being reabsorbed, urine is dilute, resulting in a low specific gravity (less than 1.005).

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Insipidus, Data Base

338. **3** Deficient antidiuretic hormone (ADH) from the posterior pituitary results in diabetes insipidus. This can be caused by head trauma; water is not conserved by the body and excess amounts of urine are produced.

1 Although increased serum glucose may cause polyuria, it is associated with diabetes mellitus, not diabetes insipidus. **2** Ineffective renal perfusion will cause decreased urine production. **4** While excess amounts of IV fluids may cause dilute urine, it is unlikely that a client with head trauma will be receiving excess fluid because of the danger of increased intracranial pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 8, Related Anatomy and Physiology, Structures of the Endocrine System

339. **4** Reabsorption of sodium and water in the kidney tubules decreases urinary output and retains body fluids.

1, 2 The opposite is true. **3** There is no effect on filtration with ADH; ADH increases reabsorption in the tubules.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Review of Anatomy and Physiology, Pituitary Gland

340. Answer: 2, 4.

1 Oliguria, not polyuria, occurs as antidiuretic hormone (ADH) acts on nephrons to cause water to be reabsorbed from the glomerular filtrate. **2** Excessive levels of ADH cause inappropriate free water retention; for every liter of fluid retained, the client will gain approximately 2.2 lb. **3** Because of water reabsorption, blood volume may increase, causing hypertension, not hypotension. **4** Free water retention results in a hypoosmolar state with dilutional hyponatremia. **5** This increases, not decreases, as a result of increased urine concentration.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Syndrome of Inappropriate Antidiuretic Hormone Secretion, Data Base

341. **2** The hypophysis (pituitary gland) does not directly regulate insulin release. This is controlled by serum glucose levels. Because somatotropin release will stop after the hypophysectomy, any elevation of blood glucose level caused by somatotropin will also stop.

1 This effect may be expected after a hypophysectomy because follicle-stimulating hormone and its releasing factor will no longer be present to stimulate spermatogenesis. **3** When adrenocorticotrophic hormone (ACTH) is absent, cortisone will have to be administered. **4** Thyroid-stimulating hormone will not be present; extrinsic thyroxine will have to be taken.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Hyperpituitarism, Data Base

342. **4** Because the pituitary gland is located in the brain, edema after surgery may result in increased intracranial pressure. Early signs include decreased visual acuity, papilledema, and unilateral pupillary dilation.

1 Urinary retention may follow any surgery because of the effects of anesthesia and is not a specific occurrence following cranial surgery. **2** Respiratory distress is a later, not early, sign of increased intracranial pressure. This is a decompensated response indicated by altered respiratory pattern, decreased respiratory rate, and finally respiratory arrest. This occurs because of increasing pressure on the medulla. **3** Bleeding at the suture line may occur with any surgery, not just a hypophysectomy.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Hyperpituitarism, Nursing Care

343. **1** Increased levels of steroids will accelerate bone demineralization.

2 Hyperparathyroidism, not hypoparathyroidism, accelerates bone demineralization. **3** Weight-bearing that occurs with strenuous activity promotes bone integrity by preventing bone demineralization. **4** Although estrogen promotes deposition of calcium into bone, high levels will not be prescribed for osteoporosis; hormone replacement therapy is associated with an increased risk for breast cancer.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Related Pharmacology, Adrenocorticoids

344. **3** Clinical presentation of type 1 diabetes is characterized by acute onset, and therefore there is no time to develop the long-term complications that are common with long-standing disease; 20% of newly diagnosed clients with type 2 diabetes demonstrate complications because the diabetes has gone undetected for an extended period of time.

1 Clinical presentation of type 1 diabetes is rapid, not slow, as pancreatic beta cells are destroyed by an autoimmune process; in type 2 diabetes, the body is still producing some insulin, and therefore the onset of signs and symptoms is slow. **2** In type 1 diabetes, clients are generally lean or have an ideal weight; 80% to 90% of clients with type 2 diabetes are overweight. **4** Type 1 diabetes requires diet control, exercise, and subcutaneous administration of insulin, not oral medications; oral medications are used for type 2 diabetes because some insulin is still being produced.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

345. **1** Steroid therapy usually is instituted preoperatively and continued intraoperatively to prepare for the acute adrenal insufficiency that follows surgery.

2 The diet must supply ample, not high, protein and potassium; however, it must be low in calories, carbohydrates, and sodium to promote weight loss and reduce fluid retention. **3** A 24-hour urine specimen is unnecessary. **4** Glucocorticoids must be administered preoperatively to prevent adrenal insufficiency during surgery.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Primary Aldosteronism, Data Base

346. **3** Excess glucocorticoids cause hyperglycemia, and signs of diabetes mellitus may develop.

1 Adrenocortical hormones cause sodium retention and subsequent weight gain. **2** Although muscle wasting is associated with excessive corticoid production, this will not cause diabetes

mellitus. **4** Adrenocorticotrophic hormone (ACTH) affects the adrenal cortex, not the pancreas.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Review of Anatomy and Physiology, Pituitary Gland

347. **2** Hyperplasia of the adrenal cortex leads to increased secretion of cortical hormones, which causes signs of Cushing syndrome.

1 This malfunction of the pituitary will result in Simmonds disease (panhypopituitarism), which has clinical manifestations similar to those for Addison disease. **3** Cushing syndrome results from excessive cortical hormones. **4** Adrenocorticotrophic hormone (ACTH) stimulates production of adrenal hormones. Inadequate ACTH will result in Addisonian signs and symptoms.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Cushing Syndrome, Data Base

348. Answer: 1, 3.

1 Excessive hairiness, especially a male pattern of hair distribution on a woman (hirsutism), occurs with Cushing syndrome because of an androgen excess. **2** Menorrhagia (excessive menstrual bleeding) does not occur; menses may cease or be scanty because of virilization. **3** Cushing syndrome results from excess adrenocortical activity. Hypercortisolism causes fat redistribution, resulting in “buffalo hump”; it also contributes to slow wound healing, hirsutism, weight gain, hypertension, acne, thin arms and legs, and behavioral changes. **4** Edema does not occur except when severe heart failure is present. **5** Headaches do not occur with this syndrome.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Cushing Syndrome, Data Base

349. Answer: 1, 2.

1 Excess adrenocorticoids cause emotional lability, euphoria, and psychosis. **2** Hypercortisolism impairs the inflammatory response, slowing wound healing. **3** Increased secretion of androgens results in hirsutism. **4** Although a moon face is associated with corticosteroid therapy, ectomorphism is a term for a tall, thin, genetically determined body type and is unrelated to Cushing syndrome. **5** There is increased bruising because capillary fragility results in multiple ecchymotic areas.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Cushing Syndrome, Data Base

350. Answer: 2, 4, 5.

1 Polyuria is associated with diabetes mellitus and primary aldosteronism, not Cushing syndrome. **2** Obesity is caused by the overproduction of adrenal cortisol hormone associated with Cushing syndrome. **3** Hypertension, not hypotension, is associated with Cushing syndrome because of sodium and water retention. **4** Sleep disturbance is caused by the altered diurnal secretion of cortisol. **5** Thin arms and legs are caused by protein catabolism, which causes muscle wasting.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Cushing Syndrome, Data Base

351. **2** As a result of increased cortisol levels, glucose metabolism is altered, which may contribute to an increase in blood glucose levels.

1 Increased mineralocorticoids will decrease urine output. **3** Sodium is retained by the kidneys, but potassium is excreted. **4** The immune response is suppressed.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Review of Anatomy and Physiology, Pituitary Gland

352. **1** Depending on the purpose of the collection, a preservative to prevent breakdown of the

specimen may be necessary.

2 Weighing the client is not necessary. **3** The last specimen should be collected as close as possible to the end of the 24-hour period and added to the urine collected. **4** Collecting urine for the next 24 hours, not checking the I&O for the previous 24 hours, is important.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Addison Disease, Nursing Care

353. **4** Adrenal steroids help an individual adjust to stress. Unless received from external sources, there is no hormone available to cope with surgical stresses after an adrenalectomy.

1 Glucose stores (glycogen) will be utilized by the body to adapt to surgery. Insulin is the hormone that facilitates conversion of glucose to glycogen. **2** Steroids do not increase inflammatory reactions. **3** Steroids will result in fluid retention, not loss.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Primary Aldosteronism, Data Base

354. **4** Hydrocortisone succinate (Solu-Cortef) is a glucocorticoid. A client undergoing bilateral adrenalectomy must be given adrenocortical hormones so that adjustment to the sudden lack of these hormones that occurs with this surgery can take place.

1 This medication is used to treat a client with hyperthyroidism, not a client with a bilateral adrenalectomy. **2** Because the surgery involves the adrenal glands, not the pituitary gland, secretion of pituitary hormones will not be affected. **3** This is not necessary. Insulin is produced by the pancreas, and its function is not altered by this surgery.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Adrenocorticoids

355. **1** After an adrenalectomy, adrenal insufficiency causes hypotension because of fluid and electrolyte alterations.

2 Hypoglycemia, not hyperglycemia, may be a problem stemming from the loss of glucocorticoids. **3** Hyponatremia may occur because of the lack of mineralocorticoid production. **4** Potassium, not sodium, ions may be retained because of the lack of mineralocorticoids.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Primary Aldosteronism, Nursing Care

356. **3** Clients with adrenocortical insufficiency who are receiving steroid therapy usually require increased amounts of medication during periods of stress because they are unable to produce the increased levels of glucocorticoids needed by the body at this time.

1 Although sedation may be prescribed, the major concern is the regulation of glucocorticoids in the presence of emotional or physiologic stress. **2** Increased stress requires increased glucocorticoids. **4** Although these symptoms may occur and may be minimized by an increase in glucocorticoids, the primary reason for an adjustment in dosage is to assist the body's ability to adapt to stress.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Primary Aldosteronism, Nursing Care

357. **4** A client with Cushing syndrome secretes excess amounts of cortisol, a corticosteroid that acts to retain sodium and water, resulting in hypernatremia and edema.

1 Hypervolemia, not hypovolemia, is caused by fluid retention. **2** Hypokalemia, not hyperkalemia, occurs because potassium is lost when there is sodium retention. **3** Hyperglycemia, not

hypoglycemia, results from cortisol-induced glucose intolerance.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Cushing Syndrome, Data Base

358. **4** Clients with Cushing syndrome must limit their intake of salt and increase their intake of potassium. The kidneys are retaining sodium and excreting potassium.

1 An excessive secretion of adrenocortical hormones in Cushing syndrome, not increased or high sodium intake, is the problem. **2** Although sodium retention causes fluid retention and weight gain, the need for increased potassium also must be considered. **3** Because of steroid therapy, excess sodium may be retained although potassium may be excreted.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 9, Cushing Syndrome, Data Base

359. **4** Mineralocorticoids such as aldosterone cause the kidneys to retain sodium ions. With sodium, water is also retained, elevating blood pressure. Absence of this hormone thus causes hypotension.

1 Estrogen is a female sex hormone produced by the ovaries; it does not affect blood pressure. **2** Androgens are produced by the adrenal cortex. Androgens have an effect similar to that of the male sex hormones; they do not affect blood pressure. **3** The major effect of glucocorticoids such as hydrocortisone is on glucose metabolism, not on sodium and water concentrations; absence of this hormone will not cause significant hypotension.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Addison Disease, Data Base

360. **1** Because of diminished glucocorticoid production, there is a decreased response to stress, reducing the ability to fight an infectious process.

2 Hyponatremia and hyperkalemia occur in this disorder; however, these do not alter the defense against infection. **3** Glucocorticoids are involved with metabolism; however, this does not directly affect susceptibility to infection. **4** The respiratory system is not affected.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Addison Disease, Nursing Care

361. **3** Glucocorticoids help maintain blood glucose and liver and muscle glycogen content. A deficiency of glucocorticoids causes hypoglycemia, resulting in breakdown of protein and fats as energy sources.

1 Muscular weakness and fatigue are related to fluid balance, but emaciation is not. **2** Emaciation results from diminished protein and fat stores and hypoglycemia, not from an alteration in electrolytes. **4** Masculinization does not occur in this disease.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Addison Disease, Data Base

362. **2** Exertion, either physical or emotional, places additional stress on the adrenal glands, which may precipitate an addisonian crisis.

1 Because of increased metabolic demands as a result of exercise, decreased levels of adrenocortical hormones will cause fatigue. **3** Restricting fluid intake is contraindicated because of the risk for hypovolemia. **4** The nurse should assess for hyperkalemia and hyponatremia.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 9, Addison Disease, Nursing Care

363. **3** Lack of mineralocorticoids causes hyponatremia, hypovolemia, and hyperkalemia. Dietary modification and administration of cortical hormones are aimed at correcting these electrolyte imbalances, which can be life threatening.

1 There is no disturbance in the eosinophil count. **2** Lymphoid tissue does not change. **4** Although glucocorticoids are involved in metabolic activities, including carbohydrate metabolism, the primary aim of therapy is to restore electrolyte imbalance.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Addison Disease, Data Base

364. **4** Lack of mineralocorticoids (aldosterone) leads to loss of sodium ions in the urine and subsequent hyponatremia.

1 Potassium intake is not encouraged; hyperkalemia is a problem because of insufficient mineralocorticoids. **2** This disease is caused by idiopathic atrophy of the adrenal cortex; tissue repair of the gland is not possible. **3** Vitamins are not directly energy-producing, nor will they help the client gain weight.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Addison Disease, Nursing Care

365. Answer: 1, 2.

1 Fludrocortisone (Florinef) has a strong effect on sodium retention by the kidneys, which leads to fluid retention, causing edema. **2** Fludrocortisone has a strong effect on sodium retention by the kidneys, which leads to fluid retention, causing weight gain. **3** Fatigue may occur with adrenal insufficiency and is not related to cortisone therapy. **4** Unpredictable changes in mood commonly occur but are not as serious a threat as fluid retention. **5** Fluid retention and thus decreased urination may occur.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Adrenocorticoids

366. Answer: 1, 2, 4.

1 Polyuria is excessive urination associated with osmotic diuresis. **2** Polydipsia is excessive thirst associated with hyperglycemia; thirst is the response to osmotic diuresis and glycosuria. **3** Polyphagia is associated with the catabolic state induced by insulin deficiency. **4** Polyphrasia is excessive talking associated with mental illness, not hyperglycemia. **5** This is related to multiple developmental abnormalities and is unrelated to hyperglycemia.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

367. **4** Results in this range indicate diabetes.

1 Results in this range indicate hypoglycemia. **2** Results in this range are considered expected (normal). **3** Results in this range indicate prediabetes according to the American Diabetes Association.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

368. **3** As a result of osmotic pressures created by an increased serum glucose level, the cells become dehydrated; the client must receive fluid and then insulin.

1 Oxygen therapy is not necessarily indicated. **2** Carbohydrates will increase the blood glucose level, which is already high. **4** Although dietary instruction may be appropriate later, such instruction is inappropriate during the crisis.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

369. **1** In starvation there are inadequate carbohydrates available for immediate energy, and stored fats are used in excessive amounts, producing ketones.

2 There is no fat in alcohol; fat oxidation does not occur. **3** Bone healing does not require the use of great amounts of fat; calcium is deposited to form callus. **4** A positive nitrogen balance does not require the use of great amounts of fat.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

370. **4** Oral hypoglycemics may be helpful when some functioning of the beta cells exists, as in type 2 diabetes.

1 Rapid-acting regular insulin is needed to reverse ketoacidosis. **2** Obesity does not offer enough information to determine the status of beta cell function. **3** Clients with type 1 diabetes have no functioning beta cells; the necessary treatment is insulin, not an oral hypoglycemic.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Related Pharmacology, Antidiabetic Agents

371. Answer: 2, 3, 4.

1 Thirst occurs with hyperglycemia in response to dehydration associated with osmotic diuresis. **2** Palpitations, an adrenergic symptom, occur as the glucose level decreases; the sympathetic nervous system is activated, and epinephrine and norepinephrine are secreted, causing this response. **3** Diaphoresis is a sympathetic nervous system response that occurs as epinephrine and norepinephrine are released. **4** Slurred speech is a neuroglycopenic symptom; as the brain receives insufficient glucose, the activity of the CNS becomes depressed. **5** Hyperventilation occurs with diabetic ketoacidosis; Kussmaul respirations are an effort to counteract the effects of a buildup of ketones as the body seeks acid-base balance.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

372. **2** Ketones are produced when fat is broken down for energy.

1 Although rarely used, sodium bicarbonate may be administered to correct the acid-base imbalance resulting from ketoacidosis; acidosis is caused by excess acid, not excess base bicarbonate. **3** Diabetes does not interfere with removal of nitrogenous wastes. **4** Carbohydrate metabolism is impaired in the client with diabetes.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

373. **2** Infection increases the body's metabolic rate, and insulin is not available for increased demands.

1 Although emotional stress will affect glucose levels, diabetic ketoacidosis will rarely result. **3** Increased insulin dose will lead to insulin coma (hypoglycemia) if diet is not increased as well. **4** This will result in insulin coma.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

374. **1** IV fluids are given to combat dehydration in ketoacidosis and to keep an IV line open for administration of medications. After electrolyte levels are evaluated, potassium may be added along with insulin.

2 In acidosis, potassium ions initially shift from the intracellular to extracellular compartment, resulting in hyperkalemia; as acidosis is corrected, hypokalemia may occur and then potassium may be administered. **3** This is an intermediate-acting insulin; rapid-acting insulin is indicated in an

emergency. **4** This is not indicated; abnormally high serum potassium levels will revert once dehydration is corrected.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

375. **4** Regular insulin (Novolin R) is rapid-acting and should be used for diabetic coma.

1 Insulin lispro (Humalog) is too short-acting and must be administered concurrently with a longer-acting insulin. **2** Insulin glargine (Lantus) is a long-acting insulin, which is not indicated in an emergency. **3** NPH insulin (Novolin N) is intermediate-acting insulin; it is not indicated for use in an emergency.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

376. **Answer: 4 tablets.** First convert 2 g to its equivalent in mg by multiplying by 1000 (move the decimal 3 places to the right). Use the “Desired over Have” formula of ratio and proportion to solve this problem.

$$\frac{\text{Desire}}{\text{Have}} \frac{2000 \text{ mg}}{500 \text{ mg}} = \frac{x \text{ tablets}}{1 \text{ tablet}}$$

$$500 x = 2000$$

$$x = 2000 \div 500$$

$$x = 4 \text{ tablets}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

377. **3** Kussmaul respirations occur in diabetic coma as the body attempts to correct a low pH caused by accumulation of ketones (ketoacidosis); HHNS affects people with type 2 diabetes who still have some insulin production; the insulin prevents the breakdown of fats into ketones.

1 Fluid loss is common to both because an increased blood glucose level ultimately leads to polyuria. **2** Glycosuria is common to both conditions. **4** Hyperglycemia is common to both conditions.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

378. **1** The ketones produced excessively in diabetes are a by-product of the breakdown of body fats and proteins for energy; this occurs when insulin is not secreted or is unable to be utilized to transport glucose across the cell membrane into the cells. The major ketone, acetoacetic acid, is an

alpha-ketoacid that lowers the blood pH, resulting in acidosis.

2 Glucose does not change the pH. **3** Lactic acid is produced as a result of muscle contraction; it is not unique to diabetes. **4** Glutamic acid is a product of protein metabolism.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

379. 2 The fingertip is preferred for glucose monitoring if hypoglycemia, not hyperglycemia, is suspected.

1 This will increase blood flow, which helps to minimize the difference between forearm and fingertip results, although it does not eliminate them. **3** In a study in which rapidly fluctuating glucose levels were initiated, glucose levels at the forearm were significantly lower than samples from the fingertips; the fingertip should be used when testing before, during, and after exercising; before driving; after eating; and during illness; the fingertip most closely reflects a current glucose level. **4** Not all glucose monitors on the market can be used for AST.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Diabetes Mellitus, Data Base

380. 1 The forearm glucose monitor is calibrated to be consistent with results obtained from a fingerstick.

2 Individuals of all ages can use these glucose monitors. **3** A different scale is not used for each monitor; accompanying literature will indicate if the monitor reading reflects venous blood values even though capillary blood is used. **4** There is no difference in the time required to complete the test.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

381. 4 The urinary catheter and drainage bag should always remain a closed sterile system; urine should be drawn only from the catheter port, not the collection bag.

1, 3 The system should remain closed so that fewer microorganisms enter the urinary tract. **2** This will not yield a fresh specimen indicating present acetone levels.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Nursing Care

382. 2 The guidelines from the American Diabetes Association have lowered the level of a fasting plasma glucose (FPG) that indicates whether a client has prediabetes from 110 mg/dL to 100 mg/dL; an FPG of 100 to 125 mg/dL is considered prediabetes.

1 This FPG indicates that the client is hypoglycemic. **3, 4** An FPG of 126 mg/dL or higher indicates that the client has diabetes.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

383. Answer: 1, 4.

1 Irritability, a neuroglycopenic symptom, occurs when the glucose in the brain declines to a low level. **2** Because the blood glucose level is decreased, the renal threshold is not exceeded, and there is no glycosuria. **3** Hot, dry skin is consistent with dehydration, which is often associated with hyperglycemic states. **4** Heart palpitations, a neurogenic symptom, occur when the sympathetic nervous system responds to a rapid decline in blood glucose. **5** Fruity odor of the breath is associated with hyperglycemia; it is caused by the breakdown of fats as a result of inadequate

insulin supply.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 9, Related Pharmacology, Antidiabetic Agents

384. **1** In the absence of insulin, which facilitates the transport of glucose into cells, the body breaks down proteins and fats to supply energy; ketones, a by-product of fat metabolism, accumulate, causing metabolic acidosis (pH below 7.35).

2 The pH of food ingested has no effect on the development of acidosis. **3** The opposite is true. **4** Cholesterol level has no effect on the development of acidosis.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

385. Answer: 3, 4.

1 Too much insulin will precipitate insulin coma (hypoglycemia). **2** Exercise uses glucose for muscle contraction, decreasing the blood glucose level; this may precipitate insulin coma (hypoglycemia). **3** Emotional stress stimulates the sympathetic nervous system, which releases glucocorticoids, ultimately increasing the blood glucose level. **4** The stress of an infection increases metabolism and the production of glucocorticoids, resulting in an elevated blood glucose level. **5** Not eating enough calories in relation to the amount of insulin received may precipitate insulin coma (hypoglycemia).

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

386. Answer: 3, 5.

1 As the glucose level decreases in hypoglycemia, the sympathetic nervous system is activated, and epinephrine and norepinephrine are secreted, causing diaphoresis. **2** Retinopathy is a long-term complication of diabetes caused by microvascular changes in the retina; it is not a sign of ketoacidosis. **3** A fruity odor to the breath (acetone breath) occurs when the ketone level is elevated in ketoacidosis. **4** With ketoacidosis the serum bicarbonate level is decreased, not increased, in an effort to neutralize ketones when seeking acid-base balance. **5** Metabolic acidosis initiates respiratory compensation in the form of Kussmaul respirations to counteract the effects of ketone buildup, resulting in a decreased arterial carbon dioxide level.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

387. Answer: 1, 2, 3.

1 Dry skin is a sign of dehydration in response to polyuria associated with the osmotic effect of an elevated serum glucose level. **2** Abdominal pain is associated with diabetic ketoacidosis. **3** In the absence of insulin, glucose cannot enter the cell or be converted to glycogen, so it remains in the blood. Breakdown of fats as an energy source causes an accumulation of ketones, which results in acidosis. The lungs, in an attempt to compensate for lowered pH, will blow off CO₂ (Kussmaul respirations). **4** An absence of ketones in the urine indicates adequate production of glucose for energy. Insulin deficiency stimulates production of ketones as a by-product of fat oxidation for energy. **5** This indicates hypoglycemia, not ketoacidosis.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

388. **1** Acetylcysteine (Acetadote) is an antioxidant that scavenges oxygen free radicals, which are

released when contrast medium causes cell death to renal tubular tissue; it also induces slight vasodilation.

2 Contrast that is renal friendly does not exist. **3** Mannitol (Osmitol) is not necessary. Saline alone provides better protection of the kidneys from contrast-induced nephropathy. **4** Hydration with saline, not dextrose and water, affords some protection from kidney damage caused by contrast media; dextrose will increase the glucose level in an individual with diabetes and thus is contraindicated.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

389. **3** Glucose gel delivers a measured amount of simple sugars to provide glucose to the blood for rapid action.

1 Acidosis occurs when there is an increased serum glucose level; therefore, glucose gel is not indicated. **2** Diabetes mellitus involves a decreased insulin production. **4** Glucose gel is not indicated in idiosyncratic reactions to insulin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

390. **4** The bicarbonate-carbonic acid buffer system helps maintain the pH of body fluids; in metabolic acidosis there is a decrease in bicarbonate because of an increase of metabolic acids.

1 The pH is decreased. **2** The PO_2 is not decreased in diabetic acidosis. **3** The PCO_2 may be decreased by the body's attempt to eliminate CO_2 to compensate for a decreased pH.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Diabetes Mellitus, Data Base

391. **3** A simple sugar provides glucose to the blood for rapid action.

1 It does not inhibit glycogenesis. **2** It does not stimulate the release of insulin. **4** It does not stimulate the storage of glucose.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

392. **4** Insulin stimulates cellular uptake of glucose and also stimulates the sodium/potassium pump, leading to the influx of potassium into cells. The resulting hypokalemia is offset by parenteral administration of potassium.

1 Potassium is not lost from the body by profuse diaphoresis. **2** Potassium moves from the extracellular to the intracellular compartment rather than being excreted in the urine. **3** Anabolic reactions are stimulated by insulin and glucose administration; potassium is drawn into the intracellular compartment, necessitating a replenishment of extracellular potassium.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

393. Answer: 1, 2, 5.

1 Hypoglycemia triggers the sympathetic nervous system, which releases epinephrine, in turn causing vasoconstriction and pallor. **2** Tremors are a sympathetic nervous system response to hypoglycemia. **3** Because blood glucose concentration is decreased in hypoglycemia, the renal threshold is not exceeded and there is no glycosuria. **4** Acetonuria is associated with hyperglycemia; it is caused by the breakdown of fats as a result of inadequate insulin supply. **5** Diaphoresis results from the release of epinephrine by the sympathetic nervous system.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch

394. **1** Liquids containing simple carbohydrates are most readily absorbed and thus increase the blood glucose level quickly.

2 Although a solution of 50% dextrose may be given if the client is comatose, 5% dextrose does not supply sufficient carbohydrates. **3** This will not alter the current situation. **4** Complex carbohydrates and protein take longer to increase the blood glucose level, so they should be administered after a simple carbohydrate.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

395. **2** A combination of diet, exercise, and medication is necessary to control the disease; the interaction of these therapies is reflected by the serum glucose level.

1 Weight loss may occur with inadequate insulin. **3** Acquisition of knowledge does not guarantee its application. **4** Insulin alone is not enough to control the disease.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Diabetes Mellitus, Nursing Care

396. **3** A value of 258 mg/dL is above the expected range of 70 to 100 mg/dL; the nurse should administer the regular insulin (Novolin R) as prescribed.

1 This is unnecessary; a prescription for insulin exists and should be implemented. **2** This is insufficient to lower a glucose level this high. **4** This is contraindicated because it will increase the glucose level further; orange juice, a complex carbohydrate, and a protein should be given if the glucose level is too low.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Antidiabetic Agents

397. **4** A slower, longer period of time to break in new, stiff shoes will help prevent blisters and skin breakdown.

1 The toenails should be cut by a podiatrist; they usually are cut after a foot bath when the nails are softer. **2** This will cause maceration of the skin and should be avoided. **3** This is too long a period of time; the client should examine the feet daily for signs of trauma.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Diabetes Mellitus, Nursing Care

398. **2** Each client should be given an individually devised diet selecting commonly used foods from the American Diabetic Association diet; family members should be included in the diet teaching.

1 Rigid diets are difficult to follow; appropriate substitutions are permitted. **3** Nutritional requirements are different for each individual, depending on many factors, such as activity level, degree of compliance, and physical status. **4** These foods can be eaten when accounted for in the dietary regimen.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Diabetes Mellitus, Data Base

399. Answer: 1, 3, 2, 4.

1 Air should be injected into the NPH insulin (Novolin N) vial first, which allows withdrawal of the NPH insulin at a later step in the procedure without having to instill air into the vial from a syringe that contains regular insulin (Novolin R). **3** Instilling air into the regular insulin vial increases the pressure in the vial, facilitating removal of the required dose. **2** Removing the desired dose of

insulin while the needle is still in the vial reduces the risk of contamination by repeated punctures, and it maintains the sharpness of the needle. Having the syringe contain regular insulin first prevents the need to withdraw the regular insulin into a syringe that contains NPH insulin and inadvertently contaminating the regular insulin vial with the longer-acting NPH insulin; contaminating regular insulin with NPH insulin will reduce the speed at which the regular insulin functions, which in turn will delay treatment of a hyperglycemic event. **4** Finally, the required dose of NPH insulin can be removed from the NPH insulin vial.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Antidiabetic Agents

400. **1** Insulin lispro (Humalog) has an onset of 0.25 hours, a peak action of 0.5 to 1.5 hours, and a duration of 3 to 4 hours.

2 Insulin glargine (Lantus) has an onset of 1 to $1\frac{1}{2}$ hours, no peak action, and a duration of 20 to 24 hours. **3** NPH insulin (Novolin N) has an onset of 1.5 hours, a peak action of 4 to 12 hours, and a duration of 18 to 24 hours. **4** Regular insulin (Novolin R) has an onset of 0.5 hours, a peak action of 1 to 5 hours, and a duration of 6 to 10 hours.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Nursing Process: Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Antidiabetic Agents

401. **1** An understanding of the diet is imperative for adherence. A balance of carbohydrates, proteins, and fats usually apportioned over three main meals and two between-meal snacks needs to be tailored to the client's specific needs, with consideration of exercise and pharmacologic therapy.

2 A total dietary regimen proportioning carbohydrates, proteins, and fats must be followed, not just sugar restriction; salt is not restricted. **3** This is true; however, digestion is not the basis for the client's problems. **4** Total caloric intake, rather than the size of meals, is the major factor in weight gain.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

402. **3** The protein in milk and cheese may be slowly converted to glucose (gluconeogenesis), providing the body with some glucose during sleep while the NPH insulin (Novolin N) is still acting.

1 The purpose of an evening snack is to cover for insulin activity during sleep. **2** This is not the purpose of an evening snack for a person taking insulin. **4** The foods chosen are rich in protein and will be utilized slowly.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

403. **3** The expected range of glycosylated hemoglobin (HbA_{1c}) is 4.4% to 6.4%. A value of 6% is within the expected range. Glycosylated hemoglobin measures the average blood glucose level for the 90- to 120-day period before the blood sample is collected; thus, it is a reliable way to measure adherence to a therapy plan of insulin, diet, and exercise.

1 A glycosylated hemoglobin measurement does not measure rebound hyperglycemia (Somogyi effect). **2** The HbA_{1c} fraction of hemoglobin is measured, and its value is not affected by short-term infractions of diet or the type of insulin the client takes. **4** This client does not require further teaching because the laboratory result is within the expected range, indicating adherence to a therapy plan of insulin, diet, and exercise.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Data Base

404. **1** The Somogyi effect is a response to hypoglycemia induced by too much insulin; the body responds to the hypoglycemia by counterregulatory hormones stimulating lipolysis, gluconeogenesis, and glycogenolysis, resulting in rebound hyperglycemia.

2 The Dawn phenomenon is hyperglycemia that is present on awakening in the morning due to the release of counterregulatory hormones in the predawn hours; it is thought that growth hormone and/or cortisol are related to this phenomenon. **3** Diabetic ketoacidosis (diabetic coma) is a profound deficiency of insulin and is characterized by hyperglycemia, ketosis, acidosis, and dehydration. **4** Hyperosmolar nonketotic syndrome occurs in clients with type 2 diabetes. It is a condition in which the client produces enough insulin to prevent diabetic ketoacidosis but not enough to prevent severe hyperglycemia, osmotic diuresis, and extracellular fluid depletion.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Diabetes Mellitus, Data Base

405. Answer: 1, 2, 3.

1 Clients with diabetes often have peripheral neuropathies and are unaware of discomfort or pain in the feet; the feet should be examined every night for signs of trauma. **2** Well-fitting shoes prevent pressure and rubbing that can cause tissue damage and the development of ulcers. **3** Daily exercise increases the uptake of glucose by the muscles and improves insulin utilization. **4** This may cause a pasty residue between the toes that may macerate the skin and promote bacterial and fungal growth. **5** Generally this is unnecessary. **6** Clients with diabetes often have peripheral neuropathy and are unable to accurately evaluate the temperature of bathwater, which can result in burns if the water is too hot.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Nursing Care

406. **1** During treatment for acidosis, hypoglycemia may develop; careful observation for this complication should be made by the nurse.

2 Withholding all glucose may cause insulin coma. **3** Whole milk and fruit juices are high in carbohydrates, which are contraindicated immediately following ketoacidosis. **4** The regulation of insulin depends on the prescription for coverage; the prescription usually depends on the client's blood glucose level rather than ketones in the urine.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Antidiabetic Agents

407. **1** Because the client has type 1 diabetes, it is essential that the blood glucose level be determined before meals to evaluate the level of control of diabetes and the possible need for insulin coverage.

2 To prevent flexion contractures of the hip, the client should not sit for a prolonged time. This is not the priority. **3** Raising the head of the bed flexes the hips, which may result in hip flexion contractures. This is not the priority. **4** This may result in a hip flexion contracture and should be avoided.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Nursing Care

408. **3** The abdomen is the preferred site for an insulin injection because it is easily accessible and absorption is more even and rapid than when it is injected in the extremities.

1, 2, 4 This is not the preferred site for the administration of insulin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 9, Diabetes Mellitus, Nursing Care

409. **1** Myxedema is the severest form of hypothyroidism. Decreased thyroid gland activity means reduced production of thyroid hormones.

2 Acromegaly results from excess growth hormone in adults once the epiphyses are closed. **3** Graves disease results from an excess, not a deficiency, of thyroid hormones. **4** Cushing disease results from excess glucocorticoids.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Hypothyroidism, Data Base

410. **2** Propylthiouracil (PTU) is a thyroid hormone antagonist that inhibits thyroid hormone synthesis by decreasing the use of iodine in the manufacture of these hormones.

1 PTU does not affect the vascularity of the thyroid gland. **3** Iodine-containing agents are given for severe hyperthyroidism and before a thyroidectomy. **4** PTU does not affect the amount of already formed thyroid hormones.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Nursing Process: Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Thyroid Inhibitors

411. Answer: 3, 4.

1 Lethargy, rather than irritability, is expected. **2** Decreased metabolism requires less oxygen, so the pulse rate is generally slower. **3** A decrease in metabolism will result in a gain in weight. **4** Decreased production of thyroid hormones lowers metabolism, which leads to decreased heat production and cold intolerance. **5** The skin is dry and coarse, not moist.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Hypothyroidism, Data Base

412. Answer: 1, 3.

1 Excessive thyroid hormones increase the metabolic rate, causing an increase in intestinal peristalsis. **2** Listlessness occurs with hypothyroidism because of a decreased metabolic rate. **3** Excessive thyroid hormones increase the metabolic rate, causing weight loss. **4** A slow pulse rate accompanies hypothyroidism, not hyperthyroidism, because of a decreased metabolic rate. **5** Appetite increases (polyphagia) with hyperthyroidism in an effort to meet metabolic needs.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Hyperthyroidism, Data Base

413. **3** An individual treated for a thyroid problem by intake of radioactive iodine (^{131}I) becomes mildly radioactive, particularly in the region of the thyroid gland, which preferentially absorbs the iodine. Such clients should be treated with routine safety precautions for 48 hours (e.g., avoid prolonged contact or near-contact with others; flush toilet twice after using, since radioactive iodine is excreted via the urine; and thoroughly wash hands after toileting).

1, 4 Because radioactive iodine is internalized, the client becomes the source of radioactivity. **2** The amount of radioactive iodine used is not enough to cause high radioactivity.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

414. **3** Potassium iodide (SSKI) adds iodine to the body fluids, exerting negative feedback on the thyroid tissue and decreasing its metabolism and vascularity.

1 Vasopressin (Pitressin) is a pituitary hormone. **2** Propylthiouracil (PTU) interferes with production of thyroid hormone but causes increased vascularity and size of the thyroid. **4** Levothyroxine

(Synthroid) is a thyroid hormone that may be administered after a thyroidectomy if the client develops hypothyroidism.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Thyroid Inhibitors

415. **1** If the laryngeal nerves are injured bilaterally during surgery, the vocal cords will tighten, interfering with speech. If one cord is affected, hoarseness develops. This can be evaluated simply by having the client speak every hour.

2, 3, 4 This ability is not influenced by laryngeal nerve damage.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

416. **2** A decreased TSH (thyroid stimulating hormone) assay together with an elevated T₃ (triiodothyronine) level may indicate hyperthyroidism.

1 X-ray results will not indicate thyroid disease, and elevation of T₄ (thyroxine) level might indicate hyperthyroidism. However, this may be a false reading because of the presence of thyroid-binding globulin (TBG) and is inadequate for diagnosis when used alone. **3** PO₂ is not specific to thyroid disease, and the thyroglobulin level is most useful to monitor for recurrence of thyroid carcinoma or response to therapy. **4** The results with the sequential multichannel autoanalyzer (SMA) are not specific to thyroid disease; the protein-bound iodine test is not definitive because it is influenced by the intake of exogenous iodine.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9,

Hyperthyroidism, Data Base

417. **1** Because of the individual's increased metabolic rate, a high-calorie diet is needed to meet the energy demands of the body and prevent weight loss.

2 Sodium is not restricted because clients with hyperthyroidism perspire heavily and lose sodium. **3** GI motility is increased and does not require the additional stimulus of increased roughage. **4** Modification of dietary consistency is unnecessary.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Processes:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9,

Hyperthyroidism, Nursing Care

418. **4** The first and most important observation should be for respiratory obstruction. If this occurs, treatment must be instituted immediately.

1 This is a later concern; urinary retention will not occur in the immediate postoperative period. **2** This may result from the anesthesia; however, it is not life-threatening and usually passes. **3** The blood pressure is not significantly affected by this type of surgery; however, surgery itself can influence blood pressure. If the blood pressure significantly increases, other symptoms of thyroid crisis (storm) will be present.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

419. **1** Parathyroid removal eliminates the body's source of parathyroid hormone (parathormone), which increases the blood calcium level. The resulting low body fluid calcium affects muscles, including the diaphragm, resulting in dyspnea, asphyxia, and death.

2 Loss of the thyroid gland will upset thyroid hormone balance and may cause myxedema. **3** The parathyroids are not involved in regulating plasma volume; the pituitary and adrenal glands are

responsible. **4** The parathyroids do not regulate the adrenal glands.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

420. **1** These signs may indicate calcium depletion as a result of accidental removal of parathyroid glands during thyroidectomy.

2 Symptoms associated with hypomagnesemia include tremor, neuromuscular irritability, and confusion. **3** Symptoms associated with metabolic acidosis include deep, rapid breathing, weakness, and disorientation. **4** Symptoms associated with hypokalemia include muscle weakness and dysrhythmias.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

421. **3** Thyroid surgery sometimes results in accidental removal of the parathyroid glands. A resultant hypocalcemia may lead to contraction of the glottis, causing airway obstruction; edema around the operative site also may cause an airway obstruction.

1 A patent airway takes priority. **2** Speaking is important to determine the status of the laryngeal nerve. **4** The semi-Fowler position is indicated to maximize respiratory excursion.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

422. **3** Soreness is to be expected. A progression to a soft diet will provide nutrients needed for healing and energy and will stimulate the return of bowel activity. Analgesics as prescribed will reduce soreness during meals.

1 This is not within the legal role of the nurse. **2** Soreness is to be expected; this is not an emergency necessitating medical action. **4** The soreness is not because of drying; when the client is at home, humidified air might help reduce the soreness, but it will not help the client eat the soft diet.

Gargling involves hyperextension of the neck which may put tension on the suture line.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

423. Answer: 1, 2.

1 Dry skin results from a decrease in the metabolic rate, which is associated with hypothyroidism. **2** Dry, brittle hair results from a decrease in the metabolic rate, which is associated with hypothyroidism. **3** Weight loss is associated with hyperthyroidism because of an increase in body metabolism. **4** Resting tremors are not associated with hypothyroidism; they are associated with Parkinson disease. **5** Heat intolerance is associated with hyperthyroidism, not hypothyroidism, because of the increase in body metabolism.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 9, Hypothyroidism, Data Base

424. Answer: 5 tablets. First convert 0.125 mg to its equivalent in mcg by multiplying by 1000 (move the decimal 3 places to the right). Use the “Desire over Have” formula of ratio and proportion to solve this problem.

$$\frac{\text{Desire}}{\text{Have}} = \frac{125 \text{ mcg}}{25 \text{ mcg}} = \frac{x \text{ tablets}}{1 \text{ tablet}}$$

$$25x = 125$$

$$x = 125 \div 25$$

$$x = 5 \text{ tablets}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

425. Answer: 1, 3, 4.

1 Tinted glasses decrease light impacting on the eyes and protect eyes that are photosensitive. **2** Cool, moist compresses are used to relieve irritation; warm compresses cause vasodilation, which may aggravate tissue congestion. **3** Elevating the head of the bed 45 degrees will promote a decrease in periorbital fluid. **4** Taping the eyelids shut at night if they do not close reduces the risk of corneal dryness, which can lead to infection or injury. **5** Artificial tears are used to moisten the eyes, not a petroleum-based jelly.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Hyperthyroidism, Nursing Care

426. **3** Hyperparathyroidism causes calcium release from the bones, leaving them porous, weak, and painful.

1 Tetany is the result of low calcium levels; in this condition the serum calcium level is increased. **2** Seizures are caused by increased neural activity, a condition not related to this disease. **4** Graves disease is the result of increased thyroid, not parathyroid, activity.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Hyperparathyroidism, Data Base

427. **1** Fluids help prevent the formation of renal calculi associated with high levels of serum calcium. **2** Additional calcium intake may increase the already high levels of serum calcium. **3** Seizures are associated with low, not high, levels of serum calcium. **4** Bed rest is contraindicated because it accelerates bone destruction.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Hyperparathyroidism, Nursing Care

428. Answer: 4, 5.

1 Muscle tremors occur with hypocalcemia, not hypercalcemia. **2** Abdominal cramps occur with hypocalcemia, not hypercalcemia. **3** Increased intestinal peristalsis occurs with hypocalcemia, not hypercalcemia. **4** When the serum calcium level is increased, initially it causes tachycardia; as it progresses, it depresses electrical conduction in the heart, causing bradycardia. **5** Hypercalcemia causes decreased peristalsis identified by constipation and hypoactive or absent bowel sounds.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 9, Hyperparathyroidism, Data Base

429. Answer: 1, 2, 3.

1 A pounding headache is secondary to the severe hypertension associated with excessive amounts of

catecholamines. **2** Palpitations are associated with stimulation of the sympathetic nervous system due to catecholamines (epinephrine and norepinephrine). **3** Diaphoresis is associated with stimulation of the sympathetic nervous system due to excessive catecholamines. **4** Tachycardia, not bradycardia, is associated with stimulation of the sympathetic nervous system due to catecholamines. **5** Hypertension, not hypotension, is the principle clinical manifestation associated with pheochromocytoma because of stimulation of the sympathetic nervous system.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** [Ch 9](#), Pheochromocytoma, Data Base

430. **4** Having the client sit on the side of the bed for several minutes allows time for the blood pressure to adjust to the vertical position; this avoids dizziness and the potential for fainting or falling.

1 The nurse should stand in front of the client to provide support when transferring any client from the bed to a chair. **2** Once the client is safely standing, the client can walk to a chair in the room no matter where it is positioned. **3** Although sturdy shoes with rubber soles are ideal when transferring a client from the bed to a chair, it is not the priority.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 9](#), Pheochromocytoma, Nursing Care

431. Answer: 4, 5.

1 Chlorpromazine (Thorazine) causes an elevation in the vanillylmandelic acid (VMA) level and should be avoided during the test. Therefore, the health care provider should be consulted. **2** The client should rest and avoid physical activity during the test because activity increases VMA levels. **3** Salicylates increase VMA levels and should be avoided during the test. **4** All urine should be saved and refrigerated during the 24 hours of the test. Toilet paper or feces should not contaminate the specimen. **5** These nutrients, in addition to mints, bananas, vanilla, and tea increase the VMA level and should be avoided 3 days before and during the test.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 9](#),

Pheochromocytoma, Nursing Care

432. **1** The first voiding is discarded because that urine was in the bladder before the test began and should not be included.

2 The last voiding should be placed in the specimen container because the urine was produced during the 24-hour time frame of the test. **3** This is not necessary; voided specimens are acceptable. **4** This is not necessary; this is done for clients with renal calculi.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 9](#), Pheochromocytoma, Nursing Care

Integumentary System

433. **3** The temperature range for tepid applications is approximately body temperature.

1, 2 This temperature is too cool for a tepid bath. **4** This temperature is too hot for a tepid bath.

Client Need: Safety and Infection Control; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Burns, Data Base

434. **4** Conduction is the conveyance of energy such as heat, cold, or sound by direct contact.

1 Direct contact is not necessary to convey heat by radiation. **2** Insulation refers to retention of heat, not its transfer. **3** Convection is the transfer of heat by air circulation (e.g., by fans or open windows).

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Review of Physical Principles: Heat

435. **3** Oxygen perfusion is impaired during prolonged edema, leading to tissue ischemia.

1, 2, 4 This is not a complication resulting from long-term edema.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Pressure Ulcers, Data Base

436. Answer: 1, 2, 3.

1 Psoriasis is characterized by dry, scaly lesions that occur most frequently on the elbows, knees, scalp, and torso. **2** Pruritus is generally mild. **3** Sharply defined reddened papules or plaques covered by scales occur due to dermal inflammation; the inflammation occurs because of an abnormal growth of epidermal cells related to an autoimmune reaction. **4** Petechiae are not characteristic of psoriasis. **5** Macules are erythematous flat spots on the skin, as in measles.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Skin Lesions, Primary Skin Lesions, Secondary Skin Lesions

437. **2** Steroids are applied locally, and the lesions usually are covered with plastic wrap at night to reverse the inflammatory process.

1 Solar rays may be used for treatment, but other forms of ultraviolet light are preferred. **3** Potassium permanganate is an antiseptic astringent used on infected, draining, or vesicular lesions. **4** The plaques are not necrotic and therefore do not require débridement.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Related Pharmacology, Antiinflammatory Agents

438. **1** Scabies is caused by the itch mite (*Sarcoptes scabiei*), the female of which burrows under the skin to deposit eggs. It is intensely pruritic and is transmitted by direct contact or in a limited way by soiled sheets or undergarments.

2 It is caused by the itch mite, a parasite. **3** Scabies is an acute infestation. **4** It is a disease unrelated to allergies.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Related Pharmacology, Pediculicides/Scabicides

439. **3** Pemphigus is primarily a serious disease characterized by blisters filled with fluid. When they are less than 1 cm in diameter, they are called vesicles. When they are larger than 1 cm, they are called bullae.

1, 2, 4 Pemphigus is a disease of the skin. It does not cause this response.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 10, Skin Lesions, Primary Skin Lesions

440. Answer: 1, 3.

1 The connective tissue degeneration of systemic lupus erythematosus (SLE) leads to involvement of the basal cell layer, producing a butterfly rash over the bridge of the nose and in the malar region. **2** This occurs in scleroderma; in an advanced stage the client has the appearance of a living mummy. **3** Polyarthrititis occurs in most clients, with joint changes similar to those seen in rheumatoid arthritis. **4** This occurs in muscular dystrophy; it is characterized by muscle wasting and weakness. **5** This occurs in polyarteritis nodosa, a collagen disease affecting the arteries and nervous system.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 10, Systemic Lupus Erythematosus, Data Base

441. Answer: 1, 2, 3.

1 Vitamin C should be encouraged because it is essential for the biosynthesis of collagen. **2** A fever is the major sign of an exacerbation. **3** A balance of rest and activity conserves energy and limits fatigue. Malaise, fatigue, and joint pain are associated with SLE. **4** Mild, not strong, soap and other skin products should be used on the skin. The skin should be washed, rinsed, and dried well and lotion applied. **5** This is not necessary. Exposure to ultraviolet light may damage the skin and aggravate the photosensitivity associated with SLE.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 10, Systemic Lupus Erythematosus, Nursing Care

442. **1** Scleroderma is an immunologic disorder characterized by inflammatory, fibrotic, and degenerative changes.

2, 3, 4 This is not involved in the development of scleroderma.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Progressive Systemic Sclerosis (Scleroderma), Data Base

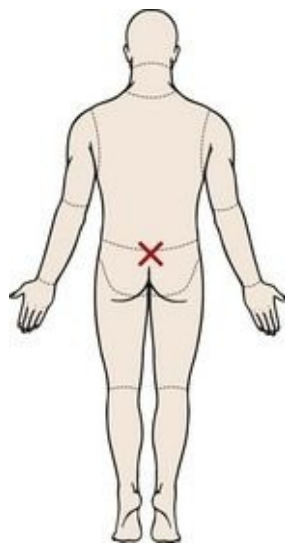
443. Answer: 3, 4, 5.

1 Joint pain, caused by inflammation, is a symptom associated with scleroderma, not CREST syndrome. **2** Mask-like facies is a sign associated with scleroderma, not CREST syndrome; it is caused by fibrotic tissue changes. **3** Esophageal dysmotility is associated with CREST syndrome; it results in dysphagia and esophageal reflux. CREST: Calcium deposits in organs; Raynaud phenomenon; Esophageal dysfunction; Sclerodactyly (scleroderma of the digits); Telangiectasia (vascular lesions formed by dilation of a group of small blood vessels). **4** Spider-like hemangiomas (telangiectasia) is associated with CREST syndrome. **5** Episodic blanching of the fingers (Raynaud phenomenon), caused by vasospasms of the arterioles, is a sign associated with CREST syndrome.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 10, Progressive Systemic Sclerosis (Scleroderma), Data Base

444.



The sacrum bears the most pressure because it is the focal point of the weight of the body when in the low-Fowler position; also, shearing forces may cause local tissue trauma. Although other areas of the body are vulnerable, they do not bear as much body weight as the sacrum when the client is in the low-Fowler position.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Pressure Ulcers, Data Base

445. **2** This is a stage II pressure ulcer, a partial-thickness ulceration of epidermis and/or dermis; it presents as an abrasion, blister, or shallow crater; has a red/pink wound bed; there is no tissue sloughing; it may have an intact/open serum filled blister.

1 A stage I ulcer has tissue injury with purple or maroon localized area of intact skin or blood-filled blister; the area may be firm, boggy, warmer, cooler, or painful in comparison with nearby tissue. **3** A stage III pressure ulcer has full-thickness ulceration involving the epidermis, dermis, and subcutaneous tissue; sloughing may be present; it presents as a deep crater with or without undermining; bone, tendon, or muscle is not exposed. **4** A stage IV pressure ulcer involves full-thickness skin loss and damage to muscle, bone, and/or tendon; sloughing or eschar may be present on parts of the wound bed; it often includes undermining and tunneling.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Pressure Ulcers, Data Base

446. **Answer: 2 tablets. First convert 0.22 g to its equivalent in mg by multiplying by 1000 (move the decimal 3 places to the right). Use the “Desire over Have” formula of ratio and proportion to solve this problem.**

$$\frac{\text{Desire } 220 \text{ mg}}{\text{Have } 110 \text{ mg}} = \frac{x \text{ tablets}}{1 \text{ tablet}}$$

$$110 x = 220$$

$$x = 220 \div 110$$

$$x = 2 \text{ tablets}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

447. **4** Basal cell carcinoma, the most common type of skin cancer, is most closely linked to solar ultraviolet radiation.

1 Diet is not a risk factor. **2** Although skin type is a genetically determined risk factor, it cannot be altered and it is influenced by solar ultraviolet radiation. **3** Smoking is not a risk factor.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Cancer of the Skin, Data Base

448. **3** Lymphadenopathy occurs in clients with malignancies that have metastasized.

1 The skin generally is dry and itchy. **2** Nikolsky sign (external layer of the skin becomes detached from the basal layer when rubbed by slight friction) occurs in clients with pemphigus, not melanoma. **4** Erythema of the palms is not a symptom of melanoma.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Cancer of the Skin, Data Base

449. **2** Malignant melanoma of the eye is an intraocular tumor that metastasizes rapidly; therefore, enucleation (removal of the eye) is the treatment of choice.

1, 3, 4 This is only palliative at best.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Cancer of the Skin, Data Base

450. **4** A heterograft (xenograft) involves the grafting of tissues from a different species.

1 An isograft is when the donor and recipient are genetically identical (identical twins). **2** An allograft (homograft) is from a nonidentical donor of the same species. **3** A homograft (allograft) is skin taken from a nonidentical donor of the same species.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Data Base

451. **Answer:** 22.5%. The front of the head is $4\frac{1}{2}\%$, and the anterior torso is 18%, for a total of $22\frac{1}{2}\%$.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Data Base

452. **3** An increased hematocrit level indicates hemoconcentration secondary to fluid loss.

1 The blood urea nitrogen level may be used to indicate dehydration from burns, but interpretation can be complicated by other conditions accompanying burns that also cause an increase in the BUN. **2** The pH level reflects acid-base balance. **4** An increase in the sedimentation rate indicates the presence of an inflammatory process, not fluid loss.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Data Base

453. **4** There is greater extravasation of fluid into the tissues as the amount of tissue involved increases. Thus, the relationship of fluid loss to body surface area is directly proportional. Several

formulas (e.g., Evans, Baxter, Brooke Army Hospital) are used to estimate fluid loss based on percentage of body surface area burned.

1, 2, 3 This is incorrect; the relationship is proportional.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Data Base

454. **1** The severe pain experienced by the client during débridement of burns places an emotional strain on the relationship.

2 Maintaining sterility is not a problem if the nurse follows principles of surgical asepsis. **3** According to Maslow, basic needs of survival and safety take precedence over higher-level needs. Pain becomes all-encompassing, and the nurse must help the client cope with it. **4** This answer is not complete. The frequency with which the nurse must perform tasks is not the problem; rather, it is the pain associated with débridement and the nurse's inability to eliminate the pain.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Burns, Nursing Care

455. **1** Acceptance and a positive attitude by those in contact with the client will support the development of a positive body image by the client.

2 Eventually the client may meet with other clients with burns, but this is not the priority. **3** Removing mirrors from the environment is unrealistic. **4** Avoidance of comments about the client's appearance is an unrealistic expectation.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Burns, Nursing Care

456. **4** Partial-thickness burns are very painful; this outcome is specific, realistic, and measurable.

1 This is the priority if the burns involved the head or anterior thorax. **2** Although important, this is not the primary goal at this time. **3** Ensuring urine output is generally more of a concern with burns that involve more than 5% of the body's surface area.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Burns, Nursing Care

457. **3** In deep partial-thickness burns, destruction of the epidermis and upper layers of the dermis and injury to deeper portions of the dermis occur.

1 Eschar, a dry, leathery covering of denatured protein, occurs with full-thickness burns. **2** In full-thickness burns, total destruction of the epidermis, dermis, and some underlying tissue occurs. **4** In superficial partial-thickness burns, the epidermis is destroyed or injured, and a portion of the dermis may be injured.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Data Base

458. **2** The leukocyte count is not affected in the first few hours.

1 Pain is present in partial-thickness burns because the sensory nerves are not damaged. **3** Inhalation of hot air can cause laryngeal edema and will be a concern. **4** Replacement of fluids and electrolytes is essential in all burned clients.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Nursing Care

459. **2** Potassium replacement generally is not indicated in the initial management of burns because hyperkalemia results from the liberation of potassium ions from the injured cells.

1, 3 This is given to draw fluid from edematous tissue back into the bloodstream. **4** This is given to replace fluid and electrolytes.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation;
Reference: Ch 10, Burns, Data Base

460. **3** The pulse rate is one indicator of optimum vascular fluid volume; the pulse rate decreases as intravascular volume normalizes.

1 Decreasing CVP readings indicate hypovolemia. **2** Urinary output of 15 to 20 mL/hr indicates inadequate kidney perfusion; if fluid replacement is adequate, the urinary output should be more than 30 mL/hr. **4** A hematocrit level increasing from 50% to 55% indicates hypovolemia and hemoconcentration.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 10, Burns, Nursing Care

461. **4** The circulating air bed disperses body weight over a larger surface, which reduces pressure against the capillary beds, allowing for tissue perfusion.

1 These beds are used for clients who are immobile; they do not increase mobility. **2, 3** This bed will have no effect on the development of this complication.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Burns, Nursing Care

462. **2** Medical asepsis and surgical asepsis are essential for prevention of infection with the exposure method.

1 Bathing is performed in a large tank tub. **3** Dressings are not used with the exposure method. **4** Clients are more comfortable with room temperatures of 85° F.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 10, Burns, Data Base

463. **3** Cerebral cells require high levels of oxygen. When the partial pressure of oxygen within the circulatory system falls, the client becomes restless and cognitive functions become impaired.

1 With kidney failure the client becomes progressively confused and lethargic because of the buildup of toxins in the body. **2** At this stage the client is hypovolemic, not hypervolemic. **4** With metabolic acidosis the client is lethargic.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Data Base

464. **1** Fluid remobilization during the acute phase of burn injury results in hypokalemia because of diuresis and the movement of potassium back into the intracellular compartment.

2 Hyperglycemia occurs during the acute phase because of lipolysis, gluconeogenesis, and glycogenolysis and a relative insulin insensitivity. **3** During the acute stage fluid shifts back into the intravascular compartment, resulting in an increased blood pressure. **4** During the acute stage fluid shifts back into the intravascular compartment, which increases the glomerular filtration rate. When the glomerular filtration rate increases, there is an increase in the urinary output. As the urinary output increases, the urine specific gravity decreases.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 10, Burns, Data Base

465. **Answer: 20 mL.** First convert 0.8 g to its equivalent in mg by multiplying by 1000 (move the decimal 3 places to the right). Use the “Desire over Have” formula of ratio and proportion to solve this problem.

$$\frac{\text{Desire } 800 \text{ mg}}{\text{Have } 200 \text{ mg}} = \frac{x \text{ mL}}{5 \text{ mL}}$$

$$200 x = 800 \times 5$$

$$200 x = 4000$$

$$x = 4000 \div 200$$

$$x = 20 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 2](#), Medication Administration, Nursing Responsibilities Related to Medication Administration

466. **2** Necrotizing fasciitis destroys subcutaneous tissue and fascia and predisposes the client to infection and sepsis.

1, 3 Although this concern is important, it is not the primary concern at this time. **4** Necrotizing fasciitis is a problem of the integument, not the urinary, system.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 10](#), Cellulitis, Data Base

Neuromusculoskeletal System

467. Answer: 2, 4, 1, 3, 5.

2 Before transferring a client from the bed to a chair, the nurse needs to ensure that there is an order for “out of bed to a chair.” **4** Before explaining the transfer, the nurse must assess the stressors that may impact on the client’s ability to participate in the transfer. **1** Before the transfer the client should be informed about what is to be done and why. **3** Locked wheels ensure that the bed will not move during the transfer; this ensures the safety of the client and nurse. **5** Before transferring the client, the nurse should position the client in functional alignment to reduce any undue stress on muscles, joints, tendons, or ligaments during the transfer procedure.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Degenerative Disk Disease, Nursing Care

468. **4** Parasympathetic nerves increase peristalsis and GI secretion.

1 The parasympathetic nervous system increases intestinal motility, which may cause diarrhea. **2** Goose bumps (piloerection), caused by contraction of the muscoli arrectores pilorum, are under sympathetic control; vasoconstriction is also under sympathetic control. **3** Epinephrine is a sympathomimetic.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Autonomic Nervous System

469. **1** Cranial nerve I is the olfactory nerve that concerns the sense of smell; the ability to sense odors usually is affected when an intracranial lesion is present.

2 Cranial nerve II is the optic nerve and is concerned with sight. **3** Cranial nerve X is the vagus nerve and is concerned with the gag reflex, supplying parasympathetic fibers to body organs and transmitting sensory impulses from the viscera. **4** Cranial nerve VII is the facial nerve and is concerned with facial expressions, taste, and the salivary glands.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Cranial Nerves

470. **2** Hemiplegia is paralysis of one side of the body.

1 Paresis is a weakness or partial paralysis. **3** Paraplegia is the paralysis of both lower extremities and the lower trunk. **4** This is quadriparesis.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base

471. **1** The ache in muscles that have been vigorously worked without adequate oxygen supply is caused in part by the buildup of lactic acid. During rest, the lactic acid is oxidized completely to carbon dioxide and water, providing ATP for further muscular contraction.

2 Butyric acid is not a product of muscle contraction; it is a fatty acid occurring in feces, urine, and perspiration. **3** Acetoacetic acid is not a product of muscle contraction; it is a ketone body resulting from incomplete oxidation of fatty acids. It is also produced by the metabolism of lipids and pyruvates. **4** Hydrochloric acid is not a product of muscle contraction; it is present in the stomach to facilitate the digestive process.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Structures and Functions of the Muscular System, Skeletal Muscles

472. **2** Bearing weight on the axillae can cause crutch palsy (muscle weakness or paralysis of the arm and hand caused by pressure on the brachial plexus); weight should be supported by the hands on the cross bars of the crutches.

1, 3, 4 These are correct techniques when using crutches.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Mobility: Assistive Devices, Nursing Care, Crutch Walking

473. **1** The Romberg test evaluates proprioception. A client is asked to close the eyes when standing. If balance is lost after the client's eyes are closed, a positive Romberg test suggests that there is a sensory cause.

2 This is a positive Babinski reflex that is indicative of corticospinal pathology in an adult. **3** This is accommodation, a normal finding. **4** This is the oculoccephalic or oculovestibular reflex, a normal finding.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base

474. Answer: 1, 2, 4.

1 The medulla, part of the brainstem just above the foramen magnum, is concerned with vital functions such as respirations. **2** The medulla is concerned with vital functions such as the heart rate. **3** This is not controlled by the CNS. **4** The medulla is concerned with vital functions such as blood pressure by controlling blood vessel diameter. **5** This is controlled by the hypothalamus.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Brain

475. **1** The third cranial nerve (oculomotor) contains autonomic fibers that innervate the smooth muscle responsible for constriction of pupils.

2 The trochlear nerve is concerned with eye movements; lesions result in diplopia, strabismus, and head tilt to the affected side. **3** The optic nerve is concerned with vision; lesions result in visual field defects and loss of visual acuity. **4** The facial nerve is concerned with facial expressions; lesions result in loss of taste and paralysis of the facial muscles and the eyelids (lids remain open).

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Related Procedures, Neurologic Assessment

476. **1** The facial nerve (seventh cranial) has motor and sensory functions. The motor function is concerned with facial movement, including smiling and pursing the lips. Nonconduction of the facial nerve will cause drooping on the side of the problem.

2 Nonconduction of the facial nerve on the right side will cause that side of the face to droop. **3** Nonconduction of the left abducent nerve will prevent abduction of the left eye. **4** Nonconduction of the trigeminal nerve will cause problems in mastication.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Related Procedures, Neurologic Assessment

477. **2** Sensory impulses from temperature, touch, and pain travel via the spinothalamic pathway to the thalamus and then to the postcentral gyrus of the parietal lobe, the somatosensory area.

1 This is the area of abstract thinking and muscular movements. **3** This is the area where nerve impulses are translated into sight. **4** This is the area where nerve impulses are translated into sound.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Brain

478. **4** A Babinski response (dorsiflexion of the first toe and fanning of the other toes) is a reaction to

stroking the lateral sole of the foot with a blunt object; it is indicative of damage to the corticospinal tract when seen in adults.

1 Hyperreflexia is associated with upper motor neuron damage. **2** Increased muscle tone (spasticity) is associated with upper motor neuron damage. **3** This is indicative of hypocalcemia.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Traumatic Brain Injuries, Data Base

479. **2** The sympathetic nervous system constricts the smooth muscle of blood vessels in the skin when a person is under stress.

1 The sympathetic system stimulates, rather than inhibits, secretion by the sweat glands. **3** This is not under sympathetic control; the parasympathetic system constricts the pupils. **4** The parasympathetic system (vagus nerve) slows the pulse, and the sympathetic system increases it.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Autonomic Nervous System

480. **4** The brachial plexus is a maze of nerves extending from the axilla to the neck in the shoulder area; trauma to the arm may injure this plexus.

1 The solar plexus, also known as the celiac plexus, is where the splanchnic nerves terminate; it is unrelated to the arms. **2** The celiac plexus (solar plexus) is where the splanchnic nerves terminate; it is unrelated to the arms. **3** The basilar plexus is a venous plexus over the basilar part of the occipital bone; it is unrelated to the arms.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Structures and Functions of the Nervous System, Spinal Nerves

481. **4** If there is no obstruction, pressure on the jugular vein causes increased intracranial pressure (Queckenstedt sign). This, in turn, causes an increase in spinal fluid pressure.

1 Homan sign is calf pain possibly elicited by dorsiflexion of the foot if thrombophlebitis is present. **2** Romberg sign is failure to maintain balance when the eyes are closed; it indicates cerebellar pathology. **3** Chvostek sign is twitching elicited by tapping the angle of the jaw; it occurs if hypocalcemia is present.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Related Procedures, Lumbar Puncture

482. **2** This is a sign of increasing intracranial pressure, which may follow a craniotomy.

1, 3 Signs of this will take time to develop; they will not be observable immediately after surgery. **4** The pulse pressure widens with increased intracranial pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Brain Tumors, Nursing Care

483. Answer: 2, 3.

1 Visual disturbances are not caused by a computed tomography (CT) scan with contrast material. **2** Contrast material precipitates common responses, such as flushing of the face, that indicate sensitivity to the foreign substance. Hypersensitivity reactions (e.g., palpitations, respiratory distress, headache) may occur in some people. **3** Contrast material precipitates common responses, such as a sensation of warmth, that indicate sensitivity to the foreign substance. **4** A salty, not lemony, taste may occur. **5** Petechiae do not result from a computed tomography (CT) scan with contrast material.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Related Procedures, Computed Tomography, Nursing Care

484. **3** An untoward response to the iodinated dye used as a contrast is anaphylaxis. Anaphylaxis is manifested by respiratory distress, hypotension, and shock; counteractive measures must be instituted.

1 Pelvic or total body warmth is an expected minor side effect. **2** A feeling of warmth or flushing is an expected minor side effect. **4** A salty taste is an expected minor side effect.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Related Procedures Computed Tomography, Nursing Care

485. **3** Therapy must be continued for life to prevent damage to the optic nerve from increased intraocular pressure.

1 These are used in the treatment of glaucoma; anticholinergics are contraindicated. **2** This is the treatment for cataracts. **4** There is an increase in intraocular pressure with glaucoma; the blood pressure may be unaffected.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Glaucoma, Nursing Care

486. **4** The contraction of these muscles permits the lens to return to its normal bulge and decreases focal length, promoting the ability to focus on near objects.

1 The ciliary muscles are intrinsic (within the eyeball); the third cranial nerve (oculomotor), an extrinsic nerve, controls some movements of the eyelid. **2** The rectus and oblique muscles of the eye are involved in convergence. **3** Color blindness is an inherited trait.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Sense Organs

487. **4** Glaucoma is a disease in which there is increased intraocular pressure resulting from narrowing of the aqueous outflow channel (canal of Schlemm). This can lead to blindness, caused by compression of the nutritive blood vessels supplying the rods and cones.

1 Pupil dilation increases intraocular pressure because it narrows the canal of Schlemm. **2** Intraocular pressure is not affected by activity of the eye. **3** Although secondary infections are not desirable, the priority is to maintain vision by controlling the pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Glaucoma, Data Base

488. **4** Open-angle glaucoma has an insidious onset, with increased intraocular pressure causing pressure on the retina and blood vessels in the eye. Peripheral vision is decreased as the visual field progressively diminishes.

1 This may occur with untreated acute angle-closure glaucoma. **2** Pain occurs in acute angle-closure, not open-angle, glaucoma. **3** Occlusions of the central retinal artery or retinal detachment will cause a sudden loss of vision.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Glaucoma, Data Base

489. **1** A cataract is a clouding of the crystalline lens or its capsule.

2, 3, 4 This is not the pathophysiology related to cataracts.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Cataract, Data Base

490. **3** Activities such as rigorous brushing of hair and teeth cause increased intraocular pressure and may lead to hemorrhage in the anterior chamber.

1 This is unnecessary; clients are usually permitted to drive before this time. **2** Coughing and deep breathing can increase intraocular pressure and should be avoided. **4** Weakening of the eye musculature is not related to cataracts.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Cataract, Nursing Care

491. **4** Scar formation seals the hole and promotes attachment of the two retinal surfaces.

1 The retina is part of the nervous system; it does not regenerate or grow new cells. **2** The sclera is not involved; the retina adjoins and is nourished by the choroid. **3** This is not the treatment used; treatment includes the formation of a scar by the use of lasers or surgical “buckling.”

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Detached Retina, Data Base

492. **3** Conductive hearing loss involves impaired transmission of sound waves to the inner ear so that sound transmitted directly through bone is perceived louder and longer than through air conduction.

1, 2 Clients with normal hearing or sensorineural deficit perceive air conduction of sound waves louder and longer than bone conduction. **4** The Rinne test is not related to inflammation of the mastoid.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Otosclerosis, Data Base

493. **4** The labyrinth is the inner ear and consists of the vestibule, cochlea, semicircular canals, utricle, saccule, cochlear duct, and membranous semicircular canals. A labyrinthectomy is performed to alleviate the symptom of vertigo but results in deafness, because the organ of Corti and cochlear nerve are located in the inner ear.

1 There is no pain associated with Ménière syndrome. **2** Ménière syndrome is not related to cerumen production. **3** The loss of the sense of smell (anosmia) is not affected by surgery to the ear.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Ménière Disease, Data Base

494. **2** With a partial hearing loss the auditory ossicles have not yet become fixed; as long as vibrations occur, a hearing aid may be beneficial.

1 This procedure usually is not performed unless there was total hearing loss or if what was heard was useless. **3** Although the bass tones are particularly affected, all tones are affected. **4** With conduction hearing loss, bone conduction is more effective than air conduction.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Otosclerosis, Data Base

495. **Answer: 3. The score on the GCS ranges from 3 to 15. The client’s lack of response earns the minimum of one point in each of the categories: eye opening response, best verbal response, and best motor response.**

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Related Procedures, Neurologic Assessment

496. **4** The occipital lobe is involved with visual interpretation.

1, 3 This is a function associated with the frontal lobe. **2** This is a function associated with the temporal lobe.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Brain Tumors, Data Base

497. **4** The facial nerve may be damaged during surgery. Drooping of the area results from loss of muscle tone.

1 A tracheostomy is not a complication. **2** This is also called auriculotemporal syndrome; it may follow infection and suppuration of the parotid gland; it is not a surgical complication. **3** The parotid is a salivary gland; its removal will decrease salivation.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 11, Related Procedures, Neurologic Assessment

498. **1** Seizure disorders usually are associated with marked changes in the electrical activity of the cerebral cortex, requiring prolonged or lifelong therapy.

2 Seizures may occur despite drug therapy; the dosage may need to be adjusted. **3** A therapeutic blood level must be maintained through consistent administration of the drug irrespective of emotional stress. **4** Absence of seizures will probably result from medication effectiveness rather than from correction of the pathophysiologic condition.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Anticonvulsants

499. **2** Phenytoin (Dilantin) is an anticonvulsant most effective in controlling tonic-clonic seizures. Data collection before planning nursing care for a client with a seizure disorder should always include a history of the seizures (e.g., type and incidence).

1 Although protection is important, the use of restraints and insertion of an object into the mouth during a seizure often cause injury as a result of tonic-clonic muscle contractions and should not be used. **3** Although these may be removed during a seizure, the client's normal routines should be respected. **4** Increased restlessness may be evidence of the prodromal phase of a seizure in some individuals, but signs and symptoms vary so widely that the client's history should be obtained.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Epilepsy, Nursing Care

500. **2** Monitoring of the seizure activity, the body parts involved, the area of its progression, and the length of the episode, as well as the activity of the head and eyes, characteristics of the respiration, and alteration in consciousness provides information that assists in the identification of the type of seizure and, thus, its treatment.

1 This action is contraindicated. Attempting to insert an oral airway may injure the client and/or the nurse. **3** Turning the client on the side should be done after the tonic-clonic phase of the seizure subsides. **4** This is unnecessary because breathing does not occur during a seizure; this may be done after the seizure.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Epilepsy, Nursing Care

501. **Answer: 8 mL. Use the "Desire over Have" formula of ratio and proportion to solve this problem.**

$$\frac{\text{Desire } 200 \text{ mg}}{\text{Have } 125 \text{ mg}} = \frac{x \text{ mL}}{5 \text{ mL}}$$

$$125 x = 200 \times 5$$

$$125 x = 1000$$

$$x = 1000 \div 125$$

$$x = 8 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

502. **4** A seizure is generally self-limiting; the nurse's responsibilities include protecting the client from injury and assessing the characteristics of the seizure.

1 Nothing should be forced into the client's mouth when the teeth are clenched during a seizure; this may damage the teeth or cause an airway occlusion if improperly placed. **2** During a seizure the client loses consciousness and will be unable to discuss any aura experienced. **3** Anticonvulsants are given on a regular basis, not prn, to achieve therapeutic levels.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Epilepsy, Nursing Care

503. **4** To achieve the anticonvulsant effect, therapeutic blood levels must be maintained. If the client is not able to take the prescribed oral preparation, the health care provider should be questioned about alternate routes of administration.

1 Omission will result in lowered blood levels, possibly to less than the necessary therapeutic level to prevent a seizure. **2** The route of administration cannot be altered without health care provider approval. **3** The client is being kept NPO.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Anticonvulsants

504. **2** The medulla contains the vital respiratory, cardiac, and vasomotor centers.

1 The pons conducts impulses; it contains reflex centers for cranial nerves V, VI, VII, and VIII (trigeminal, abducent, facial, and vestibulocochlear, respectively). **3** The midbrain is associated with sensory input from the eyes and ears. **4** The thalamus relays sensory impulses to the cerebral cortex.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Brain

505. **4** The eighth cranial nerve has two parts: the vestibular nerve and the cochlear nerve. Sensations of hearing are conducted by the cochlear nerve.

1 The frontal lobe is concerned with thinking, skeletal muscle tone, and biorhythms. **2** The occipital lobe is concerned with sight, particularly shape and color. **3** Cranial nerve VI (abducent) is concerned with abduction of the eye.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Related Procedures, Neurologic Assessment

506. **3** An unconscious individual loses voluntary control of the sphincters surrounding the urethra and anus.

1 This cannot be assumed; hearing is often the last sense to be lost. **2** Motion, although often purposeless, is possible in an unconscious client. **4** Unconscious clients may react to various degrees of pain.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base

507. Answer: 2, 3, 4.

1 Although this is part of a neurologic assessment, it is not part of the Glasgow Coma Scale. **2** The scale measures best motor response. **3** The scale measures best verbal response. **4** The scale measures eye opening response. **5** Although this is important to assess, it is not part of the Glasgow Coma Scale.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Related Procedures, Neurologic Assessment

508. **1** This action provides reinforcement. It is important to help the client who has expressive aphasia regain maximum communicative abilities as soon as possible.

2 This approach may increase client frustration. **3** Although expectations should be realistic, improvements are possible and should be encouraged. **4** Some abilities do return, and therefore the client should be encouraged to participate.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

509. **2** The hypothalamus connects with the autonomic area for vasoconstriction, vasodilation, and perspiration and with the somatic centers for shivering; therefore, it is an important area for regulating body temperature.

1 The thalamus receives all sensory stimuli, except taste, for transmission to the cerebral cortex; it is also involved with emotions and instinctive activities. **3** The temporal lobe is concerned with auditory stimuli; it may also be involved with the sense of smell. **4** The globus pallidus is part of the basal ganglia; it is also called the pallidum. Together with the putamen, it comprises the lenticular nucleus; it is concerned with muscle tone, which is required for specific body movements.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Structures and Functions of the Nervous System, Brain

510. **1** Head injuries can cause trauma to the brain, and the client should be monitored for symptoms of increased intracranial pressure (e.g., headache, dizziness, and visual disturbances).

2 This is not indicated in this situation. **3** Elevating the lower extremities should be avoided because it will increase intracranial pressure. **4** The intracranial pressure may increase after trauma because of bleeding and edema. The temperature may increase because of injury to or pressure on the

hypothalamus.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Traumatic Brain Injuries, Nursing Care

511. Answer: 1, 2.

1 Increased intracranial pressure affects the hypothalamic temperature-regulating center in the brain, resulting in fever. **2** Increased intracranial pressure disrupts neurons and neurotransmitters, which results in faulty impulse transmission and an altered level of consciousness. **3** This is associated with conditions such as pulmonary edema and obstructive airway diseases. **4** Increased intracranial pressure will cause a slow, bounding pulse. **5** The blood pressure increases with a widening pulse pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Tumors, Nursing Care

512. **2** As an osmotic diuretic, mannitol (Osmitol) helps reduce cerebral edema.

1, 3 Although there may be a transient increase in blood volume (as a result of an increased osmotic pressure), which increases renal perfusion, this is not the therapeutic effect. **4** This is not the reason for giving this drug.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base

513. **4** An increase in intracranial pressure causes impaired cerebral blood flow affecting the cells of the cerebral cortex and the reticular activating system (area that helps maintain wakefulness), which result in a decreased level of consciousness.

1 As the intracranial pressure increases, it places pressure on the thalamus, hypothalamus, pons, and medulla, resulting in a full, bounding, slow pulse. **2** A widening pulse pressure occurs due to an increase in the systolic pressure. **3** As the intracranial pressure increases, it places pressure on the thalamus, hypothalamus, pons, and medulla, resulting in irregular respirations that progress to deep, rapid breathing alternating with periods of apnea (Cheyne-Stokes respirations).

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Brain Tumors, Nursing Care

514. **1** Increased intracranial pressure from bleeding into and swelling of tissues within the cranium results in a slowing of the heart rate.

2 Carotid circulation is not altered. **3** This does not occur in this situation. **4** Spinal reflexes generally remain intact.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Tumors, Nursing Care

515. **4** Residual blood from the ruptured aneurysm may have blocked the arachnoid villi, interrupting the flow of CSF, resulting in hydrocephalus.

1 Vasospasm is a protective response during the active bleeding process; it does not cause hydrocephalus. **2** The Broca center is not directly affected; even if it were, there is no relationship to the development of hydrocephalus. **3** The production of cerebrospinal fluid is not increased in this situation; increased production may result when there is a tumor of the choroid plexus.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Traumatic Brain Injuries, Data Base

516. **4** This is a sign of increasing intracranial pressure, which may occur after a craniotomy.

1 Bradycardia, not tachycardia, may occur. **2** The pupils will dilate, not constrict. **3** The systolic, not

the diastolic, pressure may be elevated.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Brain Tumors, Nursing Care

517. **1** A stroke in the left hemisphere will lead to a loss of the right visual field of each eye; objects should be placed within the client's view.

2, 3, 4 These actions are not related to hemianopsia.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

518. **1** This client is in stage 3 hypertension and needs immediate medical intervention.

2 Exercise would not have increased the blood pressure to this level. **3** The "white coat syndrome" would not increase the blood pressure to this level. **4** This will delay obtaining emergency care; the client needs medical care regardless of what medications are being taken.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base

519. **4** Transient ischemic attacks (TIAs) are temporary neurologic deficits related to cerebral hypoxia; about one third of the people who have TIAs will have a CVA within 2 to 5 years.

1, 2, 3 This is not a risk factor associated with a brain attack (CVA).

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base

520. **3** Bleeding into the enclosed cavity of the skull creates pressure, causing pain.

1 Seizures are not directly related to the hemorrhage; they result from abnormal electrical charges that may eventually develop as a consequence of tissue ischemia. **2** Decerebrate posturing (extension posturing) indicates caudal deterioration with damage to the midbrain and pons. **4** As the systolic pressure increases, widening of the pulse pressure occurs because of compression of vasomotor centers.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Review of Anatomy & Physiology Review of Physical Principles

521. **3** A comatose client loses voluntary control of elimination.

1 Although these may occur, they are not the most common responses associated with brain attack and coma. **2** Because cerebral functioning is depressed, purposeful or voluntary movement is absent. **4** Because there are different levels of coma, the individual may or may not respond to intense stimuli such as pain.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base

522. **2** Absence of a gag reflex is common after a brain attack. To prevent aspiration, the client is positioned on the side to allow gravity to drain mucus in the nasopharyngeal area away from the trachea.

1 Chest expansion is hindered in the prone position. **3** This position allows the tongue to occlude the airway and encourages the aspiration of secretions if the gag reflex is not intact. **4** This position interferes with respiration and leads to increased intracranial pressure.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

523. **1** Emotional lability is associated with brain trauma from ischemia or injury. The frontal lobe, hypothalamus, thalamus, and cortical limbic system are involved in expression of emotions.
- 2 Emotional lability is not limited to interactions with family. **3** While the client may be depressed, the uncontrollable tearfulness is due to the disease process. **4** While nonverbal messages are often helpful in determining emotional response, these emotional outbursts may be unrelated to feelings.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident; Data Base
524. **3** Dysphagia is difficulty in swallowing.
- 1, 2, 4** This is unrelated to dysphagia.
Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base
525. **4** Clients with dysarthria have difficulty communicating verbally, and an alternate means of communication may be indicated.
- 1, 2, 3** This is an important aspect of care, but it is not related to dysarthria.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Data Base
526. **1** The paralyzed side has decreased muscle tone, which may lower blood pressure readings.
- 2 The return of function to the affected extremity is not influenced by taking the blood pressure; restoration of function occurs because of resolution of inflammation or resorption of blood in the area of the infarct. **3** Taking the blood pressure will not precipitate the formation of thrombi. **4** Although the brachial artery will be compressed when taking a blood pressure reading, it will not cause circulatory impairment because the pressure is temporary.
Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care
527. **1** Passive range-of-motion exercises prevent the development of deformities (e.g., contractures) and do not require any energy expenditure by the client. Instituting range-of-motion exercises is an independent nursing function.
- 2, 3, 4** Bed rest is prescribed to decrease oxygen demands; active exercises markedly increase oxygen consumption.
Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care
528. Answer: 3, 4.
- 1** Edema is a sign of fluid volume excess, not urinary retention. **2** Oliguria (urinary output less than 500 mL/day) is a sign of kidney failure. With retention, the total amount of urine produced is unaffected. **3** Atony permits the bladder to fill without being able to empty. As pressure builds within the bladder, the urge to void occurs, and just enough urine is eliminated to relieve the pressure and the urge to void. The cycle is repeated as pressure again builds. Thus, small amounts are voided without emptying the bladder. **4** As urine is retained and the bladder enlarges, it causes suprapubic distention. **5** Continual incontinence does not occur with urinary retention.
Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care
529. **3** To prevent contractures after a brain attack, the client should be positioned in functional

alignment and passive range-of-motion exercises should be performed.

1 Active exercises are impossible with paralyzed limbs. **2** The health care provider must request a consult with the physical therapist. **4** This will increase contractures and atrophy.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

530. **1** Various types of splints or boots are available to keep the foot in a position of functional alignment.

2 Blocks elevate the frame of the bed and have no effect on the position of the feet. **3** Although a cradle will keep the pressure of the linen off the client's feet, which otherwise may promote footdrop, the cradle does not maintain functional alignment of the ankle. **4** Sandbags help prevent rotation of an extremity or the head; they are not used to prevent footdrop.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

531. **1** Change of position at least every 1 or 2 hours helps prevent the respiratory, urinary, and cutaneous complications of immobility.

2 Too protracted a period of time in one position increases the potential for respiratory, urinary, and neuromuscular impairment; prolonged physical pressure increases the possibility of skin breakdown. **3, 4** This is an unnecessarily short time interval; too frequent repositioning may interfere with the client's rest.

Client Need: Basic Care and Comfort; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

532. **1** Hemiparesis creates instability. Using a cane provides a wider base of support and, therefore, greater stability.

2 Hemiparesis affects muscle strength on one side of the body; the joints are not directly affected. **3** Activity should strengthen, not injure, weakened muscles. **4** The use of a cane will not prevent involuntary movements if they are present.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

533. **3** Because stomach distention after eating results in contractions of the colon (gastrocolic reflex), which promotes defecation, establishing some regularity of meals that include adequate bulk or fiber will help establish routine patterns of defecation.

1, 2 Although this facilitates elimination, in general it does not help establish a pattern of defecation. **4** Increased potassium is not needed for normal elimination.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

534. **4** As part of the rehabilitative process after a brain attack, clients should be encouraged to participate in their own care to the extent that they are able and to extend their abilities by establishing short-term goals.

1 A client with a brain attack may or may not have dysphagia; altering the consistency of food without the need to do so may make it less palatable. **2** Making the client feel helpless discourages

independence. **3** This is unrealistic; family members may not be available because of other responsibilities.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 11](#), Brain Attack/Cerebrovascular Accident, Nursing Care

535. **2** Bowel training is a program for the development of a conditioned reflex that controls regular emptying of the bowel. The key to success is adherence to a strict time for evacuation based on the client's individual schedule.

1 The indiscriminate use of laxatives can result in dependency. **3** Although this should be considered, the brain attack affects the responses of the client by altering motility, peristalsis, and sphincter control despite adherence to previous habits. **4** The passage of food into the stomach does stimulate peristalsis, but it is only one factor that should be considered when planning a specific time for evacuation.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Brain Attack/Cerebrovascular Accident, Nursing Care

536. **2** A full rectum may exert pressure on the urinary bladder, which may precipitate urinary incontinence.

1 Urinary retention catheters should not be used to manage urinary incontinence initially. The use of a catheter keeps the bladder empty, which promotes atony and incontinence. **3** Caffeine acts as a diuretic and is a urinary bladder irritant; both promote urinary incontinence. **4** Carbonated beverages irritate the urinary bladder, which promotes urinary incontinence.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Brain Attack/Cerebrovascular Accident, Nursing Care

537. **4** To foster communication and cooperation, family members should be involved in planning and implementing care.

1 This intervention does not focus on feelings or needs. **2** The spouse may promote dependency in the client to satisfy a need to control. **3** Although true, the family should be involved.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Brain Attack/Cerebrovascular Accident, Nursing Care

538. **2** Changes in self-image and family role can initiate a grieving process with a variety of emotional responses.

1, 3, 4 This cannot be assumed; the client's feelings need to be elicited.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 11](#), Brain Attack, Nursing Care

539. **1** Damage to the Broca area, located in the posterior frontal region of the dominant hemisphere, causes problems in the motor aspect of speech.

2, 3, 4 This is associated with receptive aphasia, not expressive aphasia; receptive aphasia is associated with disease of the Wernicke area of the brain.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 11](#), Brain Attack/Cerebrovascular Accident, Data Base

540. **1** Clients with expressive aphasia must be encouraged to associate words with objects so that communication is regained.

2 Speech usually can be improved through therapy. **3** This may cause frustration. A balance must be achieved between assisting the client to communicate and permitting time for the client to form thoughts and words independently. **4** Despite having difficulty speaking, individuals with expressive aphasia can understand what is said to them.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Brain Attack/Cerebrovascular Accident, Nursing Care

541. **1** Pain may prevent the client from ingesting anything by mouth.

2 Facial exercises may precipitate an attack. **3** Hot or cold foods or compresses should be avoided because they may trigger a painful attack. **4** This may initiate an acute attack of trigeminal neuralgia; often clients must limit oral hygiene to rinsing the mouth.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Trigeminal Neuralgia, Nursing Care

542. Answer: 2, 3.

1 Petechiae are minute subcutaneous hemorrhages; they are not present in this disorder. **2** Tic douloureux, also referred to as trigeminal neuralgia, is an inflammation of the fifth cranial (trigeminal) nerve, which innervates the midline of the face and head. **3** Tic douloureux is an inflammation of the fifth cranial nerve that innervates the midline of the face and head, which includes the mouth. **4** Pain, not weakness, occurs in this disease. Impairment of facial muscles occurs with Bell palsy. **5** The third (oculomotor), not fifth, cranial nerve innervates the eyelid.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Trigeminal Neuralgia, Data Base

543. **1** The nurse should avoid walking swiftly past the client because drafts or even slight air currents can initiate pain.

2 The client may assume any position of comfort, but pressure on the face while in the prone position may trigger an attack. **3** Although the procedure for oral hygiene may be modified, it is not discontinued. **4** Massaging may trigger an attack and should be avoided.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Trigeminal Neuralgia, Nursing Care

544. **4** Carbamazepine (Tegretol) is a nonnarcotic analgesic, anticonvulsant drug used to control pain in trigeminal neuralgia and to prevent future attacks. It sometimes eliminates the need for surgery.

1 Ascorbic acid (vitamin C) may be used as an adjunct to the specific treatment for trigeminal neuralgia. Vitamin C is prescribed when the body is subject to stress, as occurs with pain. **2** Morphine sulfate is an opioid analgesic that will relieve severe pain but will not prevent its recurrence; prolonged frequent use is contraindicated because of possible addiction. **3** Allopurinol (Zyloprim) is used in the treatment of gout.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Trigeminal Neuralgia, Data Base

545. Answer: 3, 5.

1 Because clients are apprehensive and have pain, prolonged periods of sleep usually do not occur. **2** Pain medications do not normally cause hyperactivity. **3** Severe, constant pain; emotional stress; muscle tensing; and diminished nutritional intake can lead to exhaustion and fatigue. **4** The client may be very quiet for fear of precipitating an attack. **5** The movements associated with chewing and swallowing may precipitate a painful attack.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Trigeminal Neuralgia, Data Base

546. **4** The client may be able to avoid stimulating the involved trigeminal nerve and thus prevent pain by chewing on the unaffected side.

1 Food and fluids that are too hot or too cold can precipitate pain. **2** Although oral hygiene may initiate pain, it cannot be avoided. It can be modified to include rinsing the mouth or using a soft swab instead of a toothbrush. **3** Warm compresses may precipitate pain.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Trigeminal Neuralgia, Nursing Care

547. **3** Bell's palsy unilaterally affects the seventh cranial nerve, which innervates the face; the blink reflex is diminished, so corneal damage must be prevented.

1, 2, 4 This is not necessary because Bell palsy involves the seventh cranial nerve, which innervates the facial muscles.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Bell's Palsy, Nursing Care

548. Answer: 1, 4, 3, 5, 2.

1 Self-esteem is a primary concern of adolescents, who are experiencing the developmental stage of identity versus role confusion. **4** Paralysis of one side of the face affects the ability to speak clearly; communication is essential, particularly with peers. **3** Paralysis of one side of the face affects the ability to chew; nutrition is a basic need. **5** Food particles tend to be retained on the affected side of the oral cavity because of impaired mastication. Oral hygiene helps prevent this occurrence. **2** Falling should not be a problem; the client is capable of seeing clearly with the unaffected eye.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Bell's Palsy, Nursing Care

549. Answer: 1, 4.

1 Diplopia (double vision) and nystagmus (involuntary, rapid, rhythmic eye movements) are experienced by clients with multiple sclerosis as a result of demyelination. **2** Clients experience intention, not resting, tremors. **3** Clients experience spastic paralysis because upper motoneurons are involved. **4** Scanning (clipped) speech occurs with multiple sclerosis as a result of demyelination. These clients exhibit the Charcot triad: intention tremor, nystagmus, and scanning speech. **5** Although emotional affect and speech are affected, intelligence remains intact.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Multiple Sclerosis, Data Base

550. **2** This tends to increase symptoms and may result in burns because of decreased sensation.

1 Using a straw gives the client more control of liquid intake, preventing aspiration. **3** Although a bladder regimen to maintain control is preferable, the use of pads can avoid embarrassment. **4** The disease does have periods of remission and exacerbation.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Multiple Sclerosis, Nursing Care

551. **2** Spacing activities will encourage maximum functioning within the limits of strength and fatigue.

1 Bed rest and limited activity may lead to muscle atrophy and calcium depletion. **3** Strengths, rather than limitations, should be stressed. **4** This is unnecessary. It is nursing's responsibility to maintain

client safety and meet client needs.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Multiple Sclerosis, Nursing Care

552. **4** The classic feature of Guillain-Barré syndrome is ascending weakness, beginning in the lower extremities and progressing to the trunk, upper extremities, and face; more frequent assessment, especially of respiratory status, is needed.

1 Localized seizures are not a characteristic of Guillain-Barré syndrome. **2** Skin desquamation is not a characteristic of Guillain-Barré syndrome. **3** Deep tendon reflexes are absent with Guillain-Barré syndrome.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Guillain-Barré Syndrome, Data Base

553. **3** As a result of muscle weakness, the vital capacity is reduced, leading to increased risk of respiratory complications; impaired swallowing can also lead to aspiration.

1 Although ALS is progressive, clients with myasthenia gravis may be stable with treatment, and clients with Guillain-Barré syndrome may experience a complete recovery. **2** None of these diseases are caused by a lack of neurotransmitters; only myasthenia gravis is associated with a decreased number of receptor sites. **4** Twitching is not expected with myasthenia gravis or Guillain-Barré syndrome.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Myasthenia Gravis, Data Base

554. **2** A patent airway is the priority. The client does not have the ability to deep breathe and cough.

1 This assessment takes time and delays an intervention that will maintain an open airway. **3** This will take time and delay an intervention that will maintain an open airway. Oxygen administration will be useless if the airway is not patent. **4** This position is unsafe for a client with Guillain-Barré syndrome. The client will be unable to maintain this position. Muscle weakness involves the lower extremities, progressing to the upper extremities and diaphragm.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Guillain-Barré Syndrome, Nursing Care

555. **2** Guillain-Barré syndrome is a progressive paralysis beginning with the lower extremities and moving upward; mechanical ventilation may be required when respiratory muscles are affected.

1 The use of a straw would not be an effective stimulant for the facial muscles; oral intake may be contraindicated depending on the extent of the paralysis because of the risk for aspiration. **3** With progressive paralysis, the client will not be able to perform aerobic exercises. **4** Antibiotics are not given prophylactically; antibiotics will not help if pneumonia is caused by etiologies that are not bacterial.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Guillain-Barré Syndrome, Nursing Care

556. **4** Clients with amyotrophic lateral sclerosis (ALS) have difficulty managing saliva; the sitting position helps prevent aspiration; also, it keeps the food in the stomach via gravity and limits the pressure of the abdominal organs against the stomach, both of which prevent regurgitation and aspiration.

1, 3 This position increases the risk of regurgitation and aspiration because of the pressure of the abdominal organs against the stomach. **2** This position is too upright for a client with ALS to remain comfortable and safe.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Amyotrophic Lateral Sclerosis, Nursing Care

557. Answer: 1, 4.

1 Spacing activities throughout the day is a strategy to help conserve the client's energy. **2** Large groups should be avoided to limit the risk of infection; respiratory complications are the leading cause of death. **3** Opioids are not used because they may depress respirations. Lower extremity pain usually is not a problem associated with ALS. **4** Alternate ways to communicate (e.g., writing, electronic devices) should be used when speech becomes difficult because of muscle weakness. **5** Braces and splints, not restraints, may be used.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Amyotrophic Lateral Sclerosis, Nursing Care

558. **1** Dysphagia may lead to aspiration, which can cause pneumonia, interfering with gas exchange and posing a threat to life.

2, 3 While nutrition and fluid intake will be adversely affected by dysphagia, these problems are not the priority. **4** Dysphagia is difficulty swallowing and does not affect communication.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Myasthenia Gravis, Data Base

559. **3** One of the pathologic changes is electron microscopic evidence of fewer AChR sites; also, antibodies cause destruction and blockade at the AChR sites.

1 There is no genetic defect in the production of ACh; rather than a genetic cause, it is thought that myasthenia gravis has an autoimmune etiology. **2** Although the defect is at the neuromuscular junction, it is not an inefficiency in the use of ACh but a decrease in the number of receptor sites for ACh. **4** AChE is inhibited by anticholinesterase drugs used to treat myasthenia gravis, leaving more ACh available to the damaged or decreased ACh receptors.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Myasthenia Gravis, Data Base

560. **3** Myasthenia gravis is a chronic disorder with exacerbations that are precipitated by emotional stress, ingestion of alcohol, and physiologic stress such as infection.

1 There is no cure for myasthenia gravis. **2** The disease is characterized by exacerbations and remissions. **4** The disease is chronic. Death does not occur within a short period but usually after the muscles of respiration are affected.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Myasthenia Gravis, Data Base

561. **2** Raising the head of the bed allows gravity to assist in the swallowing of saliva, thus decreasing the risk for aspiration.

1 Oxygen will not assist in the management of dysphagia or the prevention of aspiration. **3** This may become necessary if the upright position does not allow the client to manage secretions. **4** Alerting the health care provider to the problem is necessary, but only after client safety is ensured.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Myasthenia Gravis, Nursing Care

562. **3** Weakened muscles result in ineffective coughing; secretions are retained and provide a medium for bacterial growth.

1 The airways are not narrowed. **2** Immune mechanisms are not impaired directly. **4** Viscosity of secretions depends on fluid intake and humidity.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Myasthenia Gravis, Data Base

563. **2** Neostigmine (Prostigmin), an anticholinesterase, inhibits the breakdown of ACh, thus prolonging neurotransmission.

1 Neostigmine's action is at the myoneural junction, not the cerebral cortex. **3** Neostigmine prevents neurotransmitter breakdown but is not a neurotransmitter. **4** Neostigmine's action is at the myoneural junction, not the sheath.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Cholinesterase Inhibitors

564. **1** Edrophonium (Enlon) improves muscle strength in myasthenic crisis; weakness persists if symptoms are caused by cholinergic crisis, which can result from toxic levels of neostigmine (Prostigmin).

2 Edrophonium is not used for synergistic effects; the duration of effect is brief. **3** This is the same type of drug as neostigmine; no resistance is indicated. **4** The diagnosis is already established and treatment initiated.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Cholinesterase Inhibitors

565. **4** Parkinson disease involves destruction of the neurons of the substantia nigra, caudate nucleus, and globus pallidus of the basal ganglia. The cause of this destruction is unknown.

1 This pathologic condition is associated with multiple sclerosis. **2** This condition results in auditory and visual problems; it is not associated with Parkinson disease. **3** This condition is associated with myasthenia gravis.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Parkinson Disease, Data Base

566. **2** The onset of this disease is not sudden, but insidious, with a prolonged course and gradual progression.

1, 3 The onset is slow and gradual. **4** The onset is not irregular; there is a gradual, regular progression of symptoms.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Parkinson Disease, Data Base

567. **3** This is the best response to the client's question. The client with this disease cannot execute automatic involuntary movements and has difficulty swallowing saliva.

1 It is known that bradykinesia and muscular weakness cause difficulty in swallowing saliva. **2** There is no true paralysis or loss of sensation with this disease. **4** Muscular rigidity occurs with this disease, but it is not the cause of drooling.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Parkinson Disease, Data Base

568. Answer: 1, 2, 5.

1 Resting (nonintention) tremors, commonly accompanied by pill-rolling movements of the thumb against the fingers, is associated with destruction of the neurons of the basal ganglia and substantia nigra. **2** Destruction of the neurons of the basal ganglia and substantia nigra results in decreased

muscle tone. The masklike appearance, unblinking eyes, and monotonous speech patterns can be interpreted as a flat affect. **3** Muscle flaccidity is not associated with Parkinson disease. Rigidity is caused by sustained muscle contractions. Movement is jerky in quality (cogwheel rigidity). **4** Tonic-clonic seizures are not associated with Parkinson's disease. **5** Slow, voluntary movements (bradykinesia) are associated with this disorder.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Parkinson Disease, Data Base

569. **1** The client with Parkinson disease often has a stooped posture because of the tendency of the head and neck to be drawn down; this shift away from the center of gravity causes instability. **2** Hesitation is part of the disease; clients may use a marching rhythm to help maintain a more fluid gait. **3** The tremors of Parkinson disease occur at rest (resting tremors). **4** The client must consciously attempt to maintain a natural arm swing for balance.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Parkinson Disease, Nursing Care

570. **4** Carbidopa-levodopa (Sinemet) is used because levodopa is the precursor of dopamine. It is converted to dopamine in the brain cells, where it is stored until needed by axon terminals; it functions as a neurotransmitter.

1, 3 This is not an action of this drug. **2** This is not an action of this drug; neurons do not regenerate. **Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Related Pharmacology, Antiparkinson Agents

571. **1** Because of pressure on the sciatic nerve, pain radiating to the hip and leg is common. **2, 4** This is not associated with this disorder. **3** Although weakness (paresis) may occur, paralysis is not common.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Degenerative Disk Disease, Data Base

572. Answer: 1, 5.

1 These actions, as well as lifting and straining, cause an increase in the intraspinal pressure, resulting in pain. **2** This does not affect the intraspinal pressure and should not cause pain. **3** Although pain may increase as a result of compression of the vertebrae, the increase is gradual, not sudden. **4** Flexing the knees and hips relieves intraspinal pressure and pain. **5** Straining when having a bowel movement increases intraspinal pressure, causing pain.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Degenerative Disk Disease, Nursing Care

573. **2** Inflammation from the trauma of intravertebral disk surgery may lead to injury of the nerve root, with consequent motor or sensory dysfunction.

1 Cerebral edema does not occur. **3** Rather than spasticity, urinary retention may develop if pressure on the nerve root occurs as a result of edema or bleeding. **4** Pain usually is experienced at the operative site and in the legs as a result of edema around the cord.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Degenerative Disk Disease, Nursing Care

574. **2** Log-rolling maintains the alignment of the vertebral column.

1 Coughing will increase the pressure of the CSF surrounding the spinal cord and intensify the pain; incentive spirometry and turning should be used to prevent respiratory complications. **3** Peritonitis

is not a danger because the abdominal cavity was not opened. **4** Flexion of the knees is avoided postoperatively because it alters intervertebral pressure.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Degenerative Disk Disease, Nursing Care

575. **1** Increased oral secretions and a sore throat that limits the ability to cough are expected responses after a cervical laminectomy.

2 Flexion of the head is avoided to prevent strain on the operative site. **3** The head of the bed may be only slightly elevated or to a level of comfort after a cervical laminectomy. **4** Limited range of motion should be done after both operations.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Degenerative Disk Disease, Nursing Care

576. **1** The individual should be moved only with a backboard to avoid additional spinal cord damage. Moving a person whose spinal cord has been injured may cause irreversible paralysis.

2 A back injury precludes changing the person's position. **3** A back injury is suspected; therefore, the person should not be moved. **4** A flat board is indicated; however, one rescuer should not move the person without help.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

577. **1** Both legs and generally the lower part of the body are paralyzed in paraplegia.

2 There is no term to describe this condition; all parts below an injury are affected. **3** This is hemiplegia. **4** This is quadriplegia.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Data Base

578. **1** Because of the location of the micturition reflex center (in the sacral region of the spinal cord), bladder function may be impaired with lower spinal cord injuries.

2 This client's ability to ingest, digest, or metabolize food is not affected; therefore, nutrition is less of a problem than bladder control. **3** These exercises require motor control, which the client does not have. **4** Because there is no voluntary control over the lower extremities, mobility usually is accomplished through the use of a wheelchair rather than ambulation.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Spinal Cord Injury, Data Base

579. **4** Correct positioning maintains functional alignment, which helps prevent contracture formation.

1 Deep massage may dislodge thrombi that have formed as a result of venous stasis. **2** Active exercises are not possible because the client is paralyzed. **3** The tilt board is used primarily to prevent orthostatic hypotension or bone demineralization.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

580. **2** Pressure ulcers easily develop when a particular position is maintained; the body weight, directed continuously in one region, restricts circulation and results in tissue necrosis.

1 Clients often state that they are comfortable and wish to remain in one position. **3** Proper positioning with supportive devices and range of motion are more effective measures to prevent contractures. **4** Because turning usually is done laterally, the circulation to the lower extremities is not dramatically affected.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

581. **4** Clients in the early stages of spinal cord damage experience an atonic bladder, which is characterized by the absence of muscle tone, an enlarged capacity, no feeling of discomfort with distention, and overflow with a large residual. This leads to urinary stasis and infection. High fluid intake limits urinary stasis and infection by diluting the urine and increasing urinary output.

1 Dehydration is not a major problem after spinal cord injury. **2** Pressure-relieving devices and position changes are most essential in preventing skin breakdown. **3** An electrolyte imbalance is not a major problem after spinal cord injury.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

582. Answer: 3, 5.

1 This occurs after spinal shock has subsided. **2** During the acute phase, retention of urine and feces occurs as a result of decreased tone of the bladder and bowel; thus, incontinence is unusual. **3** Spinal shock (spinal shock syndrome) is immediate after a transection of the spinal cord; it results in flaccid paralysis of all skeletal muscles and usually lasts for 48 hours, but may persist for several weeks. **4** Respirations are labored, but spontaneous breathing continues, indicating that the level of injury is below C4 and respirations are not affected. **5** Spinal shock is caused by transection of the spinal cord and results in a loss of reflex activity below the level of the injury.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Spinal Cord Injury, Data Base

583. **3** Muscles are flaccid during spinal shock but develop spasticity with recovery; these movements are entirely involuntary.

1 Once nervous tissue is transected, it does not regenerate, and paralysis therefore remains. **2** Although edema may be subsiding, motor function will not return if the cord is transected; paralysis remains below the level of the injury. **4** Although thrombophlebitis may occur, the client will not have any sensation of pain.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Data Base

584. **1** These are symptoms of autonomic dysreflexia, which commonly are precipitated by a distended bladder.

2, 3 These are not associated with the symptoms of autonomic dysreflexia. **4** The blood pressure increases suddenly with autonomic dysreflexia.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Spinal Cord Injury, Data Base

585. **4** During prolonged inactivity, bone resorption proceeds faster than bone formation, and lack of therapeutic weight-bearing on bone results in demineralization. A tilt table provides gradual progressive weight-bearing, which counters these effects.

1 Lateral turning is possible and necessary if a client is immobile, but a tilt table does not make this possible. **2** The tilt table is used for scheduled periods in physical therapy. The nursing care required to prevent pressure ulcers must be consistently performed frequently throughout the day and night. **3** The tilt table does not cause hyperextension of the spine; the spine remains in functional body alignment.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

586. **1** Clients with quadriplegia do not have the muscle innervation, strength, or balance needed for ambulation.

2 Bracing and crutch-walking require muscle strength and coordination that an individual with quadriplegia does not have. **3** Orthostatic hypotension can be prevented by a gradual assumption of the upright position and does not necessarily require a wheelchair. **4** Quadriplegia refers to paralysis of all four extremities.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Data Base

587. **3** Regional analgesia uses a local anesthetic to control pain; the local effect avoids systemic reactions.

1 The dose adjustment involves the same level of complexity as conventional methods. **2** The hip replacement involves somatic, not neuropathic, pain. **4** Parenteral medication is used in conjunction with regional analgesia.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Nursing Care

588. **4** Handling the cast with fingertips before it is dried may create indentations that can cause pressure.

1 Elevating the casted extremity on a pillow will help reduce edema. **2, 3** This will increase air flow that facilitates drying of the cast.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Fractures of the Extremities, Nursing Care

589. **Answer: 2 tablets. First convert 0.6 mg to its equivalent in mcg by multiplying by 1000 (move the decimal 3 places to the right). Use the “Desired over Have” formula of ratio and proportion to answer the question.**

$$\frac{\text{Desire } 1200 \text{ mcg}}{\text{Have } 600 \text{ mcg}} = \frac{x \text{ tablets}}{1 \text{ tablet}}$$

$$600 x = 1200$$

$$x = 1200 \div 600$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

590. **3** Allopurinol (Zyloprim) interferes with the final steps in uric acid formation by inhibiting the production of xanthine oxidase.

1 This drug prevents the formation of uric acid; it does not affect bone density. **2** Allopurinol has no effect on swelling of the synovial membranes. **4** This medication prevents the synthesis of uric acid, not its crystallization.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Antigout Agents

591. **2** Colchicine (Colsalide) decreases the formation of lactic acid, which may promote the deposition of uric acid in the joints. It also decreases the inflammatory response.

1 Ibuprofen (Motrin) is a nonsteroidal antiinflammatory agent; it does not prevent the formation of uric acid. **3** Probenecid (Benemid) acts to inhibit the resorption of urate in the kidneys and therefore decreases uric acid in the blood; it is not useful in the treatment of acute gout but rather of chronic gout. **4** Hydrocortisone (Cortef) is an antiinflammatory agent; it is not used to treat gout.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Antigout Agents

592. Answer: 2, 5.

1 Eggs have insignificant amounts of purine and are unrestricted. **2** Like other organ meats, liver is a high-purine food (range of 150 to 1000 mg/100 g) and should be avoided. **3** Cheese has insignificant amounts of purine and is unrestricted. **4** Foods that contain a moderate amount of purine (50 to 150 mg/dL), such as salmon, may be eaten four times a week. **5** Shellfish (e.g., shrimp, lobster) are high-purine foods and should be avoided.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

593. **4** Warm compresses (at or slightly above body temperature) dilate blood vessels, increasing blood flow to the area and decreasing edema.

1, 2, 3 This temperature is too cool to increase blood flow to the area.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

594. **2** Elevated tissue pressure restricts blood flow, causing increasing ischemia and increasing pain; it is the cardinal early symptom of compartment syndrome.

1 The arm will feel cool, not warm, because of a decrease in circulation. **3** Sluggish, not rapid, capillary refill is a sign of compartment syndrome. **4** The pulse will be diminished, not bounding; increasing edema impairs circulation.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Fractures of the Extremities, Nursing Care

595. **1** This is not a priority at this point. The client is too traumatized to learn. It will assume priority as the client's recovery progresses.

2 The nurse must closely monitor the hemoglobin level because blood loss is a major

problem **3** Maintaining a pressure dressing helps to prevent edema and bleeding and to shape the residual limb for a prosthesis. **4** The client has experienced a major life event; the nurse will need to be empathetic and use interviewing skills to encourage expression of feelings.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Amputation, Nursing Care

596. **3** The hips are in extension when the client is prone; this keeps the hips from flexing.

1 In the left side-lying position the right hip will be flexed, promoting contracture formation. **2** This promotes flexion contracture formation. **4** This is not related to the prevention of hip-flexion contractures.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Amputation, Nursing Care

597. **3** Elastic bandages compress the residual limb, preventing edema and promoting residual limb shrinkage and molding; the bandage must be rewrapped when it loosens.

1, 2 This has a systemic effect on fluid balance; edema of the residual limb is a localized response to inflammation. **4** Prolonged elevation of the residual extremity can lead to a flexion contracture of the hip.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Amputation, Nursing Care

598. **2** Preparing muscles that will do the work in crutch-walking (e.g., triceps, finger flexors, wrist extensors, and elbow extensors) is imperative.

1 The biceps are not the major muscles required for crutch-walking. **3** Contractures of the limb will not have a great influence on the ability to use crutches. **4** Strengthening the hamstring muscles will not assist in the use of crutches.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Related Procedures, Mobility: Assistive Devices

599. **3** Flexion contracture of the hip can be prevented by routinely placing the client in a prone position to extend the hip.

1, 2 This can cause flexion of the hip, which will result in a hip contracture. **4** Lying in this position does not allow for full extension of the hip.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 11](#), Amputation, Nursing Care

600. Answer: 2, 4.

1 Flushing of the face is not a classic sign of pulmonary embolus. **2** Unilateral chest pain is caused by decreased oxygenation to pulmonary tissues. **3** A fever is not a classic sign of pulmonary embolus. **4** Because capillary perfusion is blocked by the pulmonary embolus, oxygen saturation drops and the client experiences shortness of breath, dyspnea, and tachypnea. **5** The pain associated with pulmonary embolus generally is sudden in onset, severe, and located in the chest, not the hip.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 11](#), Fracture of the Hip, Nursing Care

601. **1** This position offsets the development of hip deformities resulting from contractures. It also maintains the correct center of gravity when the client is upright.

2 This promotes flexion contracture of the hip. **3** This may alter the center of gravity and cause a loss of balance. **4** A prosthesis may be applied early in the postoperative period but requires a rigid

dressings (casts) to prevent edema; ambulation can be facilitated by the use of a walker, crutches, parallel bars, or a cane.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Amputation, Nursing Care

602. **1** A continuous passive motion device is most commonly used after knee replacement to gradually increase knee flexion without weight-bearing or strain.

2 Because it provides passive range of motion, muscle tone is not affected. **3** A continuous passive motion device is not used to prevent tissue breakdown. **4** Since muscles are not contracting, venous stasis is not prevented.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Related Procedures, Continuous Passive Motion Device

603. **1** Rehabilitation should begin immediately. This includes preoperative discussion of the nature of the operation and rehabilitation techniques.

2, 3, 4 This is too late; valuable rehabilitation time has been wasted.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Amputation, Nursing Care

604. **2** The neural endings that innervated the limb are still intact and may be stimulated (e.g., touch, environmental temperature, barometric pressure changes) within the residual limb.

1 Severed blood vessels are not involved in phantom limb sensation. **3** Although an individual must grieve over a lost body part, the grieving is unrelated to phantom limb sensation. **4** Although phantom limb sensation is a hallucinatory-type experience, it is not part of a psychotic process.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Amputation, Nursing Care

605. **2** A four-point gait provides for weight-bearing on all points that touch the floor and maximum support during ambulation.

1, 3 A three-point gait is used when one extremity cannot bear weight. **4** A swing-through gait does not simulate ambulation; it is used when the individual can bear weight but lacks the muscular control needed for ambulation without an assistive device.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

606. **2** Information about the client's experiential background will influence the teaching plan. A teaching plan should be formulated based on what a client does or does not know.

1 This may be done later. Also, the swing-through gait may be used initially. **3** This may or may not be done later. The focus should be on the client at this time. **4** This should eventually be done but is not the priority at this time.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

607. **3** In the four-point gait the client brings the left crutch forward first, followed by the right foot; then the right crutch is brought forward, followed by the left foot. Thus, both legs must be able to bear some weight.

1 Although the arms are extended to allow the hands to bear weight, the elbows are not maintained in

this position. **2** Pressure on the axillae may damage nerves in the area. **4** Both extremities must be able to bear weight.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

608. **1** This response explains why the traction may not be released; a continuous pull must be maintained.

2 Reducing the weight requires a health care provider's order; removing half the weights will not maintain the bone in alignment. **3** This ignores the client's request to release the traction; further assessment is needed. **4** Although this is a true statement, it does not provide the rationale as to why the weights should not be released.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Fractures of the Extremities, Nursing Care

609. Answer: 2, 5.

1 A foul odor may indicate the presence of an infection. **2** Constriction of circulation decreases venous return and increases pressure within the vessels. Fluid then moves into the interstitial spaces, causing edema. **3** Drainage on the cast may indicate the presence of an infection. **4** An increased temperature may indicate the presence of an infection. **5** Impaired circulation is evidenced by prolonged capillary refill after the toes are compressed.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Fractures of the Extremities, Nursing Care

610. **4** In crutch walking the client uses the triceps, trapezius, and latissimus muscles. A client who has been in bed may need to implement an exercise program to strengthen these shoulder and upper arm muscles before initiating crutch walking.

1 This activity does not strengthen muscles used in crutch walking. **2** Keeping the leg in abduction alters the center of gravity, which impedes ambulation. **3** Back muscles are not used in crutch walking.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

611. **3** The paraplegic client is unable to exercise the lower extremities actively.

1 Changing a position involves moving the extremities; contractures develop as a result of prolonged immobility. **2** The use of pillows, splints, and other supportive devices helps maintain alignment and prevents the shortening of muscle fibers associated with contractures. **4** Passive range-of-motion exercises help maintain joint mobility and prevent contractures.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

612. **4** Calcium that has left the bones as a response to prolonged inactivity enters the blood and may precipitate in the kidneys, forming calculi.

1 Increased fluid intake is helpful in avoiding this condition by preventing urinary stasis. **2** Calcium intake usually is limited to prevent the increased risk for calculi. **3** Calculi may develop despite adequate kidney function; kidney function may be impaired by the presence of calculi and urinary tract infections associated with urinary stasis or repeated catheterizations.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

613. **4** Calcium leaves the long bones during periods of prolonged bed rest. The tilt table places the client in an upright position, which provides for weight-bearing.

1 The tilt table is used to prevent orthostatic hypotension by gradually allowing an individual who has been immobilized to adjust to an upright position. **2** The client is carefully strapped to the table so that mobility is actually impaired to ensure safety. **3** Although the pressure on bony prominences is altered, the use of the tilt table is not frequent enough to prevent the development of pressure ulcers.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Spinal Cord Injury, Nursing Care

614. **3** Rehabilitating exercises carried out under water minimize strain on the body. The buoyant force of the water enables the limbs to move more easily.

1 Exercises are carried out near the surface of the water, where the water pressure will have little effect. **2** Water temperature will not assist movement. **4** Vapors are produced above water as a result of evaporation; they do not facilitate exercise.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Review of Anatomy & Physiology, Review of Physical Principles

615. **3** As a result of contraction and pulling of the muscles on the two bone fragments, there is a characteristic shortening of the femur with external rotation of the extremity.

1 Lateral motion of the leg does not occur; the leg externally rotates. **2** Lateral motion of the leg does not occur. **4** The extremity externally rotates as the muscles contract; shortening, not lengthening, occurs.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Fracture of the Hip, Data Base

616. **1** Traction may be used in the treatment of a fractured hip to align the bones (reduction of fracture). If such traction is not employed, the muscles may go into spasm, shifting the bone fragments and causing pain.

2 Traction is a temporary measure before surgery; contractures result from a shortening of the muscles by prolonged immobility. **3** Although the affected extremity must be properly aligned, turning and moving the client can and should be done. **4** External rotation is contraindicated and prevented by the use of positioning aids.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Data Base

617. **3** A fracture in the neck of the femur will cause shortening of the femur and external rotation. To correct this misalignment, the client's leg should be extended and maintained in slight internal rotation.

1, 2 To reduce the fracture, it is necessary to maintain the leg in extension, counteracting the contraction of the quadriceps that may cause overriding of bone fragments. **4** External rotation of the thigh as a result of muscle contraction tends to misalign the bone fragments; therefore, slight internal rotation or functional alignment is preferred.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Data Base

618. **1** After a fractured hip, the muscle spasms and the client's tendency to flex the hips can lead to flexion contractures of the hip.

2 Abduction contractures do not occur; abduction is maintained if a prosthesis is used to keep the head of the femur in the acetabulum. **3** Contractures most often involve flexor, not extensor, muscles. **4** The hip will tend to externally rotate.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Data Base

619. **4** After a fracture, if blood supply is cut off or impaired, necrosis of the bone may occur from lack of oxygen and nutrient perfusion.

1 The word *aseptic* indicates that infection is not present. **2** Early weight-bearing at the fracture site may result in trauma to the bone; circulation is not impaired. **3** Immobilization does not cut off circulation to the bone; it may cause contractures.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Fracture of the Hip, Data Base

620. **3** Elevating the foot of the bed uses gravity and the client's weight for countertraction.

1 This will not increase countertraction. **2** This will increase traction rather than countertraction. **4** This will have no effect on countertraction.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Data Base

621. **4** This type of walker can be used by a client with partial weight-bearing who has enough upper body strength to lift and move the walker forward. A standard walker with rubber tips is designed for those who need more support than a cane.

1 Kyphosis is an exaggerated angulation of the posterior curve of the thoracic spine. Kyphosis alters the client's center of gravity, making the use of crutches unsafe. **2** A quad cane requires weight-bearing on both legs. Partial weight-bearing means that the client may put minimal weight on the affected extremity. **3** A straight cane requires weight-bearing on both legs.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

622. **3** This position involves hip flexion greater than 90 degrees. This puts stress on the operative site and may dislodge the prosthesis.

1, 2, 4 This is acceptable because little stress is placed on the operative site.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Data Base

623. **2** Ankle movement, particularly dorsiflexion of the foot, allows muscle contraction, which compresses veins, reducing venous stasis and the risk for thrombus formation.

1 Because the client is being turned, the client's muscles are not contracting to compress the veins and prevent venous stasis. The client must be turned at least every 2 hours to help prevent skin breakdown and pneumonia. **3** Sitting for long periods is contraindicated because pressure on the popliteal space and the dependent position of the lower extremities increase venous stasis. **4** The client is generally not allowed out of bed until the first postoperative day.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Nursing Care

624. **3** Assessment of the pedal pulse should include the strength of the pulse. Symmetry, the

correspondence of homologous parts on opposite sides of the body, indicates whether the pulses are equal.

1 Contractility is not a characteristic of a pulse but of the heart; rate is not measured with pedal pulses. **2** Color of skin is not a pulse characteristic; rhythm relates to the heart; it does not reflect a peripheral problem. **4** Local temperature is not a characteristic of the pedal pulse; pulsations are not visible in pedal pulses.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 11](#), Fracture of the Hip, Nursing Care

625. **1** The client is most likely experiencing fat embolism syndrome (FES). The average time of onset of FES is 18 to 24 hours after injury to long bones or crushing injury. Fat globules and tissue thromboplastin exit from bone marrow and local tissue as a result of injury. Fat molecules enter venous circulation, move to lungs, and embolize small capillaries. Petechial rash on neck, chest, conjunctivae, or axillae is a classic sign of FES (occurs in 50% to 60% of clients with FES). Increased temperature, pulse rate, and respirations are associated with FES; 75% of clients with FES exhibit neurologic signs such as altered mental state, restlessness, agitation, lethargy, confusion, or coma.

2 The client is not experiencing urinary retention because output indicates adequate hourly output of at least 50 mL/hr. **3** The client is not experiencing hypovolemic shock. Although the client may experience tachypnea, tachycardia, and an increased temperature with hypovolemic shock, the blood pressure will decrease and urine output will decrease to less than 30 mL/hr. **4** The client is not experiencing a pulmonary embolism. This is more likely to occur 4 to 10 days after trauma. Although tachypnea, tachycardia, an increased temperature, restlessness, and agitation are common with pulmonary embolism, the client is not exhibiting sudden chest pain, dyspnea, cough, or hemoptysis, or areas of dullness or crackles when auscultating breath sounds.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** [Ch 11](#), Fracture of the Extremities, Nursing Care

626. **2** Because of the recumbent position, drainage may flow under the client and not be noticed.

1 This should be done more frequently; however, the site is a more reliable indicator of hemorrhage. **3** The girth of the thigh is not an indicator of hemorrhage. **4** Dressings impede accurate assessment.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 11](#), Fracture of the Hip, Nursing Care

627. **1** This supports the site; the involved leg must be maintained in alignment, avoiding adduction to prevent dislocation of the prosthesis.

2 The pillow will not affect venous return, which relates to thrombus formation. **3** Adduction, not flexion contractures, is of most concern after surgery. **4** Although friction is decreased when skin does not interface with skin, this is not the main reason for separating the lower limbs.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** [Ch 11](#), Fracture of the Hip, Nursing Care

628. **2** Placing the feet apart creates a wider base of support and brings the center of gravity closer to the ground. This improves stability.

1 Bending at the waist should be avoided because it strains the lower back muscles; the power for lifting should be supplied by the muscles of the thighs and buttocks. **3** Pressure on the abdomen is prevented by tightening the abdominal and gluteal muscles to form an internal girdle; keeping the body straight does not reduce strain on the abdominal musculature. **4** Relaxing the abdominal muscles with physical activity increases back strain.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Review of Anatomy & Physiology, Review of Physical Principles

629. Answer: 1, 3, 5.

1 Increased skin temperature may indicate the presence of an infection; decreased skin temperature suggests impaired circulation. **2** Flexion and abduction of the hip are contraindicated because they may dislodge the head of the femur from the acetabulum. **3** This assesses the neural integrity distal to the surgical site. **4** No external pins are present with an internal fixation. **5** This assesses the circulatory integrity distal to the surgical site.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Fracture of the Hip, Nursing Care

630. **2** Weight-bearing on the uninvolved leg helps maintain its muscle tone while limiting the stress on the involved extremity.

1 When the legs are in a dependent position, venous return is reduced. **3** Speed is not important when moving a client from the bed to a chair. **4** This is an unacceptable rationale for care.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Nursing Care

631. **4** The pelvis is elevated by actions involving the unaffected upper extremities and unoperated leg.

1 It is impossible to lift the pelvis with this movement. **2** The involved leg should not be used because it may dislodge the prosthesis. **3** The client should not turn on the operative side immediately after surgery.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Fracture of the Hip, Nursing Care

632. **3** The three-point gait, which requires arm strength, is used when a limb cannot bear weight. The affected leg and crutches are advanced together, and the strong leg swings through.

1, 2 This requires weight-bearing on both feet. **4** This gait does not simulate ambulation and is not appropriate for this client.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

633. **3** To prevent nerve damage in the axillary area, the palms should bear all the weight.

1 This is unsafe and next to impossible to perform. **2** Pressure in the axillary area causes nerve damage to the brachial plexus. **4** Weight-bearing on the affected lower extremity is initially contraindicated.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Procedures, Mobility: Assistive Devices

634. Answer: 2, 4.

1 Climbing stairs does not cause undue stress on the operative site. **2** Crossing the legs past the midline of the body puts stress on the operative site, which increases the risk for dislocation of the prosthesis. **3** This is encouraged as long as no extremes of position are used. **4** Excessive flexion of the hip can cause dislocation of the prosthesis. **5** This is encouraged because it prevents hip flexion contractures.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 11, Fracture of the Hip, Nursing Care

635. **2** Because pain is an all-encompassing and often demoralizing experience, the client should be kept as pain-free as possible.

1 Surgery is used to correct deformities and facilitate movement; relief of pain is the priority. **3** Concentration is difficult when a client is in severe pain; relief of pain is the priority. **4** Motivation is difficult when a client is in severe pain; relief of pain is the priority.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

636. **3** An antinuclear antibody test (ANA) may be positive in clients with autoimmune disorders such as rheumatoid arthritis and systemic lupus erythematosus.

1 Pancreatic lipase is an enzyme that catalyzes the breakdown of lipids; this is a test used to diagnose pancreatic problems. **2** Bence Jones protein is a urine test helpful in diagnosing multiple myeloma. **4** Alkaline phosphatase is a blood test that determines phosphorus activity; it is used in diagnosing liver and biliary tract disorders and identifying periods of active bone growth or metastasis of cancer to bone.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 11, Arthritis, Data Base

637. **4** Pushing off with the palms of the hands rather than the fingers uses the strongest joints available to rise from a chair.

1 Pressing water from a sponge rather than wringing maintains the joints of the hands in a neutral position. Wringing a sponge requires finger flexion, which places strain on the joints of the hand. **2** The client with ulnar drift deformities of both hands should have faucets and doorknobs that require pushing rather than turning. Pushing exerts less stress on the joints of the hands during routine activities. Turning a doorknob or faucet requires grasping and twisting motions that strain the small joints of the hands. **3** An ulnar drift deformity limits the ability to grasp small objects. Sewing projects require gripping a needle or hook as well as repetitive motions that should be avoided because they strain the joints of the hands.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

638. **1** Active exercises, alternated with periods of rest, offer the best chance at avoiding the joint deformities associated with rheumatoid arthritis because they can move each involved joint through its full range of motion.

2 Massage affects the muscles, not the joints, and will do little to prevent deformities. **3** Immobilization of joints by bracing will promote the formation of contractures and deformities. **4** Isometric exercise will promote muscle, not joint, function.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

639. **3** Range-of-motion exercises are instituted to maintain mobility of joints. Balanced activity and rest will promote resolution of the inflammation.

1 Pain may persist but cannot be allowed to legitimize inactivity. **2** Activity will not prevent the inflammatory process; it may aggravate it. **4** Severely damaged joints may require prosthetic replacement.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

640. Answer: 1, 2.

1 Osteoarthritis affects the weight-bearing joints (e.g., hips and knees) first because they bear the most body weight. The resulting joint damage causes a series of physiologic responses (e.g., release of cytokines and proteolytic enzymes) that lead to more damage. **2** Osteoarthritis affects the weight-bearing joints (e.g., hips and knees) first because they bear the most body weight. **3** Although the ankles are weight-bearing joints and eventually are affected, the motion in the ankles is not as great as in the hips and knees; thus, there is less degeneration. **4** Shoulder joints are not the most likely to be involved first because these are not weight-bearing joints. **5** Although the distal interphalangeal joints are frequently affected, the remaining interphalangeal joints and metacarpals are not.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Arthritis, Data Base

641. **2** Steroids have an antiinflammatory effect that can reduce arthritic pannus formation.

1 This will not provide lubrication. **3** Injection of a drug into a joint is not physiotherapy. **4** Ankylosis refers to fusion of joints. It is only indirectly influenced by steroids, which exert their major effect on the inflammatory process.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

Ch 11, Arthritis, Data Base

642. **2** Ossification of cartilage, particularly of the spine, causes fixation of the involved joints.

1 Inflammation and thickening of the synovial membrane are characteristics of arthritis. **3** Although rest is essential, complete immobility will result in loss of joint motion. **4** Redness and swelling are symptoms of local inflammation; they do not indicate irreversible damage.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Arthritis, Data Base

643. **2** Heberden nodules are the bony or cartilaginous enlargements of the distal interphalangeal joints that are associated with osteoarthritis.

1, 3, 4 These deformities occur with rheumatoid arthritis.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Data Base

644. **3** Inactivity over an extended time increases stiffness and pain in joints.

1 Assistive exercises help maintain joint mobility. **2** This is not a factor; cold applications may decrease joint discomfort. **4** The latex fixation test is positive when the rheumatoid factor is found in blood serum; this factor is present in many conditions, including rheumatoid arthritis, aging, narcotic addiction, and SLE.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 11, Arthritis, Data Base

645. **4** There are no dietary restrictions, but iron and vitamins should be encouraged to treat any underlying nutritional deficiencies.

1 These nutritional restrictions are not indicated. **2** A high-calorie diet will increase the client's weight; this is contraindicated because it will increase the strain on weight-bearing joints. **3** A balanced diet should fulfill nutritional needs; there is no need to increase protein or restrict calcium.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

646. **1** Because of its antiinflammatory effect, aspirin is useful in treating arthritis symptoms.

2, 3 Opioids should be avoided because they promote drug dependency and do not affect the inflammatory process. **4** Alprazolam (Xanax) is an antianxiety, not an antiinflammatory, agent.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Nonsteroidal

Antiinflammatory Drugs

647. Answer: 1, 4.

1 Exercise of involved joints is important to maintain optimal mobility and prevent buildup of calcium deposits. **2** Immobilization causes loss of joint mobility and contractures. **3** Immobility promotes the development of contractures. **4** Functional alignment places the least strain on joints, muscles, and tendons. **5** Immobilization with pillows promotes the development of contractures.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

648. **3** Heat and cold applications reduce inflammation and discomfort.

1 This will depend on the client's tolerance. **2** Avoiding exercise will increase the destructive effects of immobility. **4** Exercises are necessary to prevent contractures and permanent joint damage, but cannot be gradually increased unless the client is able to tolerate them.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

649. **4** There is no special diet for arthritis. A balanced diet, consisting of foods from all groups of the MyPlate dietary guidelines, is essential in maintaining nutrition.

1, 2 Limiting the diet to particular foods does not provide all the essential nutrients. **3** If nutritional intake is adequate, large doses of multivitamins are unnecessary and are dangerous.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

Urinary/Reproductive Systems

650. **1** Primitive sex cells, called spermatogonia, are present in newborn males. At puberty these cells mature and form spermatozoa (spermatogenesis).

2 Spermatogenesis does not occur until puberty. **3** Spermatogonia are found at this time. **4** Only immature cells are found during this period.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Review of Anatomy and Physiology of the Reproductive System

651. **3** Sperm cells are fragile and can be destroyed by heat, causing sterility.

1 Sperm do not move through the urine; they are found in semen. **2** Sperm achieve motion from their flagella; they move from the epididymis to the vas deferens to the ejaculatory ducts to the urethra. **4** During embryonic development the testes are not suspended.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Review of Anatomy and Physiology of the Reproductive System

652. **4** Assessment is the first step in the nursing process. The nurse should determine if the client is a danger to self or others before planning and implementing care.

1 No pattern of unsafe behavior has been identified requiring the use of wrist restraints. Pulling on the retention catheter is a concern because this may cause an injury. However, less restrictive alternatives to wrist restraints should be tried first. A restraint is used as a last resort. **2** Orienting a client to time, place, and person is appropriate for a client with delirium; however, this will not protect the client from attempting to pull out the urinary catheter or from engaging in other unsafe behaviors. **3** Although family members should be involved in a client's care, it is not the responsibility of a family member to assess a client or protect a client from injury.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Related Procedures, Urinary Catheterization

653. **4** The prostate-specific antigen (PSA) is an indication of cancer of the prostate; the higher the level, the greater the tumor burden.

1 Increased creatinine levels may be caused by impaired renal function as a result of blockage by an enlarged prostate, but do not indicate that metastasis has occurred. **2** Increased blood urea nitrogen (BUN) levels may be caused by impaired renal function as a result of blockage by an enlarged prostate, but do not indicate that metastasis has occurred. **3** Nonprotein nitrogen refers to waste products from metabolism of protein and includes urea, creatinine, uric acid, and ammonia.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Cancer of the Prostate, Data Base

654. **3** Inability to empty the bladder as a result of pressure exerted by the enlarging prostate on the urethra causes a backup of urine into the ureters and finally the kidneys (hydronephrosis).

1 Benign prostatic hyperplasia (BPH) develops over the client's life span; it is not congenital. **2** It is uncommon for BPH to become malignant. **4** The acid phosphatase level is increased in prostatic carcinoma.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Benign Prostatic Hyperplasia, Data Base

655. **2** The prostate gland is a tubuloalveolar gland shaped like a ring, with the urethra passing

through its center.

1 The epididymis lies along the top and sides of the testes. **3** The seminal vesicles are on the posterior surface of the bladder. **4** The bulbourethral gland lies below the prostate.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Review of Anatomy and Physiology of the Reproductive System

656. **4** Because the female's urethra is closer to the anus than the male's, it is at greater risk for becoming contaminated.

1 Urinary pH is within the same range in both males and females. **2** Hormonal secretions have no effect on the development of bladder infections. **3** The position of the bladder is the same in males and females.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Urinary Tract Infections, Data Base

657. **2** Refrigeration retards the growth of bacteria and may preserve the specimen for several hours.

1, 3 Growth of bacteria will alter the pH and the glucose and protein levels in the urine; it must be refrigerated to retard growth. **4** This represents an unnecessary waste of time, effort, and money.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Urinary Tract Infections, Nursing Care

658. **3** This ensures drainage and prevents bladder distention and other complications. Patency of the catheter should be established before any other intervention.

1 This is premature. This may be necessary if the catheter is clogged. This usually is required when the drainage is viscous rather than liquid. **2** Assessment is necessary before consultation with the health care provider. **4** Irrigation is avoided if possible because of the associated risk for infection.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 12, Related Procedures, Urinary Catheterization

659. **3** An indwelling catheter dilates the urinary sphincters, keeps the bladder empty, and short-circuits the reflex mechanism based on bladder distention. When the catheter is removed, the body must adapt to functioning once again.

1, 4 Although this may cause difficulty in voiding, there are no data presented to draw this conclusion. **2** A sedentary lifestyle will not cause this problem.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 12, Related Procedures, Urinary Catheterization

660. **Answer: 6 tablets. Use the "Desire over Have" formula of ratio and proportion to solve the problem.**

$$\frac{\text{Desire } 30 \text{ mg}}{\text{Have } 5 \text{ mg}} = \frac{x \text{ tablets}}{1 \text{ tablet}}$$

$$5x = 30$$

$$x = 30 \div 5$$

$$x = 6 \text{ tablets}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

661. **3** An enlarged prostate constricts the urethra, interfering with urine flow and causing retention. When the bladder fills and approaches capacity, small amounts can be voided, but the bladder never empties completely.

1 Edema does not cause the client to void frequently in small amounts. **2** Dysuria is painful or difficult urination, which is not part of the client's responses. **4** The urge to void is caused by stimulation of the stretch receptors as the bladder fills with urine; in suppression, little or no urine is produced.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Cancer of the Prostate, Data Base

662. **4** Cleansing the urinary meatus and adjacent skin removes accumulated bacteria, limiting the possible introduction of microbes into the urinary tract. The catheter should be stabilized so that bathing does not advance the catheter further into the meatus.

1 Although cleansing the perineal area is helpful, it is actually the organisms closest to the meatus that gain entry to the urinary tract first. **2** Although encouraging fluids helps prevent urinary stasis and subsequent infection, the most common source of infection is microorganisms from around the meatus. **3** Irrigations require opening the closed drainage system, allowing the entry of microorganisms; this increases the risk for infection.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Related Procedures, Urinary Catheterization

663. **2** The total amount of irrigation solution instilled into the bladder is eliminated with urine and therefore must be subtracted from the total output to determine the volume of urine excreted.

1 An accurate specific gravity cannot be obtained when irrigating solutions are instilled into the bladder. **3** Hourly outputs are indicated only if there is concern about renal failure or oliguria. **4** A 24-hour urine test is not accurate if the client is receiving continuous irrigations.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 12, Related Procedures, Continuous Bladder Irrigation

664. **3** The length of the urethra is shorter in females than in males; therefore, microorganisms have a shorter distance to travel to reach the bladder. The proximity of the meatus to the anus in females also increases the incidence of urinary tract infections.

1 Fluid intake may or may not be adequate in both males and females and does not account for the difference. **2** Hygienic practices can be inadequate in males or females. **4** Mucous membranes are continuous in both males and females.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Urinary Tract Infections, Data Base

665. **4** The causative organism should be isolated before starting antibiotic therapy.

1 Catheterization is not a routine intervention for urethritis. **2** Although client teaching is important, it is not the priority at this time. **3** A 24-hour urine test will not determine the infective organism causing the problem.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Urinary Tract Infections, Nursing Care

666. **1** Cloudy urine usually indicates purulent drainage (pyuria) associated with infection.

2 Viscosity is a characteristic that is not measurable. **3** Urinary glucose levels are not affected by urinary tract infections. **4** Specific gravity yields information related to fluid balance.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Urinary Tract Infections, Nursing Care

667. **Answer: 2 tablets. First convert 0.1 g to its equivalent in mg by multiplying by 1000 (move the decimal 3 places to the right). Use the “Desire over Have” formula of ratio and proportion to solve the problem.**

$$\frac{\text{Desire}}{\text{Have}} = \frac{100 \text{ mg}}{50 \text{ mg}} = \frac{x \text{ tablets}}{1 \text{ tablet}}$$

$$50x = 100$$

$$x = 100 \div 50$$

$$x = 2 \text{ tablets}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

668. **4** Hemolytic streptococci, common in throat infections, can initiate an immune reaction that damages the glomeruli.

1 Baths may be linked to urethritis, not glomerulonephritis. **2** Fluid restriction is moderated as the client improves; fluid helps prevent urinary stasis. **3** Activity helps prevent urinary stasis.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Glomerulonephritis, Data Base

669. **1** Sharp, severe pain (renal colic) radiating toward the genitalia and thigh is caused by ureteral distention. The priority is to relieve the pain.

2 Although the client is overweight and weight loss is desirable, it is a long-term goal. **3** Although hematuria is a concern, blood loss usually is not massive. **4** Hypertension is not specific to urinary

calculi.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 12, Urolithiasis and Nephrolithiasis, Nursing Care

670. Answer: 2, 3, 5.

1 Fluids should be encouraged to promote dilute urine and facilitate passage of the calculi. **2** A urinary calculus may obstruct urine flow, which will be reflected in a decreased output; obstruction may result in hydronephrosis. **3** Urine is strained to determine whether any calculi or calcium gravel is passed. **4** Blood pressure assessment is of no particular importance to the client with kidney stones (calculi). **5** Reduction of pain is a priority. A calculus obstructing a ureter causes flank pain that extends toward the abdomen, scrotum and testes, or vulva; the pain begins suddenly and is severe (renal colic).

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 12, Urolithiasis and Nephrolithiasis, Nursing Care

671. Answer: 3, 4.

1 Eggs are not high in purine and need not be avoided. **2** Fruits are not high in purine and need not be avoided. **3** Uric acid stones are controlled by a low-purine diet; foods high in purine, such as organ (glandular) meats, should be avoided. **4** Uric acid stones are controlled by a low-purine diet; foods high in purine, such as meat extracts (e.g., gravy), organ meats, turkey, and whole grains should be avoided. **5** Raw vegetables are not high in purine and need not be avoided.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Urolithiasis and Nephrolithiasis, Data Base

672. **4** Output should be at least 30 mL/hr or more; a decreased output may indicate obstruction or impaired kidney function.

1 Blood, tinting the urine pink, is expected. **2** Drainage may be pink; bright red drainage should be reported. **3** This intake is adequate; however, a higher intake is usually preferred (e.g., 2000 to 3000 mL).

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 12, Urolithiasis and Nephrolithiasis, Nursing Care

673. **2** Pain relief is the priority. Clients report that ureteral colic is excruciatingly painful. Once pain is under control and the client is comfortable, other medical and nursing interventions can be implemented.

1 Although straining all urine is required, pain relief is the priority. Once the client is medicated for pain, the urine that was set aside can be strained. **3** The high-Fowler position is not necessary. The client can be assisted to assume a position of comfort. **4** The urine was sent for a culture and sensitivity in the emergency department.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 12, Urolithiasis and Nephrolithiasis, Nursing Care

674. **2** Calcium and phosphorus are components of these stones; foods high in calcium and phosphorus should be avoided.

1, 4 This diet is indicated for clients with gout. **3** Foods high in phosphorus must be avoided.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Urolithiasis and Nephrolithiasis, Data Base

675. **2** Uric acid stones are controlled by a low-purine diet. Foods high in purine, such as organ meats and extracts, should be avoided.

1 Milk should be avoided with calcium, not uric acid, stones. **3** Cheese should be avoided with cystine, not uric acid, stones. **4** Vegetables do not have to be avoided; however, legumes should be kept to a minimum.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Urolithiasis and Nephrolithiasis, Data Base

676. Answer: 3, 4.

1 Excessive nephron damage in end-stage renal disease causes oliguria, not polyuria; excessive urination is common in early kidney insufficiency from an inability to concentrate urine. **2** Jaundice is common with biliary obstruction, not end-stage renal disease. **3** Azotemia is an increase in nitrogenous waste, particularly urea, in the blood; this is common in end-stage renal disease. **4** Hypertension occurs as a result of fluid and sodium overload and dysfunction of the rennin-angiotensin-aldosterone system. **5** Anemia, not polycythemia, occurs because of decreased erythropoietin, decreased RBC production, and decreased RBC survival time.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Chronic Kidney Failure, Data Base

677. **1** An output of 50 mL/hr is adequate. When output drops to less than 30 mL/hr, it may indicate renal failure and the health care provider should be notified.

2 Irrigating the nephrostomy is unnecessary and requires a health care provider's order. **3** Encouraging oral fluids is contraindicated. The client probably will still be under the influence of anesthesia and have no gag reflex. **4** The health care provider should be notified when the hourly output drops to less than 30 mL/hr.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Adenocarcinoma of the Kidney, Nursing Care

678. **4** Preoperative cleansing of the bowel is necessary before surgical resection and formation of a urinary conduit.

1 Fluids should not be restricted until 2 to 4 hours before surgery or based on the specific orders of the health care provider. **2** These exercises have no direct effect on this procedure. **3** An ileal conduit is not irrigated.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Bladder Tumors, Nursing Care

679. **3** The ureters are implanted in a segment of the ileum, and urine drains continually because there is no sphincter; continent catheterizable stomal reservoirs do not continually drain but are accessed with a catheter approximately every 4 hours.

1 Ileal conduits are not neurologically innervated; therefore, no peristalsis exists. **2** No feces are present in an ileal conduit. **4** Absorption of nutrients is not affected by an ileal conduit.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 12, Bladder Tumors, Data Base

680. **1** Because of the anatomic position of the incision, drainage will flow by gravity and accumulate under the client lying in the supine position.

2 Nail beds indicate peripheral perfusion, not early hemorrhage. **3** Respiratory hemorrhage is not common after kidney surgery. **4** The blood pressure decreases and the pulse rate increases with

hemorrhage.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 12, Adenocarcinoma of the Kidney, Nursing Care

681. **1** Postoperatively the client has a suprapubic cystostomy tube to instill a GU irrigant to dilute the urine and limit clot formation, as well as an indwelling catheter under tension to limit bleeding and drain urine.

2 A nasogastric tube is not expected. **3** The kidneys are not involved in this surgery. **4** The ureters are not involved in this surgery.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 12, Benign Prostatic Hyperplasia, Nursing Care

682. **2** The catheter must be reinserted by the health care provider to ensure bladder emptying, maintain pressure at the operative site, and prevent hemorrhage.

1 Because of the danger of further trauma to the urethra and surgical site, the health care provider should insert the catheter. **3** Irrigations require a health care provider's order. **4** In addition to urinary drainage, the balloon of the urethral catheter exerts pressure against the prostate to help control bleeding and should be reinserted.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Benign Prostatic Hyperplasia, Nursing Care

683. **1** The bladder is a sterile body cavity; when introducing a solution/catheter, surgical asepsis is required.

2 Excessive pressure can traumatize the lining of the urinary tract. **3** The solution is generally administered at room temperature. **4** This is done if the fluid does not return by gravity; the negative pressure exerted during aspiration may cause trauma.

Client Need: Safety and Infection Control; **Cognitive Level:** Comprehension; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 12, Related Procedures, Urinary Catheterization

684. **3** Because the urine and irrigant are mixed, the amount of infused irrigant must be measured accurately and subtracted from the total output to determine the urinary output.

1 The bedside drainage bag contains both irrigant and urine. **2** The purpose of continuous bladder irrigation is to prevent obstruction of the catheter; stopping the irrigation will increase the risk for obstruction. **4** Both urine and irrigant mix in the bladder and drain from the same port.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 12, Related Procedures, Continuous Bladder Irrigation

685. **1** Bicarbonate buffering is limited, hydrogen ions accumulate, and acidosis results.

2 The rate of respirations increases in metabolic acidosis to compensate for a low pH. **3** The fluid balance does not significantly alter the pH. **4** The retention of sodium ions is related to fluid retention and edema rather than to acidosis.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 12, Acute Kidney Failure, Data Base

686. **3** The amount of protein permitted in the diet (usually less than 50 g) depends on the extent of kidney function; excess protein causes an increase in urea concentration, which should be avoided; adequate calories are provided to prevent tissue catabolism that also results in an increase in metabolic waste products.

1 In kidney failure the kidneys are unable to eliminate the waste products of a high-protein diet. **2** The body is able to synthesize the nonessential amino acids. **4** Urea is a waste product of protein

metabolism; the body is able to synthesize the nonessential amino acids.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Acute Kidney Failure, Data Base

687. **2** In kidney failure, as the glomerular filtration rate decreases, phosphorus is retained. As hyperphosphatemia occurs, calcium is excreted. Calcium depletion (hypocalcemia) causes tetany.

1, 3, 4 The symptoms described are not characteristic of this condition.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Acute Kidney Failure, Data Base

688. **4** An increased blood urea nitrogen level, indicating uremia, is toxic to the CNS and causes mental cloudiness and confusion and can result in a loss of consciousness.

1 Hyperkalemia is associated with muscle weakness, irritability, nausea, and diarrhea. **2** Hypernatremia is associated with firm tissue turgor, oliguria, and agitation. **3** Dehydration can cause fatigue, dry skin and mucous membranes, and rapid pulse and respiratory rates.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Acute Kidney Failure, Data Base

689. Answer: 2, 4.

1 Extensive nephron damage causes oliguria, not polyuria. **2** Lethargy results from anemia, buildup of urea, and vitamin deficiencies. **3** Hypotension does not occur; the blood pressure is within the expected range or elevated as a result of increased total body fluid. **4** Muscle twitching results from excess nitrogenous wastes. **5** Metabolic, not respiratory, acidosis occurs because of the kidneys' inability to excrete hydrogen and regulate sodium and bicarbonate levels.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 12, Chronic Kidney Failure/End-Stage Renal Failure, Data Base

690. **4** Diffusion moves particles from an area of greater concentration to an area of lesser concentration; osmosis moves fluid from an area of lesser to an area of greater concentration of particles, thereby removing waste products into the dialysate, which is then drained from the abdomen.

1 The principle of ultrafiltration involves a pressure gradient, which is associated with hemodialysis, not peritoneal dialysis. **2** Peritoneal dialysis uses the peritoneal membrane to indirectly cleanse the blood. **3** Dialysate does not clear toxins in a short time; exchanges may occur four or five times a day.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 12, Chronic Kidney Failure/End-Stage Renal Failure, Data Base

691. **4** Peritoneal dialysis uses the peritoneum as a selectively permeable membrane for diffusion of toxins and wastes from the blood into the dialyzing solution.

1 Peritoneal dialysis acts as a substitute for kidney function; it does not reestablish kidney function. **2** The dialysate does not clean the peritoneal membrane; the semipermeable membrane allows toxins and wastes to pass into the dialysate within the abdominal cavity. **3** Fluid in the abdominal cavity does not enter the intracellular compartment.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 12](#), Chronic Kidney Failure/End-Stage Renal Failure, Data Base

692. **4** Protein breakdown liberates cellular potassium ions, leading to hyperkalemia, which can cause a cardiac dysrhythmia and standstill. The failure of the kidneys to maintain a balance of potassium is one of the main indications for dialysis.

1 Ascites occurs in liver disease and is not an indication for dialysis. **2** Dialysis is not the usual treatment for acidosis; usually this responds to administration of alkaline drugs. **3** Dialysis is not a treatment for hypertension; this is usually controlled by antihypertensive medication and diet.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 12](#), Chronic Kidney Failure/End-Stage Renal Failure, Data Base

693. Answer: 2, 3.

1 Spasm of the facial muscles following a tap over the facial nerve (Chvostek sign) indicates hypocalcemia. **2** Sodium is the most abundant cation in the extracellular fluid and functions as part of the sodium/potassium pump. In the presence of a deficit, the client will exhibit confusion, lethargy, headache, and muscle cramps. **3** Sodium, a cation in the extracellular fluid, functions as part of the sodium/potassium pump. Lethargy results in the presence of a deficit. **4** Cardiac dysrhythmias are associated with increases or decreases in potassium and calcium. **5** An increase in body temperature reflects a possible infection, not an electrolyte imbalance.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 12](#), Chronic Kidney Failure/End-Stage Renal Failure, Nursing Care

694. Answer: 1, 2, 4.

1 The presence of a bruit indicates patency of the arteriovenous (AV) fistula. **2** The presence of a vibration or thrill indicates patency of the AV fistula. **3** An AV fistula is internal and is not irrigated. **4** Drawing blood is avoided to prevent damage to the AV fistula. **5** The AV fistula is under the skin and is not clamped.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 12](#), Chronic Kidney Failure/End-Stage Renal Failure, Nursing Care

695. **2** A baseline weight must be obtained to be able to determine the net fluid loss from dialysis.

1 This is not necessary; clients with advanced kidney disease may not produce urine. **3** Medications are often delayed until after dialysis to prevent them from being filtered into the dialysate. **4** This applies to peritoneal dialysis, not hemodialysis.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 12](#), Chronic Kidney Failure/End-Stage Renal Failure, Nursing Care

696. **2** Turning from side to side will change the position of the catheter, thereby freeing the drainage holes of the tubing, which may be obstructed.

1, 3 This does not influence drainage of dialysate from the peritoneal cavity. **4** The position of the catheter should be changed only by the health care provider.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 12](#), Chronic Kidney Failure/End-Stage Renal Failure, Nursing Care

697. **1** Radiation may damage the bowel mucosa, causing bleeding.

2 Blood pressure changes are not expected during radiation therapy. **3** Enemas are contraindicated with lower abdominal radiation because of the damaged intestinal mucosa. **4** Diarrhea, not constipation, occurs with radiation that influences the intestine.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 12](#), Bladder Tumors, Nursing Care

698. **4** The expected serum creatinine range is 0.5 to 1.2 mg/dL. The nurse should obtain additional information that may indicate acute rejection; therefore, the nurse must first assess for decreased urine output and changes in vital signs.

1 Once additional data are collected (e.g., urine output, current blood work reports) and the IV infusions are checked, the nurse should contact the health care provider, explain the situation, and implement further orders. **2** Eventually the nurse should ensure that proper infusion rates, along with IV medications, are being maintained after the client is first assessed for decreased urine output and for changes in vital signs. **3** Current blood work reports should be obtained after the client is assessed for decreased urine output and changes in vital signs.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** [Ch 12](#), Chronic Kidney Failure/End-Stage Renal Failure, Nursing Care

Infectious Diseases

699. **1** Malaria is caused by the protozoan *P. falciparum*, which is carried by mosquitoes.

2, 3, 4 This will not prevent protozoa from entering the bloodstream.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Malaria, Data Base

700. Answer: 3, 4.

1 Oliguria, not polyuria, occurs in malaria-induced kidney failure. **2** Leukopenia does not occur. **3** A high fever (hyperthermia) results from the disease process. **4** Parasites invade the erythrocytes, subsequently dividing and causing the cell to burst. The spleen enlarges from the sloughing of RBCs. **5** Erythrocytosis does not occur.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 13, Malaria, Data Base

701. **4** Maintaining adequate nutritional and fluid balance is essential to life and must be accomplished during periods when intestinal motility is not excessive so that absorption can occur.

1 Although shaking chills may occur, seizures generally do not occur. **2** Blood transfusions are not used in the treatment of malaria. **3** This is unnecessary; infection can occur only through direct serum contact or a bite from an infected *Anopheles* mosquito.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Malaria, Nursing Care

702. **3** Quinine sulfate is used for malaria when the plasmodia are resistant to the less toxic chloroquine. However, a new strain of *Plasmodium* that is resistant to quinine must be treated with a combination of quinine (quick-acting), pyrimethamine, and sulfonamide (slow-acting) therapy.

1 The aim of therapy is to eliminate, not control, the parasite. **2** Reinfestation can occur with a different species or strain of *Plasmodium*. **4** The immunity is permanent if drug therapy is successful.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Malaria, Data Base

703. **1** *P. falciparum* in persons who have chronic malaria can cause hemoglobinuria, intravascular hemolysis, and renal failure as a result of destruction of RBCs.

2, 3, 4 This is unrelated to the development of blackwater fever.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 13, Malaria, Data Base

704. **4** AIDS is diagnosed when an individual with HIV develops one of the following: a CD4⁺ T lymphocyte level of less than 200 cells/ μ L, wasting syndrome, dementia, one of the listed opportunistic cancers (e.g., Kaposi sarcoma [KS], Burkitt lymphoma), or one of the listed opportunistic infections (e.g., *Pneumocystis jiroveci* pneumonia, *M. tuberculosis*).

1, 2 The development of HIV-specific antibodies (seroconversion) accompanied by acute retroviral syndrome (flu-like syndrome with fever, swollen lymph glands, headache, malaise, nausea, diarrhea, diffuse rash, joint and muscle pain) 1 to 3 weeks after exposure to HIV reflects acquisition of the virus, not the development of AIDS. **3** A client who is HIV positive is capable of transmitting the virus with or without the diagnosis of AIDS.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Acquired Immunodeficiency Syndrome, Data Base

705. **1** The client has a weakened immune response. Instructions regarding rest, nutrition, and avoidance of unnecessary exposure to people with infections help reduce the risk for infection.

2 Clients can be taught cognitive strategies to cope with depression, but the strategies will not prevent depression. **3** The client may experience social isolation as a result of society's fears and misconceptions; these are beyond the client's control. **4** Although Kaposi sarcoma is related to HIV infection, there are no specific measures to prevent its occurrence.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Acquired Immunodeficiency Syndrome, Nursing Care

706. **2** Epidemiologic evidence has identified breast milk as a source of HIV transmission.

1 This behavior is not believed to transmit HIV. **3** This is unrelated to transmission of HIV. **4** HIV transmission does not occur from contact associated with caring for a newborn.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 13, Acquired Immunodeficiency Syndrome, Nursing Care

707. Answer: 3, 5.

1 Wearing a mask is necessary for procedures where splashing of body fluids is anticipated or a risk. **2** Wearing a gown is necessary for procedures where splashing of body fluids is anticipated or a risk. **3** Wearing gloves protects the nurse from potential contamination. Gloves are appropriate when there is a risk of the hands coming into contact with a client's blood or body fluids. **4** Wearing a face shield is necessary for procedures where splashing of body fluids is anticipated. **5** Hand hygiene is the most effective way to prevent the spread of microorganisms.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Acquired Immunodeficiency Syndrome, Nursing Care

708. **1** A person cannot contract HIV by eating from dishes previously used by an individual with AIDS; routine care is adequate.

2, 3, 4 This is unnecessary.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Acquired Immunodeficiency Syndrome, Data Base

709. **3** Vaseline (petroleum jelly) breaks down condom integrity and will increase the risk for condom failure.

1 Using Vaseline instead of a water-soluble lubricant shows a lack of knowledge about condom use, a form of safer sex. **2** Although the person is attempting to be responsible, there is a lack of knowledge and the behavior is unsafe. **4** Condom use shows the client has some understanding about the transmission of HIV.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 13, Acquired Immunodeficiency Syndrome, Nursing Care

710. **3** Irritation of the mucosa may cause increased bleeding or perforation and therefore should be avoided.

1 All clients' diets should be nutritionally balanced; this is not specific to this client's problem. **2** Bulk and roughage may irritate the mucosa and should be decreased. **4** Psychologic support is not the

primary goal; efforts should be made to include foods that are psychologically beneficial but eliminate foods that are irritating to the mucosa.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 13, Viral and Bacterial Infectious Gastroenteritis, Data Base

711. **4** *C. welchii* (*C. perfringens*) is a spore-forming bacterium that produces a toxin that decays muscle, releasing a gas; it is one of the major causative agents for gas gangrene.

1 *Clostridium tetani* enters the body via puncture of the skin and affects the nervous system; gas gangrene does not occur with this organism. **2** Anthrax disease is caused by *Bacillus anthracis*, not *Clostridium*. **3** *Clostridium botulinum* contaminates food that is then ingested, causing botulism.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 13, Tetanus, Data Base

712. **3** Infection is caused by viral contact with the dermal layer of skin; cleansing the wound with soap and water helps remove superficial contaminants.

1 Antivenins are not effective against microbiologic stresses. **2** A pressure dressing will not prevent infection. **4** Application of a tourniquet may impair circulation and will not prevent infection.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 13, Rabies, Data Base

713. **1** *Toxoplasma gondii*, a protozoan, can be transmitted by exposure to infected cat feces or by ingestion of undercooked, contaminated meat.

2 Toxoplasmosis is not related to heavy metals. **3** *T. gondii* is a parasite of warm-blooded animals; fish are not considered the source of contamination. **4** Toxoplasmosis is not related to radiation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Toxoplasmosis, Data Base

714. Answer: 1, 2, 4, 5.

1 Toxins from bacilli invade nervous tissue, causing restlessness. **2** Toxins from bacilli invade nervous tissue, causing muscle spasms and muscular rigidity. **3** Tetanus causes spasms of facial muscles, resulting in a grotesque grinning expression (risus sardonicus) and spasms of masticatory muscles (trismus), not atony of facial muscles. **4** Toxins from the bacillus invade nervous tissue; respiratory spasms may result in respiratory failure. **5** Toxins from bacilli invade nervous tissue, causing spastic contraction of voluntary muscles.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 13, Tetanus, Nursing Care

715. Answer: 4, 5.

1 The CNS is affected; diarrhea is not a concern. **2** Memory is not affected by this disease. **3** Urinary stasis is not an expected problem; catheterization can be employed if necessary. **4** Rabies, an acute infectious disease affecting the central nervous system causes stiffness of the back of the neck (nuchal rigidity). **5** Painful pharyngeal spasms when swallowing or even looking at water are responsible for the use of the term *hydrophobia* to refer to rabies.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 13, Rabies, Nursing Care

716. **1** Massive doses of penicillin may limit CNS damage if treatment is started before neural deterioration from syphilis occurs.

2 Tranquilizers are used to modify behavior, not to treat general paresis. **3** Behavior, not paresis, is

treated with behavior modification. **4** Electroconvulsive therapy is used to treat certain psychiatric disorders.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Syphilis, Data Base

717. **3** Inflammation associated with gonorrhea may lead to destruction of the epididymis in males and tubal mucosal destruction in females, causing sterility.

1 Many gonococci have become penicillin resistant and difficult to treat. **2** Gonorrhea is a common sexually transmitted infection. **4** *Neisseria gonorrhoeae* will invade internal structures, particularly the epididymis in males and the fallopian tubes in females.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 13, Gonorrhea, Data Base

718. **3** Once people become sexually active, they usually remain sexually active; a condom, although not 100% effective, is the best protection against gonorrhea in a sexually active person.

1 This has no proven protective effect against sexually transmitted infections; excessive douching can alter the vaginal environment and may promote an ascending infection. **2** This is not a realistic response to a sexually active person. **4** Spermicidal cream has no protective effect against sexually transmitted infections.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 13, Gonorrhea, Nursing Care

719. **2** Gonorrhea frequently is an ascending infection that affects the fallopian tubes.

1 Syphilis, if untreated, may spread to the nervous system via the blood; it does not usually cause ascending infection of the fallopian tubes. **3** This is an aberrant growth; it will not cause inflammation of the fallopian tubes. **4** A spontaneous abortion should not cause inflammation of the fallopian tubes.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 13, Gonorrhea, Data Base

720. **3** The exudate from herpes virus type 2 is highly contagious; gown and gloves should be worn. A face shield should be worn if there is a potential for splashing of body fluids.

1 The organism is not in respiratory tract secretions; the organism is present in the exudate from active lesions. **2** This is unnecessary. **4** This is not an airborne infectious disease.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 13, Herpes Genitalis, Nursing Care

721. **4** This is an illustration of herpes simplex type 2 in a female client. There is no medication that cures this disease; however, an antiviral such as acyclovir sodium (Zovirax) generally is prescribed to reduce healing time and the severity of clinical findings.

1 Zidovudine (Retrovir) is a nucleoside analog reverse transcriptase inhibitor often prescribed to treat acquired immunodeficiency syndrome (AIDS). **2** Metronidazole (Flagyl) is an antimicrobial agent generally prescribed to treat gastroenteritis caused by *Clostridium difficile*. **3** Ceftriaxone (Rocephin) is an antimicrobial agent generally prescribed for gonorrhea.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis **Reference:** Ch 13, Herpes Genitalis, Data Base

722. **3** Although the usual incubation period of syphilis is about 3 weeks, clinical symptoms may

appear as early as 9 days or as long as 3 months after exposure.

1, 2, 4 The usual incubation period is 21 days.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 13](#), Syphilis, Data Base

723. **1** The tertiary stage is noncontagious; tertiary lesions contain only small numbers of treponemes.

2 The primary stage lasts 8 to 12 weeks; the chancre is teeming with spirochetes, and the individual is contagious. **3** The duration of the secondary stage is variable (about 5 years); skin and mucosal lesions contain spirochetes, and the individual is highly contagious. **4** The incubation stage lasts 2 to 6 weeks; spirochetes proliferate at the entry site, and the individual is contagious.

Client Need: Safety and Infection Control; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 13](#), Syphilis, Data Base

724. **1** Gonorrhea is a highly contagious disease transmitted through sexual intercourse. The incubation period varies, but symptoms usually occur 2 to 10 days after contact. Early effective treatment prevents complications such as sterility.

2 The parents may be unaware that their child has gonorrhea. **3** Most birth control measures do not protect against the transmission of sexually transmitted infections. **4** Contracting venereal infection is not necessarily indicative of promiscuity.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 13](#), Gonorrhea, Nursing Care

725. **1** Ceftriaxone (Rocephin) followed by doxycycline (Vibramycin) is specific for *N. gonorrhoeae* and eradicates the microorganism; other treatment regimens are available for resistant strains.

2 If the disease progresses before the diagnosis is made, complications such as sterility, heart valve damage, or joint degeneration may occur. **3** Transmission is not controlled; the organism is eliminated. **4** If tubal structures, heart valves, or joints degenerate, the pathologic changes will not be reversed by antibiotic therapy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 13](#), Gonorrhea, Data Base

Drug-Related Responses

726. **4** Tumor necrosis factor (TNF) is produced mainly by macrophages in synovium; over time, through various mechanisms, the presence of TNF causes inflammation of synovium, destruction of bone and cartilage, joint stiffness, and pain. TNF inhibitors or blockers neutralize TNF, thereby interrupting the inflammatory cascade; this inhibits the inflammatory response and other mechanisms, thereby slowing tissue damage.

1, 2, 3 TNF inhibitors are not prescribed for clients with this disease.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 11, Arthritis, Data Base

727. **3** Povidone-iodine (Betadine) exerts bactericidal action that helps eliminate surface bacteria that will contaminate culture results.

1 Povidone-iodine does not have this property. **2** It does dry the skin. Alcohol is not used because it is bacteriostatic; it inhibits, not eliminates, microorganisms. **4** Although povidone-iodine may provide a cool feeling, this not a reason for its use.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients at Risk for Infection

728. **2** AcetaZOLAMIDE (Diamox) is a carbonic anhydrase inhibitor that decreases inflow of aqueous humor and controls intraocular pressure in acute angle-closure glaucoma attack.

1, 3 This diuretic has no effect on the eye. **4** This strong miotic does not affect production of aqueous humor.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Ophthalmic Agents

729. **2** Methyldopa (Aldomet) is associated with acquired hemolytic anemia and should be discontinued to prevent progression and complications.

1 Famotidine (Pepcid) will not cause these symptoms; it decreases gastric acid secretion, which will decrease the risk of gastrointestinal bleeding. **3** Ferrous sulfate (Feosol) is an iron supplement to correct, not cause, symptoms of anemia. **4** Levothyroxine (Synthroid) is not associated with RBC destruction.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Antihypertensives

730. **3** Spironolactone (Aldactone) is a potassium-sparing diuretic; hyperkalemia is an adverse effect.

1, 2, 4 This diuretic generally causes hypokalemia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Diuretics

731. Answer: 1, 3.

1 Albuterol's (Proventil) sympathomimetic effect causes central nervous stimulation, precipitating tremors, restlessness, and anxiety. **2** Albuterol may cause restlessness, irritability, and tremors, not lethargy. **3** Albuterol's (Proventil) sympathomimetic effect causes cardiac stimulation that may result in tachycardia and palpitations. **4** Albuterol may cause dizziness, not visual disturbances. **5** Albuterol will cause tachycardia, not bradycardia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 7, Related Pharmacology, Bronchodilators and Antiasthmatics

732. **2** Intrathecal morphine can depress respiratory function depending on the level it reaches within the spinal column; hourly assessments during the first 12 to 24 hours will allow for early intervention with an antidote if respiratory depression needs to be corrected.

1 Bradycardia and hypotension occur. **3** This time between doses is too long if the client's respirations are depressed. The recommended adult dosage usually is 0.4 to 2 mg every 2 to 3 minutes, if indicated. **4** Central nervous system depression occurs secondary to hypoxia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 3, Pain, Opioid Analgesics

733. **2** Changing positions slowly will help prevent the side effect of orthostatic hypotension.

1 This drug can relax the esophagus and lead to acid reflux; lying down after meals may intensify this effect. **3, 4** This is not necessary.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics

734. **2** Nitroglycerin tablets are affected by light, heat, and moisture. Loss of potency can occur after 3 months, reducing the drug's effectiveness in relieving pain. A new supply should be obtained routinely.

1 This indicates the tablets have retained their potency. **3, 4** This does not necessarily indicate loss of potency.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Coronary Vasodilators

735. **2** Warfarin (Coumadin) depresses prothrombin activity and inhibits formation of several clotting factors by the liver. Its antagonist is vitamin K, which is involved in prothrombin formation.

1 Heparin is an anticoagulant. **3** Iron dextran (Imferon) is an iron supplement, not an antidote for warfarin. **4** Protamine sulfate is the antidote for heparin overdose.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

736. **3** Metoprolol (Lopressor) is a beta blocker; it decreases the heart rate and thus is contraindicated with bradycardia.

1 Metoprolol is an antihypertensive agent. **2, 4** By reducing cardiac output, metoprolol reduces myocardial oxygen consumption, which helps prevent ischemia and anginal pain.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics

737. **1** Beta blockers reduce cardiac output, so they are contraindicated for clients with uncontrolled heart failure.

2 Beta blockers are used to treat hypertension because they cause vasodilation and decrease cardiac contractility. **3** Beta blockers lower heart rate. **4** Beta blockers are used to treat coronary artery disease because they decrease myocardial oxygen demand by reducing peripheral resistance and cardiac contractility.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics

738. **3** Therapeutic effects of simvastatin (Zocor) include decreased levels of serum triglycerides,

LDL, and cholesterol.

1 This is not related to simvastatin; it is a measure used to evaluate blood coagulation. **2, 4** This is not related to simvastatin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Antilipidemics

739. **3** Because furosemide (Lasix) and aspirin compete for the same renal excretory sites, salicylate toxicity may occur even with lower dosages.

1 Aspirin does not affect furosemide metabolism. **2** This response does not take into account other drugs that the client is receiving. **4** Although furosemide has a hyperuricemic effect similar to that of thiazide diuretics, it is not potentiated by aspirin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Diuretics

740. **3** Nitroglycerin is sensitive to light and moisture, so it must be stored in a dark, airtight container.

1 This medication usually is taken prn. If more than three tablets are necessary in a 15-minute period, emergency medical attention should be received. **2** This may be an expected side effect, and the medication should not be discontinued. **4** Dizziness indicates the dosage may need to be decreased by the health care provider.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Coronary Vasodilators

741. **4** This is a nonopioid analgesic that inhibits prostaglandins, which serve as mediators for pain; it does not impact platelet function.

1, 2, 3 This is a nonselective nonsteroidal antiinflammatory drug (NSAID) that is contraindicated for clients undergoing surgery; nonselective NSAIDs have an inhibitory effect on thromboxane, a strong aggregating agent, and can result in bleeding.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Related Pharmacology, Other Nonopioid Analgesics

742. **2** As renal perfusion increases, urinary output also should increase; doses greater than 10 mcg/kg/min can cause renal vasoconstriction and decreased urinary output.

1 A change in blood pressure is not a direct predictor of the effectiveness of DOPamine given at a level of 2 mcg/kg/min; at 10 mcg/kg/min a client will experience an increased cardiac output and an increased blood pressure. **3** Body temperature does not indicate improved renal perfusion. **4** In this situation, improvement of renal perfusion is not directly related to the client's level of consciousness.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Medications to Manage Hypotension in Shock

743. Answer: 3, 4, 5.

1 The diet should provide maximum protein and carbohydrates to meet demands related to restoration of body cells and energy. **2** This will not alter the client's nutrition. **3** Selecting preferred foods increases the likelihood of the client eating the food. **4** Small, frequent feedings are better tolerated than large meals. **5** Antiemetics should be administered prophylactically to decrease

nausea and enhance appetite.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Neoplastic Disorders

744. Answer: 1, 3.

1 Visual disturbances are serious effects because retinopathy can occur with hydroxychloroquine (Plaquenil). **2** Urinary retention is not related to these drugs. **3** Bleeding tendencies, a potential effect of both drugs, may indicate thrombocytopenia, which can be life threatening. **4** Difficulty swallowing does not occur; however, nausea and vomiting may occur with both drugs. **5** Although irritability and restlessness may occur with both drugs, it is not life threatening and does not have to be reported to the health care provider immediately.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Nursing Care

745. **1** Toxic levels of digoxin (Lanoxin) stimulate the medullary chemoreceptor trigger zone, resulting in anorexia, nausea, and vomiting.

2, 3, 4 Although anorexia, nausea, and vomiting may be side effects of this drug, they do not indicate toxicity.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Cardiac Glycosides

746. Answer: 1, 3.

1 Most chemotherapeutic agents interfere with mitosis. The rapidly dividing cells of the mucous membranes of the gastrointestinal tract are affected, causing stomatitis and diarrhea. **2** Most chemotherapeutic agents interfere with mitosis. The bone marrow consists of rapidly dividing cells, and therefore its activity is depressed. Leukopenia, not leukocytosis, can occur. **3** Bone marrow depression often causes thrombocytopenia, resulting in bleeding tendencies. **4** The erythrocyte sedimentation rate (ESR) generally increases in the presence of tissue inflammation or necrosis. **5** Hemoglobin and hematocrit levels may decrease because of an inadequate number of RBCs related to bone marrow depression.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 3, Neoplastic Disorders, Related Pharmacology, Major Side Effects

747. **2** Visual disturbances, such as blurred and/or yellow vision, may be evidence of digoxin (Lanoxin) toxicity.

1 Chest pain is not a toxic effect of digoxin (Lanoxin). **3** Persistent hiccups (singultus) are not related to digoxin toxicity. **4** An increased urinary output is not a sign of digoxin toxicity; it may be a sign of a therapeutic response to the drug, an improved cardiac output.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Cardiac Glycosides

748. **2** Amiodarone (Cordarone) is a class III antidysrhythmic used to treat ventricular and supraventricular tachycardia, and conversion of atrial fibrillation.

1 This response is expected with antilipidemics.

3 This response is expected with antihypertensives.

4 This response is expected with antianginal agents such as nitrates.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation; **Reference:** Ch 6, Related Pharmacology, Cardiac Glycosides

749. **4** The dosage of warfarin (Coumadin) is adjusted according to INR results; if the client fails to take the drug as prescribed, test results will not be reliable in monitoring the client's response to therapy.

1 Although some medications can affect the absorption or metabolism of warfarin and should be investigated, this is less likely to be a cause of fluctuations in laboratory values. **2, 3** This does not affect the absorption of warfarin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

750. **4** Warfarin (Coumadin) is administered orally for 2 or 3 days to achieve the desired effect on the INR level before heparin is discontinued.

1 These drugs do not dissolve clots already present. **2** Because each drug affects a different part of the coagulation mechanism, dosages must be adjusted separately. **3** This does not account for the reason for the administration of both drugs; warfarin will not exert an immediate therapeutic effect.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

751. **1** Warfarin (Coumadin) causes an increase in the prothrombin time and INR level, leading to an increased risk for bleeding. Any abnormal or prolonged bleeding must be reported, because it may indicate an excessive level of the drug.

2, 3, 4 This is not a sign of bleeding, the primary concern with warfarin (Coumadin).

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

752. **2** Acetylsalicylic acid (aspirin) can cause decreased platelet aggregation, increasing the risk for undesired bleeding that may occur with administration of anticoagulants.

1 Ferrous sulfate does not affect warfarin (Coumadin); it is used for RBC synthesis. **3** Atenolol (Tenormin) is a beta blocker that reduces blood pressure; it does not affect bleeding. **4** Chlorpromazine (Thorazine) is a neuroleptic; it does not affect bleeding.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Anticoagulants

753. **3** Assessment for bleeding is a priority when administering a thrombolytic agent because it may lead to hemorrhage.

1 The heart rate is not affected. **2** Electrolyte levels are not affected. **4** This is not necessary.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 6, Related Pharmacology, Thrombolytics

754. **3** INH (isoniazid) often leads to vitamin B₆ (pyridoxine) deficiency because it competes with the vitamin for the same enzyme; this deficiency most often is manifested by peripheral neuritis, which can be controlled by regular administration of vitamin B₆.

1 Vitamin B₆ does not improve immune status. **2** Pyridoxine does not enhance INH effects. **4** Pyridoxine does not destroy organisms.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

755. Answer: 2, 3, 5.

1 Morphine does not increase urine output. **2** The CNS depressant effect of morphine causes lethargy. **3** The CNS depressant effect of morphine causes bradycardia. **4** Morphine causes constriction of pupils. **5** The CNS depressant effect of morphine causes bradypnea.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 3, Related Pharmacology, Opioid Analgesics

756. **1** Morphine binds with the same receptors as natural opioids. However, it has a rapid onset, lowers the blood pressure, decreases pulmonary reflexes, and produces sedation.

2 Phenobarbital has a slower onset than morphine and does not affect respirations and blood pressure to the same extent as morphine. **3** HydrOXYzine (Atarax) generally is used to control anxiety associated with less acute situations. **4** Chloral hydrate is a hypnotic that is not appropriate for the acute situation described.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 7, Pulmonary Edema, Data Base

757. **4** Glucosamine, a precursor in the synthesis of glycosylated proteins and lipids, helps prevent cartilage degeneration. The glucosamine molecule is glucose-based and may be unsafe for a client who has impaired glucose tolerance; also it may increase resistance to insulin and interfere with antidiabetic medication.

1 Studies suggest that glucosamine helps to slow the progression of osteoarthritis and even regenerate damaged cartilage; this results in improved joint function and reduction of joint pain and stiffness. **2, 3** Glucosamine does not appear to be harmful to clients with this health problem.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Arthritis, Data Base

758. **4** Carbidopa/levodopa (Sinemet) is a metabolic precursor of dopamine; it reduces sympathetic outflow by limiting vasoconstriction, which may result in orthostatic hypotension.

1 Carbidopa/levodopa should be administered with food to minimize gastric irritation. **2** Although periodic tests to evaluate hepatic, renal, and cardiovascular status are required for prolonged therapy, whether these tests should be done on a weekly basis has not been established. **3** Carbidopa/levodopa may produce either symptom, but no established pattern of such responses exists.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Antiparkinson Agents

759. **1** Gingival hyperplasia is an adverse effect of long-term phenytoin (Dilantin) therapy; incidence can be decreased by maintaining therapeutic blood levels and meticulous oral hygiene.

2 Alkalinity is not related to phenytoin or to gingival hyperplasia caused by phenytoin. **3** These are not direct effects of phenytoin. **4** Plaque and bacterial growth at gum line are unrelated to phenytoin or to hyperplasia caused by it.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Related Pharmacology, Anticonvulsants

760. **4** Edrophonium (Enlon), an anticholinesterase, causes temporary relief of symptoms of myasthenia gravis in clients who have the disease and is therefore an effective diagnostic aid.

1 Symptoms will decrease. **2** Level of consciousness is not affected. **3** Hypotension may occur.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 11, Related Pharmacology, Cholinesterase Inhibitors

761. **1** Warfarin (Coumadin) has been shown to inhibit metabolism of phenytoin (Dilantin), which results in an accumulation of phenytoin in the body.

2 Coumadin potentiates the anticoagulant effect of heparin. **3** This is true only if the client is receiving phenytoin to control the seizure disorder. **4** Seizures do not have a significant effect on the metabolism of warfarin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 11, Related Pharmacology, Anticonvulsants

762. **1** Phenytoin (Dilantin) inhibits folic acid absorption and potentiates the effects of folic acid antagonists. Folic acid (Folate) is helpful in correcting certain anemias that can result from administration of phenytoin. The dosage must be carefully adjusted because folic acid diminishes the effects of phenytoin.

2, 3, 4 This is not an effect of folic acid.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Communication/Documentation; **Nursing Process:** Assessment/Analysis;

Reference: Ch 11, Related Pharmacology, Anticonvulsants

763. **1** Carbamazepine (Tegretol) is administered to control pain by reducing transmission of nerve impulses in clients with trigeminal neuralgia.

2 Liver function is monitored to detect adverse reactions to carbamazepine, not to determine therapeutic effectiveness. **3** Carbamazepine is not given to influence cardiac output. **4** Carbamazepine is not administered to clients with trigeminal neuralgia (tic douloureux) for its anticonvulsant properties because seizures are not present with this disorder.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 11, Related Pharmacology, Anticonvulsants

764. **Answer: 5 mL.** Use the “Desire over Have” formula of ratio and proportion to solve the problem.

$$\frac{\text{Desire}}{\text{Have}} \frac{2.5 \text{ g}}{5 \text{ g}} = \frac{x \text{ mL}}{10 \text{ mL}}$$

$$5x = 25$$

$$x = 25 \div 5$$

$$x = 5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Nursing Responsibilities Related to Medication Administration

765. **Answer: 6000 mg.** Two tablets every 4 hours over 24 hours equals a total of 12 tablets daily. Since each tablet has 500 mg, then $500 \times 12 = 6000$ mg. This is more than the recommended maximum dose of 4000 mg/24 hr for short-term use.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Nursing Responsibilities Related to Medication Administration

766. **Answer: 1.5 mL.** First convert the 500 mg to its equivalent in grams. Use “Desire over Have” formula of ratio and proportion:

$$\frac{\text{Desire}}{\text{Have}} \frac{500 \text{ mg}}{1000 \text{ mg}} = \frac{x \text{ g}}{1 \text{ g}}$$

$$1000 x = 500$$

$$x = 500 \div 1000$$

$$x = 0.5 \text{ g}$$

Therefore, 500 mg is equivalent to 0.5 g. Now use “Desire over Have” formula of ratio and proportion to solve the problem.

$$\frac{\text{Desire}}{\text{Have}} \frac{0.5 \text{ g}}{1 \text{ g}} = \frac{x \text{ mL}}{3 \text{ mL}}$$

$$x = 0.5 \times 3$$

$$x = 1.5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Planning/Implementation; **Reference:** [Ch 2](#), Nursing Responsibilities Related to Medication Administration

767. **3** Mafenide (Sulfamylon) interferes with the kidneys' role in hydrogen ion excretion, resulting in metabolic acidosis.

1, 2, 4 This is not an adverse effect of this drug.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** [Ch 10](#), Related Pharmacology, Antiinfectives

768. **2** Quinine administered orally can cause gastric irritation, resulting in nausea and vomiting.

Administration of medication immediately after meals minimizes its irritating effect.

1 Absorption of the drug is not significantly affected by administration after meals. **3** The appetite is not affected by this drug as long as gastric irritation is avoided. **4** Quinidine, not quinine, is given for its antidysrhythmic effect.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Evaluation/Outcomes, **Reference:** [Ch 13](#), Malaria, Nursing Care

769. **2** Potassium iodide, which aids in decreasing vascularity of the thyroid gland, decreases the risk for hemorrhage.

1 Thyroid hormone antagonists help decrease the body's metabolism. **3** Potassium iodide does not regulate parathyroid function. **4** Thyroid hormone antagonists help decrease the amount of thyroid hormones being secreted.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** [Ch 9](#), Hyperthyroidism, Data Base

770. **4** Antacids interfere with absorption of drugs such as anticholinergics, barbiturates, some antibiotics, and cardiac drugs.

1 They may be taken as frequently as every 1 to 2 hours without adverse effects. **2** Antacids should be given 1 or 2 hours after meals and at bedtime. **3** Liquid antacids have a faster onset of action than tablets.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** [Ch 8](#), Related Pharmacology, Antacids

771. **3** Any product containing aluminum, magnesium, or calcium ions should not be taken in the hour before or after an oral dose, because it decreases absorption by as much as 25% to 50%.

1 Food interferes with absorption; it should be given 1 hour before or 2 hours after meals. **2** Citrus juice has no influence on this drug. **4** Antacids will interfere with absorption.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Planning/Implementation; **Reference:** [Ch 3](#), Infection, Related Pharmacology, Antibiotics

772. Answer: 1, 2, 3, 4.

1 Central nervous system effects include depression that may lead to suicide attempts. **2** Gastrointestinal side effects include constipation, diarrhea, vomiting, and abdominal pain. **3** This interferon immune modifier causes flulike symptoms such as fever, muscle aches, and lethargy. **4** This drug's cardiovascular side effects include tachycardia, palpitations, and hypertension. **5** An integumentary response to this drug is sweating, not lack of perspiration (anhidrosis).

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 11, Multiple Sclerosis, Nursing Care

773. **1** Hydrocortisone (Cortef) is a glucocorticoid that has antiinflammatory action and aids in metabolism of carbohydrates, fats, and proteins, causing elevation of the blood glucose level. Thus, it enables the body to adapt to stress.

2 It may promote fluid retention that results in hypertension and edema. **3** Shortness of breath (dyspnea) is caused by hypovolemia and decreased oxygen supply; neither is affected by hydrocortisone. **4** It may cause potassium depletion.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Addison Disease, Data Base

774. **2** Desmopressin (DDAVP) replaces ADH, facilitating reabsorption of water and consequent return of a balanced fluid intake and urinary output.

1 The mechanisms that regulate pH are not affected. **3** DDAVP does not alter serum glucose levels; diabetes mellitus, not diabetes insipidus, results in hyperglycemia. **4** Although correction of tachycardia is consistent with correction of dehydration, the client is not dehydrated if the fluid intake is adequate; respirations are unaffected.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 9, Diabetes Insipidus, Nursing Care

775. **3** Naloxone is an opioid (narcotic) antagonist and will reverse respiratory depression caused by opioids.

1, 2, 4 This is not needed; naloxone will correct the respiratory depression.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Related Pharmacology, Opioid Antagonist

776. **1** To prevent crystal formation, the client should have sufficient intake to produce 1000 to 1500 mL of urine daily while taking this drug.

2 Straining urine is not indicated when the client is taking a urinary antiinfective. **3** Urinary decrease is of concern because it may indicate renal failure. If fluids are encouraged, the client's output should increase. **4** The drug need not be taken at a strict time daily.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 12, Related Pharmacology, Kidney-Specific Antiinfectives

777. Answer: 3, 4.

1 Nausea is a common side effect; it can be diminished by administering the drug with food or using an enteric-coated product. **2** This is not a symptom of salicylate toxicity; it is related to the disease process and should be minimized by the administration of aspirin. **3** Blood in the stool indicates gastrointestinal irritation; it also may have resulted from aspirin's anticoagulant effect. **4** Salicylates, such as aspirin, can cause ototoxicity (affects eighth cranial nerve), which may manifest as ringing in the ears (tinnitus) or muffled hearing; it should be reported. **5** Increased urine output (polyuria) is not an indication of salicylate toxicity.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Pain, Related Pharmacology, Nonsteroidal Antiinflammatory Drugs

778. Answer: 2, 3, 5.

1 This is unnecessary because calcium levels are not affected. **2** Changing positions slowly helps

reduce orthostatic hypotension. **3** Peripheral edema may occur as a result of heart failure and must be reported. **4** Hair loss does not occur. **5** Grapefruit juice affects the metabolism of calcium channel blockers and should be avoided.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics

779. **3** Although most chemotherapy causes diarrhea, vinCRISTine can cause severe constipation, impaction, or paralytic ileus.

1, 2, 4 This side effect is shared with most other chemotherapeutic agents.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, General Nursing Care of Clients with Neoplastic Disorders

780. **3** Prolonged chemotherapy may slow production of leukocytes in bone marrow, thus suppressing the immune system. Antibiotics may be required to help counter infections that the body can no longer handle easily.

1 The liver does not produce leukocytes. **2, 4** Although leukocytes are in both blood and lymph nodes, these cells are more mature than those found in the bone marrow and thus more resistant to the effects of chemotherapy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 3, Neoplastic Disorders, Related Pharmacology, Major Side Effects

781. **3** Many chemotherapeutic agents function by interfering with DNA replication associated with cellular reproduction (mitosis). Rapid mitosis of the stratified squamous epithelium of the mouth and anus results in these areas being powerfully affected by the drugs.

1 This effect is not caused by direct irritation; most agents are administered parenterally. **2** A decreased appetite (anorexia) does not cause stomatitis. **4** Chemotherapeutic agents affect most rapidly proliferating cells, which include not only the cells of the GI epithelium but also those of the bone marrow and hair follicles.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Neoplastic Disorders, Related Pharmacology, Basic Concepts

782. **2** Methotrexate (Trexall) is a folic acid antagonist that can depress the bone marrow. This serious toxic effect is sometimes prevented by administration of folic acid. Some health care providers advocate its administration after a course of methotrexate therapy to avoid interfering with methotrexate activity.

1, 3 Folic acid is a metabolite and does not destroy cancer cells. **4** Leucovorin calcium does not increase the production of phagocytes.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Neoplastic Disorders, Related Pharmacology, Miscellaneous Agents

783. **4** Hormone therapy must be withdrawn slowly to allow the adrenal glands to adjust and resume production of their hormone.

1, 2, 3 This is not the reason for the gradual withdrawal of dexamethasone (Decadron).

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Integrated Processes:** Teaching/Learning; **Nursing Process:** Planning/Implementation;

Reference: Ch 9, Related Pharmacology, Adrenocorticoids

784. **1** Prolonged use of steroids may cause leukopenia as a result of bone marrow depression.

2, 3 This elevates in acute inflammatory diseases; steroids help decrease it. **4** Serum glucose levels increase with steroid use.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 9, Related Pharmacology, Adrenocorticoids

785. **2** Infected body fluids are tested to determine the antibiotics to which the organism is particularly sensitive or resistant (sensitivity).

1 This is a test for antibody content. **3** This test provides data about fluid and electrolyte balance. **4** The erythrocyte sedimentation rate (ESR) is nonspecific test for the presence of inflammation.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 3, Infection, General Nursing Care of Clients at Risk for Infection

786. **4** Streptomycin sulfate is ototoxic and may cause damage to auditory and vestibular portions of the eighth cranial nerve.

1, 2, 3 This is not affected by streptomycin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 7, Related Pharmacology, Antituberculars

787. **3** Nonsystemic antacids are not readily absorbed, so they do not alter acid-base balance. Sodium bicarbonate is absorbed and can alter acid-base balance.

1 These preparations do contain sodium. **2** Nonsystemic antacids are insoluble and not readily absorbed. **4** These are side effects of nonsystemic antacids.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Related Pharmacology, Antacids

788. **4** It decreases gastric secretion by inhibiting histamine at H₂ receptors.

1, 2, 3 This is not the action of famotidine (Pepcid).

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Nursing Process: Planning/Implementation; **Reference:** Ch 8, Related Pharmacology, Antisecretory Agents

789. **3** Over time clients receiving morphine develop tolerance and require increasing doses to relieve pain, thus requiring continuing reassessments.

1 This will not meet client's need for relief from pain. **2** The client is terminal and the risk for addiction is of no concern. **4** The respiratory, not heart, rate is the significant vital sign to be monitored; morphine depresses the CNS, specifically the respiratory center in the brain.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 3, Pain, General Nursing Care of Clients in Pain

790. Answer: 3, 4, 5.

1 Pyridoxine (vitamin B₆) (NesTrex) should be taken to prevent neuritis, which is associated with INH. **2** The prophylactic drug therapy will be continued for 6 to 12 months. **3** The children are at an increased risk because the client's spouse has TB; the children should be screened as members of the household. **4** The positive skin test indicates that the client has been exposed to the bacilli and developed antibodies, not necessarily the disease itself; further diagnostic studies are indicated. **5** Both wine and aged cheese contain tyramine and histamine, which when taken

concurrently with INH can cause headache, flushing, and a drop in blood pressure; these should be avoided when taking INH.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 7, Related Pharmacology, Antituberculars

791. **2** Rifampin (Rifadin) increases metabolism of oral contraceptives, which may result in an unplanned pregnancy.

1, 3, 4 Rifampin (Rifadin) does not interact with this medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 7, Related Pharmacology, Antituberculars

792. **3** These drugs are incompatible in the same IV and therefore must be administered separately. By instituting a second line for the antibiotic, heparin can continue to infuse.

1 Twice a day both drugs must run concurrently. Also, flushing the line may not eliminate remnants of the heparin, which is incompatible with vancomycin (Vancocin). **2** This is unsafe because heparin and vancomycin are incompatible and should not be administered via the same intravenous line. **4** The client has two medications prescribed, and it is a nurse's responsibility, not the health care provider's, to administer them safely.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Infection, Related Pharmacology, Antibiotics

793. Answer: 3, 5.

1 Diarrhea, not constipation, may occur with valsartan (Diovan). **2** Hyperkalemia, not hypokalemia, may occur with valsartan. **3** Dysrhythmias, including second-degree heart block, are cardiovascular side effects of valsartan. It also may precipitate angina pectoris, myocardial infarction, and brain attack (CVA). **4** Valsartan does not cause altered visual acuity. **5** Angiotensin II receptor antagonists, such as valsartan, block vasoconstrictor and aldosterone-producing effects of angiotensin II at receptor sites, including vascular smooth muscle, thus reducing the blood pressure; dizziness, orthostatic hypotension, and excessive hypotension may occur.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Antihypertensives

794. Answer: 1, 3.

1 Dry mouth occurs because of its anticholinergic properties. **2** A thin, watery discharge from nose (rhinorrhea) does not occur with this medication because of its anticholinergic properties. **3** Constipation is a side effect of this nonnitrate antidysrhythmic because of its anticholinergic properties. **4** Hypoglycemia, not hyperglycemia, may occur. **5** Urinary hesitancy and retention, rather than stress incontinence, occur.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics

795. **2** Beta blockers (BBs) should not be taken at night because the blood pressure usually decreases when sleeping. This medication blocks beta-adrenergic receptors in the heart, which ultimately lowers the blood pressure. Therefore, the drug should be taken early in the morning to maximize its therapeutic effect.

1 Orthostatic hypotension is a side effect of BBs, and the client should change positions slowly to prevent dizziness and falls. **3** Drowsiness is a side effect of BBs, and the client should be taught precautions to prevent injury. **4** The pulse rate should be taken before administration because

ventricular dysrhythmias and heart block may occur with BBs.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Antidysrhythmics

796. **4** Allopurinol (Zyloprim) can potentiate the effect of oral hypoglycemics, causing hypoglycemia; the blood glucose level should be monitored more frequently.

1 NSAIDs can be taken concurrently with Allopurinol. **2** A daily fluid intake of 2500 to 3000 mL will limit the risk of developing renal calculi. **3** Allopurinol should be taken with milk or food to decrease GI irritation.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 9, Related Pharmacology, Antidiabetic Agents

797. **1** Bright yellow urine is an expected, insignificant side effect of vitamin B complex.

2 There is no need to increase oral fluids; the client may consume the usual daily intake of fluid. **3** This may precipitate nausea when taken on an empty stomach; therefore, it should be taken with food. **4** Vitamin B complex is a water-soluble vitamin, and excess amounts are excreted in urine.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 8, Review of Nutrients, Vitamins

798. **2** Rapid administration of furosemide (Lasix) can cause tinnitus, loss of hearing, and ear pain.

1 Lasix has a diuretic effect; urinary retention does not occur. **3** Lasix does not affect the heart rate. **4** Lasix does not cause peripheral neuropathy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 6, Related Pharmacology, Diuretics

799. **1** Human B-type natriuretic peptide binds to receptors in vascular smooth muscle and endothelial cells, leading to smooth muscle relaxation. Dyspnea will decrease as a result of the action of nesiritide (Natrekor).

2 Hypotension will not decrease. Hypotension is a side effect of nesiritide. **3** Nesiritide is not used for unstable angina. **4** Nesiritide is not an antidysrhythmic.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 6, Heart Failure, Data Base

800. **1** Ototoxicity is an adverse effect of aminoglycosides such as streptomycin.

2, 3, 4 Ototoxicity is not an adverse effect of this drug.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 7, Related Pharmacology, Antituberculars

UNIT 3

Mental Health/Psychiatric Nursing



CHAPTER 15

Development of Personality

Overview

- A Sum of all traits that differentiate one individual from another
- B Total behavior pattern of an individual through which inner interests are expressed
- C Unique and distinctive way of perceiving, behaving, and interacting with the environment and other people
- D Constellation of defense mechanisms for coping with inner and outer pressures
- E Functional role within a family system
- F Emergence of personality occurs at about 2 years of age

Factors Involved in Personality Development

- A Behavior is a learned response that develops as a result of past experiences and genetic, environmental, and psychologic factors
- B To protect the individual's emotional well-being, these experiences are organized in the psyche on three different levels
 1. Conscious: composed of past experiences, easily recalled
 2. Subconscious: composed of material that has been pushed out of the conscious but can be recalled with some effort
 3. Unconscious: contains the largest body of material; greatly influences behavior
 - a. This material cannot be intentionally brought back into awareness because usually it is unacceptable and painful to the individual
 - b. If recalled, usually it is disguised or distorted, as in dreams or slips of the tongue; however, it is still capable of producing high levels of anxiety
 - c. According to Freud, the personality consists of three parts: the id, ego, and superego
 - (1) Id is the inborn unconscious instincts, impulses, and urges; it is totally self-centered
 - (2) Ego is the conscious self, the "I" that deals with reality; the part of the personality that is revealed to the environment; ego strengths enable an individual to cope with frustration and delay gratification; it begins to develop during infancy
 - (3) Superego is the part of the personality that, mainly on an unconscious level, controls, inhibits, and regulates impulses and instincts whose uncontrolled expression would endanger the emotional well-being of the individual and the stability of society; incorporates parental, religious, and societal values; it develops between the ages of 3 to 6 years

Formation of the Personality

- A Develops in overlapping stages that shade and merge together
 1. Particular conflicts and tasks must be mastered during each stage of development from infancy to maturity if needs are to be met and mental health maintained/enhanced
 2. Successful resolution of the conflicts and acquisition of the tasks associated with each stage is essential to development
 3. If these tasks are not acquired at specific periods, the basic structure of the personality is weakened

4. Factors in each stage persist as a permanent part of the personality
5. Childhood identifications are integrated with basic drives, native endowments, and opportunities offered in social roles
6. Unresolved conflicts remain in the unconscious and may, at times, result in maladaptive behavior
7. Personality is capable of change throughout life; as one ages, there may be a decreased ability to cope

B Psychodynamic theory (Freud)

1. Psychodynamic theories propose that human behavior is largely governed by motives and drives that are internal and often unconscious
2. Freud believed that development proceeds best when children's psychosexual needs at each stage are met, but not exceeded; the stages are
 - a. Oral (birth to 1 year)—psychosexual needs gratified orally; unable to delay gratification; begins to develop self-concept from the responses of others
 - b. Anal (1 to 3 years)—bladder and bowel training occurs; this interferes with instinctual impulses; struggle of giving of self and breaking the symbiotic ties to mother; as the ties are broken, the child learns independence; struggle with toilet training creates conflict between child's needs and parents' desires
 - c. Phallic (3 to 5 years)—psychosexual energy directed to genitals (oedipal); values and rules learned from parents; guilt and self-esteem develop; incestuous desire for opposite sex parent develops and creates fear and guilt feelings; desires are repressed, and introjection and role identification with parent of the same sex occurs
 - d. Latency (6 to 12 years)—mastery of learning; relationships with same-sex peers develop; sexual instincts are relatively quiet
 - e. Genital (12 years and beyond)—period of sexual maturity in which psychosexual needs are directed toward sexual relationships; sexual activity increases; sexual identity is strengthened or attacked

C Psychosocial theory (Erikson)

1. Psychosocial theory attributes development to social interactions and relationships that occur throughout the life span; failure to master a developmental stage may leave a person more susceptible to mental illness
2. Erikson believed that development results from social aims or conflicts arising from feelings, parent-child interactions, and social relationships
3. Eight major crises or conflicts need to be faced during a lifetime; each stage is marked by a struggle between two opposing tendencies, both of which are experienced by the individual; stages are
 - a. Trust versus mistrust (birth to 1 year)—infant develops a sense of whether the world can be trusted; learns to depend on satisfaction that is derived from attention to needs; and trust develops when needs are met; psychosocial strength—hope; failure to consistently meet the needs of the infant can lead to difficult interpersonal relationships
 - b. Autonomy versus shame and doubt (1 to 3 years)—child develops first sense of self as independent or as shameful and doubtful; the struggle of holding on to or letting go; an internal struggle for self-identity; love versus hate; psychosocial strength—will; if not provided the opportunity for some independence in activity, the child will lack self-confidence
 - c. Initiative versus guilt (3 to 6 years)—child learns ability to try new things and learns how to handle failure; period of intensive activity, play, and consuming fantasies, where child

- interjects parents' social consciousness; psychosocial strength—purpose; if outlets for creativity and exploration are not provided, child blames self for lack of initiative
- d. Industry versus inferiority (6 to 12 years)—child learns how to make things with others and strives to achieve success; psychosocial strength—self-worth; if not provided with mastery experiences and realistic positive feedback about performance, low self-esteem will occur
- e. Identity versus confusion (puberty to young adulthood)—adolescent determines own sense of self; psychosocial strength—fidelity; if overly restricted in the exploration of interests and independent growth, discouragement and confusion about the direction to take in life will occur
- f. Intimacy versus isolation (young adulthood)—person makes commitment to another; moves from the relative security of self-identity to the relative insecurity involved in establishing intimacy with another; psychosocial strength—love; if there has been a lack of intimacy in the family of origin and previous developmental stages are not achieved successfully, the development of intimacy is unlikely to occur and the individual may become isolated and self-absorbed
- g. Generativity versus stagnation (middle adulthood)—person seeks to guide the next generation or risks feelings of personal incompleteness; psychosocial strength—care; if previous developmental stages were unsuccessfully completed and there is a continued lack of self-confidence or preoccupation with self, the adult fails to engage in meaningful activities that help support others
- h. Integrity versus despair (late life)—older adult seeks a sense of personal accomplishment, adapts to triumphs and disappointments with a certain ego integrity and accepts death, or falls into despair; psychosocial strength—wisdom; if this stage is not achieved, there is a feeling of being unfulfilled and sad

D Interpersonal theory (Sullivan)

1. Development results from interpersonal relationships with others in maximizing satisfaction of needs while minimizing insecurity
2. Development results from interpersonal relationships in the infancy, childhood, juvenile, preadolescent, adolescent, and late adolescent stages
 - a. Infancy (0 to 2 years): learns to differentiate self from others; learns through trial and error; learns from parental interactions to rely on others to gratify needs and satisfy wishes; develops a sense of basic trust, security, and self-worth; ends with language development; if needs are not met anxiety and emotional withdrawal occur
 - b. Childhood (2 to 6 years): language development allows for education; development of body image and self-perception; self-esteem develops with sublimation; child learns to communicate needs through the use of words and to accept delayed gratification and interference with wish fulfillment; expresses impulses in socially acceptable ways or develops a feeling of living among enemies
 - c. Juvenile (6 to 10 years): relations with peers allow child to see self objectively; develops conscience; behavior is connected to others' opinions; organizes and uses experiences in terms of approval and disapproval received; begins using selective inattention and disassociates those experiences that cause physical or emotional discomfort and pain; difficulty with this stage results in ineffective social interaction and social isolation
 - d. Preadolescent (10 to 13 years): develops same-sex friends; moves from egocentrism to love; able to form satisfying relationships and work with peers; uses competition, compromise, and

cooperation; difficulty with this stage results in a lack of reciprocity in interpersonal relationships

- e. Adolescent (13 to 17 years): interest in sexual activity; learns how to establish satisfactory relationships with members of the opposite sex; if attractions are severely discouraged or thwarted, insecurity and loneliness develop
- f. Late adolescent (17 to 19 years): personality integration; able to integrate the needs of society without becoming overwhelmed with anxiety; inability to achieve personality integration results in regression and egocentrism for life

E Cognitive development theory (Piaget)

1. Sensorimotor stage (infancy-toddler): infant develops physically with a gradual increase in the ability to think and use language; progresses from simple reflex responses through repetitive behaviors to deliberate and imaginative activity
2. Preoperational thought stage (preschool): child learns to imitate and play; begins to use symbols and language although interpretation is literal
3. Preoperational thought stage continues (school age): child begins to understand relationships and develops basic conceptual thought and intuitive reasoning
4. Concrete operational thought stage (preadolescent): thinking is more socialized and logical with increased intellectual and conceptual development; begins problem solving by use of inductive reasoning and logical thought
5. Formal operational stage (adolescent): develops true abstract thought by application of logical tests; achieves conceptual independence and problem-solving ability

Physiology, Cognition, Emotions, and Behavior

Overview

A Feelings, thoughts, physiology, and behaviors are interactive, and each influences the others

B Life is a continually changing process, and when these changes occur in areas of significance, they often produce distinct emotional responses including

1. Resistance to change: the individual hesitates to accept or adapt to the change and may attempt to deny its occurrence or reject its outcome
2. Regression: the individual returns to an earlier type of behavior that, at the time, provided some satisfaction and gratification and now provides an escape from the unacceptable or anxiety-producing situation
3. Acceptance and progression: the individual adapts to the change and expends energy on outside objects rather than self-centered aims

C Many therapists use a variety of therapeutic approaches based on client need

Neurophysiologic Theoretical Basis of Behavior

A There is general acceptance that there is no real division between mind and body, mental and physical, brain and thought

B Research into the neurophysiologic basis for behavior focuses on anatomy and physiology of the brain and nervous system and their relationship to health and illness

1. Structural differences such as ventricle size or cerebral atrophy are identified by neuroimaging methods such as magnetic resonance imaging (MRI) and computed tomography (CT) scans
2. Physiologic differences, such as hyperactivity in certain areas of the brain, are identified by electroencephalogram (EEG) studies and positron emission tomography (PET) scans

C An understanding of the anatomy and physiology of the central nervous system is essential

1. The brain weighs about 3 lb and is composed of trillions of cells, 100 billion neurons, and the cells that support their function
2. Neurons do not touch each other but communicate across synapses that separate them via chemical messengers called neurotransmitters
3. Neurons are receptive to some neurotransmitters and not to others
4. Major excitatory and inhibitory neurotransmitters include dopamine, norepinephrine, serotonin, acetylcholine, and gamma-aminobutyric acid (GABA)
5. The level of neurotransmitters that excite or inhibit neural activity is influenced by their production, metabolism/inactivation, and reuptake/storage
6. Abnormalities in the level of various neurotransmitters have been linked to many psychiatric illnesses (e.g., excess of dopamine to schizophrenia; decreased serotonin levels to depression); most psychotropic medications work by altering levels of neurotransmitters

D Considerable knowledge gaps still exist as to the specific pathophysiology of psychiatric disorders, but research continues, especially in the area of neurotransmitters

E Research is examining the importance of other factors such as genetics, infections, sleep deprivation, toxins, nutrition, hormonal shifts, trauma, and stress as influences on neurobiology and behavior

F Only a few mental health disorders have identified genetic markers, including Huntington disease

and a rare form of Alzheimer disease

Psychobiologic Health

- A Category of psychophysiologic disruptions in which organic impairment is evident
- B Anxiety stimulates the autonomic nervous system and nervous and endocrine impulses appear to center on one particular organ, creating physical illness and changes in tissue structure
- C Selye's stress theory helps identify mental-physical interactions
- D Predisposing factors arise from biologic, psychologic, and sociocultural perspectives; precipitating stressors include any experience the individual interprets as stressful
- E Stress is often unrecognized consciously; if recognized, individuals are unable to relate this to the physical symptoms of the psychophysiologic disorder
- F Efforts to match specific stressors to specific diseases have not been successful
- G These disorders have both physical stressors (e.g., dietary changes, substance abuse, physical exertion, allergic immune responses, infectious agents, trauma) and psychologic stressors (e.g., anxiety, fear, tension), which combine to produce pathophysiologic signs and symptoms
- H Common psychobiologic diseases/disorders include migraine headaches, primary hypertension, angina, neck and back pain, asthma, irritable bowel syndrome, neurodermatitis, impotence, and frigidity
- I In many autoimmune disorders (e.g., systemic lupus erythematosus, ulcerative colitis, myasthenia gravis, multiple sclerosis) there is often an exacerbation of symptoms or relapse during periods of psychologic stress; stress may diminish the immune response
- J Therapy is directed toward both physical and emotional problems

Cognitive Theory

- A Cognitive theorists believe that
 - 1. Patterns of thinking, mindsets, and belief systems influence feelings and behavior
 - 2. Dysfunctional cognitive patterns and cognitive distortions (e.g., pessimism, overgeneralizing, unrealistic expectations) lead to alterations in mood and behavior
- B Cognitive therapy is most effective in treating clients with anxiety and mood disorders
- C Interventions focus on identification of dysfunctional thought patterns and replacement with healthier, more reality-based thinking
- D Examples of cognitive therapy include
 - 1. Thought journals: client records situations in which cognitive distortions occur, and the thoughts and feelings that follow
 - 2. Cognitive restructuring (cognitive reframing) through positive self-talk and rational mindset: when a cognitive distortion/negative thought occurs the client replaces it with more positive rational thoughts
 - 3. Cognitive rehearsal: client prepares mental script to address situations that usually trigger cognitive distortions

Behavioral Theory

- A Behavioral theorists believe that

1. All behavior is motivated and learned
 2. Automatic or habitual behavior patterns develop over time through reinforcement, but can be unlearned
- B Behavioral therapy is effective in developing skills in individuals with limited cognitive skills (e.g., children, mentally retarded) and for individuals with disorders with significant behavioral components (e.g., phobias, compulsions)
- C Consistent nursing responses are essential for behavioral interventions
- D Examples of behavioral therapy include
1. Contracting: client agrees, orally or in writing, to change dysfunctional behavior; contracts include specific behavior to be modified, the positive reinforcers, and the consequences if contract is broken
 2. Token/reward system: desired behavior receives concrete positive reinforcement (e.g., colorful stickers during toilet training for child)
 3. Desensitization (exposure therapy): client is exposed to slowly increasing experiences with an anxiety-producing stimulus while practicing behavioral techniques such as relaxation or deep breathing
 4. Flooding: client is exposed to anxiety-producing stimulus continuously in a supportive environment until intensity of response diminishes

Maslow's Humanistic Theory

- A Maslow's humanistic theory, a nondevelopmental theory, postulates that people are guided by a variety of needs, from basic physiologic ones to self-actualization, the need to achieve one's full potential
- B The existence of unmet needs and the desire to achieve optimum self-potential are fundamental sources of human motivation. Maslow's Hierarchy of Needs are
1. Physiologic—satisfying needs for oxygen, water, food, shelter, sleep, and relief of sexual tension
 2. Safety—avoiding harm and achieving security and safety
 3. Love and belonging—giving and receiving affection, developing companionship, group acceptance
 4. Esteem—achieving recognition from others leads to self-esteem, prestige, and work success
 5. Self-actualization—achieving one's own unique potential
- C With the gratification of basic needs, other higher needs emerge, moving one toward self-potential
- D People may simultaneously be working to achieve needs on more than one level

Anxiety and Coping Behaviors

Overview

A Anxiety (see [Chapter 19](#), Nursing Care of Clients with Disorders Related to Anxiety and Alterations in Mood)

1. Diffuse feeling of uneasiness, uncertainty, and helplessness that occurs as a result of a threat to an individual's self-concept, esteem, identity, or safety
2. Usual response to a real or perceived threat
3. Different from fear, which has a specific source or object that can be identified and described
4. An emotion that is subjective in nature and without a specific object
5. Related to one's culture, because culture influences one's values
6. Causes are uncertain, but research indicates a combination of physical, psychosocial, and environmental factors
7. Activates the fight-or-flight response in the autonomic nervous system (See Stress Response in [Chapter 1](#))

B Levels of anxiety

1. Mild—alertness level: automatic response of the central nervous system (CNS) that prepares the body for danger by regulating internal processes and concentrating all energies for internal activity; perceptual field is increased; may enhance learning
2. Moderate—apprehension level: response to anticipation of short-term threat that prepares the individual for efficient performance; perceptual field is narrowed, since focus is on the immediate concern
3. Severe—high anxiety level: focus is on a specific detail, and behavior is aimed at relieving anxiety; needs direction by others to focus on another detail or area; marked reduction in the perceptual field limits cognitive abilities
4. Panic—extreme level: involves disorganization of the personality and is associated with dread and terror; communication abilities and problem solving are nonexistent; has great difficulty following commands even with direction; perceptual field is distorted; prolonged period of panic results in exhaustion and death; intervention is essential

C Behavioral defenses against anxiety ([Table 15-1: Coping Skills: Affective and Problem Solving](#))

Table 15-1
Coping Skills: Affective and Problem Solving

Affective	Problem Solving
Pray	Seek advice
Daydream	Obtain another's perspective
Eat, drink, and smoke	Learn new information/skill
Exercise	Set goals
Seek comfort from others	Ask for help
Meditate and do yoga	Do research
Withdraw	Delegate responsibilities
Bathe	Seek alternatives
Sleep	Brainstorm ideas
Make a joke	Draw on past experiences
Cry	Develop new resources
Watch TV or go to a movie	Take action
Take a drive	
Journal	

- 1. Consciously directed, task-oriented behaviors that are deliberate attempts to problem solve, resolve conflicts, and gratify; they tend to involve the individual's deliberate effort to maintain control, reduce tension, and limit anxiety; they include attack, withdrawal, and compromise behaviors
 - a. Attack behavior: an attempt to overcome obstacles to satisfy a need
 - (1) Constructive behaviors reflect use of problem solving
 - (2) Destructive behaviors usually are accompanied by feelings of anger and hostility and may violate rights, property, and well-being of others
 - b. Withdrawal behavior: can be expressed physically or psychologically
 - (1) Physical withdrawal involves removing oneself from the source of threat
 - (2) Psychologic withdrawal occurs when one admits defeat, becomes apathetic, or lowers aspirations; when this behavior isolates the person or interferes with work production, it causes additional problems
 - c. Compromise is essential in situations that cannot be resolved through attack or withdrawal; it occurs by changing usual methods of operating, altering goals, or adjusting personal needs
 - (1) Compromise behaviors usually are constructive and are noted in approach-approach and avoidance-avoidance situations
 - (2) Compromise solutions can later offer opportunities for renegotiation or adapting different coping mechanisms
- 2. Task-oriented reactions and effective problem solving are influenced by the expectation of some

- degree of success and drawing on one’s past successes to deal with current stressful situations
- 3. Problem-solving perseverance and the belief that one can endure the discomfort help one find the courage to cope with anxiety
- 4. Task-oriented reactions are not always successful in coping with stressful situations; therefore, ego-oriented reactions (defense mechanisms) are often used to protect the self

Defense Mechanisms

A Defense mechanisms are unconscious cognitive responses that provide protection for the personality from overwhelming anxiety

B Defense mechanisms are most helpful in coping with mild and moderate levels of anxiety because they offer protection from feelings of inadequacy and worthlessness; when used, the individual may have a clear, slightly distorted, or more distorted perception of reality; if used to extreme they may impede interpersonal relationships and limit productivity ([Table 15-2: The Use of Defense Mechanisms in Relation to the Perception of Reality](#))

Table 15-2
The Use of Defense Mechanisms in Relation to the Perception of Reality

Clear Perception of Reality	Slightly Distorted Perception of Reality	More Distorted Perception of Reality
Fantasy	Compensation	Denial
Identification	Conversion	Dissociation
Introjection	Displacement	Regression
Rationalization	Intellectualization	Repression
Sublimation	Projection	
Substitution	Reaction formation	
Suppression	Splitting	
	Undoing	

- C Identifiable patterns of response begin to form when individuals respond to most situations with the same type of behavior
- D Commonly used defense mechanisms
- Help an individual to cope with reality
 - Used when instincts are a threat to the self
 - Compensation: the individual makes up for a perceived lack in one area by emphasizing capabilities in another
 - Identification: the individual internalizes characteristics of an idealized person
 - Rationalization: the individual makes acceptable excuses for behavior, feelings, outcomes; attempts to explain behavior by logical reasoning but does not address underlying feelings

d. Sublimation: the individual substitutes a socially acceptable behavior for an unacceptable instinct

e. Substitution: the individual replaces an unacceptable emotion or goal by another that is more acceptable

E Compensatory-type defense mechanisms

1. Adaptive when used in moderation; if used to excess, frequently they create greater emotional problems

2. As the use of these compensatory defenses increases and encompasses more of the individual's life, contact with reality is disrupted and distortions begin

3. These patterns of behavior are considered deviations and usually are viewed as signs of emotional stress and mental health problems

a. Conversion: emotional conflict is unconsciously changed into a physical symptom that can be expressed openly and without anxiety

b. Denial: emotional conflict is blocked from the conscious mind, and the individual cannot recognize its existence

c. Displacement: emotions related to an emotionally charged situation or object are shifted to a relatively safe substitute situation or object

d. Dissociation: separation of any group of mental or behavioral processes from the rest of the individual's consciousness or identity

e. Fantasy: conscious distortion of unconscious wishes and needs to obtain gratification and satisfaction

f. Intellectualization: use of thinking, ideas, or intellect to avoid emotions

g. Introjection: acceptance of another's opinions and values as one's own

h. Projection: unconscious denial of unacceptable feelings and emotions in oneself while attributing them to others

i. Reaction formation: unconscious prevention of unacceptable thoughts or behaviors from being expressed by exaggerating opposite thoughts or behaviors

j. Regression: return to an earlier stage of behavior when stress is overwhelming at the present stage of development

k. Repression: involuntary exclusion from consciousness of those ideas, feelings, and situations that are creating conflict and causing discomfort

l. Splitting: viewing others or situations as either all good or all bad; failure to integrate the positive and negative qualities in oneself

m. Suppression: voluntary exclusion from consciousness of those ideas, feelings, and situations that are creating conflict and causing discomfort

n. Undoing: act or communication that attempts to compensate for or negate a previous one

Dysfunctional Patterns of Behavior

A Various theories (psychoanalytic, developmental, neurobiologic, sociocultural, behavioral, cognitive) identify factors that lead to patterns of behavior that are dysfunctional

1. Psychoanalytic theories focus on interpersonal relationships and communication patterns that are especially influenced by childhood experiences

2. Developmental theories focus on the ability to accomplish age-related tasks

3. Neurobiologic theories focus on brain structure and/or neurochemistry

4. Sociocultural theories focus on learned values, beliefs, norms, and rituals that reinforce behavior
 5. Behavioral theories focus on behaviors as learned patterns that have been reinforced
 6. Cognitive theories focus on the relationship among beliefs, mindsets, and behavior
- B Most dysfunctional behavior result from multiple stressors
- C Most people use these behaviors at times to cope, but it is the frequency, extent, and impact they have on overall functioning that will determine if the behaviors are dysfunctional
- C Dysfunctional behavior is precipitated by stressors that become overwhelming; influencing factors include the severity, multiplicity, and duration of stressors
- D Dysfunctional patterns of behavior usually reflect long-term problems in ability to cope with reality; continued use of these patterns impairs the individual's ability to grow and change and therefore creates further stress
- E Dysfunctional patterns of behavior and specific psychiatric diagnoses that can be correlated to certain patterns of dysfunctional behavior include
1. Withdrawn behavior
 - a. Pathologic retreat from, or an avoidance of, people and reality; withdrawn behavior can range from poor socialization to retreat into a private world of delusion, hallucination, and fantasy
 - b. Associated with autism, depression, anxiety, dementia, schizophrenia and other psychotic disorders
 2. Projective behavior
 - a. Denial of one's own feelings, faults, and failures while attributing them to other people or objects; projective behavior can range from displacing anger onto a less threatening person to blaming others for one's own addiction or aggressive behavior
 - b. Associated with substance abuse, antisocial personality, paranoid personality, phobias
 3. Aggressive behavior
 - a. Physical, symbolic, or verbal behavior that is forceful or hostile and enacted to intimidate others; aggression occurs on a continuum ranging from angry body language to physical violence
 - b. Associated with substance abuse, conduct disorders, mania, delirium, dementia, domestic violence, sexual assault
 4. Self-destructive behavior
 - a. Indulging in actions that could lead to self-harm (e.g., nonadherence to medical regimens, substance abuse, engaging in high-risk activities) or violence against self (e.g., cutting, overdose); self-destructive behaviors can range from a client with a cardiac problem who fails to follow dietary restrictions to a client who attempts/commits suicide
 - b. Associated with depression, mania, borderline personality
 5. Addictive behavior
 - a. Repeated or chronic use of a substance (e.g., alcohol, drugs, cigarettes) with a resulting dependency on the substance; continued use of the substance despite the occurrence of related problems; the use of a substance may be a form of self-medication for an underlying mental illness. Behaviors such as gambling addiction and compulsive overeating that continue despite occurrence of related problems have not been classified in the DSM-IV-TR but usually are viewed as addictive disorders
 - b. Associated with substance abuse, personality disorders, bipolar illness, schizophrenia, attention deficit hyperactivity disorder (ADHD)



CHAPTER 16

The Practice of Mental Health/Psychiatric Nursing

Legal Concepts Related to Mental Health/Psychiatric Nursing

Overview

A A fundamental component of psychiatric nursing is to understand the legal framework used to regulate the care and treatment of clients with mental illness; each state has its own mental health code that delineates the law in this area; therefore, the mental health laws vary from state to state; case law may also set precedents that guide care

B Adherence to the Patient Care Partnership (formerly The Patient's Bill of Rights) is essential

C All civil rights are maintained

D Clients have the right to be treated in the least restrictive environment; any curtailment of autonomy must be substantiated by documentation supporting the need to limit the client's freedom; clients retain the right to a lawyer and the right to request a court hearing; clients may execute a psychiatric advance directive stating treatment preferences

E Types of hospital admissions

1. Voluntary admission: clients of lawful age may apply in writing to be admitted for treatment to a mental health facility; written notice of intent to leave may be required with a waiting period during which the health care provider may choose to change admission status to involuntary
2. Involuntary admission (commitment): clients who have not agreed to treatment are placed in a mental health facility; criteria for involuntary admission in some states are very circumscribed (danger to self or others); in other states requirements are more liberal (mentally ill and in need of treatment, gravely disabled, and/or unable to provide for own basic needs); most states have various routes for involuntary admission that may include
 - a. Emergency hospitalization: used to intervene when there is an immediate threat by a client to self or others; this short-term (48 to 72 hours) commitment is allowed for the assessment of the client and to determine if more long-term commitment is needed or the client can be discharged to outpatient treatment
 - b. Court ordered observational admission: used to assess the mental status of a person in relation to legal activities (e.g., competency to stand trial)
 - c. Formal commitment: used to treat clients with chronic mental illnesses over a prolonged period; periodic reviews may be made at 3, 6, or 12 months
 - d. Two health care provider commitment: two health care providers document that the client has met the state's criteria for involuntary care; most states provide for an intermediate length of time (1 to 6 weeks) admission
 - e. Physician's Emergency Certificate: allows the facility to keep people against their will

F Seclusion and restraint: a client who is a threat to self or others may be placed in a seclusion room or in four-point restraints to prevent injury or harm

1. A health care provider must give an order for seclusion or restraint for each incident and renew it every few hours as determined by state mental health law; prn seclusion and restraint orders are not acceptable
2. The nurse must document the initial and continued need for seclusion or restraints; the client must be observed constantly if in restraints and checked every 15 minutes if in seclusion; hourly physical assessment must be performed if the client's condition permits
3. Hydration, nutrition, and elimination needs must be met while the client is in seclusion or restraints

- 4. When it is determined that the client is no longer a threat to self or others, the client must be released from seclusion or restraints
- 5. Chemical restraint: the nurse may administer a prescribed prn medication without the client's consent if the client is dangerous to self or others
- G Court-ordered medication: a client's right to refuse treatment may be overruled, and the client may be court mandated to take medication to decrease the threat of injury to self or others
- H Psychiatric advance directive: a client with a recurrent/chronic psychiatric disorder may establish an advance directive to guide treatment during a future episode of mental illness when judgment is impaired

The Nurse's Responsibilities in Relation to the Law

- A Implement care that meets the Scope and Standard of Psychiatric-Mental Health Clinical Nursing Practice as described by the American Nurses Association (ANA) and nursing practice laws of the state where practicing (e.g., health promotion, case management, treatment of human responses)
- B Remain current with skills and knowledge base
- C Keep accurate and concise client records
- D Maintain client/family confidentiality; an exception must be made to notify others (e.g., police, intended victim) if a credible threat against another person is made by the client
- E Know the laws governing practice within the state, the rights and duties of the nurse, and the rights of the client
- F Maintain current malpractice liability insurance coverage

Community Health Services

Overview

A Purposes

1. Provide prevention, treatment, and rehabilitation services for individuals with emotional problems; also support for families
2. Maintain individuals and families in the community
3. Provide hospital care within the community in those instances when the individual cannot be maintained on an outpatient basis
4. Emphasize managed care mandates that shift care from costly inpatient treatment to community and home health visits

B Types of settings in which services are provided

1. Outpatient services
 - a. Storefront clinics, daycare centers, mobile units, intensive outpatient programs, partial hospitalization programs, or day treatment centers
 - b. Walk-in clinics in hospitals and psychiatric emergency departments
 - c. Emergency services
 - d. Crisis intervention centers, mobile crisis units, hot-line phone centers and the Internet
 - e. Private community practice, schools, and shelters
 - f. Dual-diagnoses programs (mental health and chemical dependency)
 - g. Mental health home nursing
 - h. Forensic settings
 - i. Assertive Community Treatment (ACT)
2. Inpatient services
 - a. Specialized psychiatric hospitals, both long-term and short-term care
 - b. General hospital psychiatric units
 - c. Short-term placement; provide respite for caregivers, provide safe environment during episodes of aggressive acting-out
3. Aftercare services
 - a. Foster homes
 - b. Halfway houses
 - c. Sheltered workshops
 - d. Daycare centers

C Types of services

1. Observation, diagnosis, and determination of client needs
2. Crisis intervention
3. Direct care services to clients, including
 - a. Individual, family, and group therapy
 - b. Pharmacologic therapy
 - c. Electroconvulsive therapy
 - d. Occupational therapy
 - e. Recreational therapy
4. Therapeutic milieu
 - a. Supports the individual during the period of crisis

b. Helps the individual learn new ways of coping with problems

5. Referral to other community agencies for necessary services

6. Vocational counseling

7. Health screening

8. Education for professionals and consumers of mental health care

The Nurse's Role in Community Nursing

A Case finding

B Assessment of the individual's needs

C Establishment of the therapeutic milieu

D Consultation and collaboration with other professionals including the interdisciplinary team: health care providers (e.g., physicians, psychologists, advanced practice nurses, physicians assistants), social workers, school teachers, clergy, nursing home and managed adult residential facility staff

E Active participation with the health team, including the individual and family

F Involvement in individual, family, and group therapy

G Supervision of licensed and unlicensed staff members

H Coordination of health services for the individual and family; referral and preparation of client for scheduled appointments

I Education of groups within the community

J Function as client advocate including seeking health insurance parity for reimbursement of costs for psychiatric treatment

K Advanced practice nurses may prescribe medication in some states

Therapeutic Nurse-Client Relationship

Overview

- A Phases of a therapeutic nurse-client relationship (see The Nurse-Client Relationship under Communication in [Chapter 2](#))
- B Themes of communication (see The Communication Process under Communication in [Chapter 2](#))
- C Therapeutic communication requires a basic understanding and use of interviewing techniques (see The Nurse-Client Relationship under Communication in [Chapter 2](#))
- D Issues that interfere with a therapeutic relationship during the working phase of a therapeutic relationship
1. Transference: the client superimposes feelings from other relationships onto the nurse-client relationship (e.g., client gets angry easily at nurse who resembles a former significant other with whom the client had a contentious relationship)
 2. Countertransference: the nurse superimposes feelings from other relationships onto the nurse-client relationship (e.g., older nurse treats a younger client like a son or daughter)
 3. Resistance: client fails to engage in or sabotages treatment (e.g., forgets appointments, keeps changing subject)
 4. Blurring of a professional versus a social relationship (see [Table 16-1: Differences Between a Social and a Professional Relationship](#))

Table 16-1
Differences Between a Social and a Professional Relationship

Social	Professional
Unstructured time frame	Structured time
Not goal directed	Goal directed
Focus on mutual needs	Focus on client's needs
Nontheoretical	Theory-based interaction
Independent relationships	Part of a treatment team
Informal duties	Legal and ethical duties
No financial concerns	Financial issues
	Confidentiality
	Documentation

General Nursing Care of Clients with Mental Health/Psychiatric Problems

- A Help people to prevent mental health problems and assist clients to cope with mental health problems

- B Accept and respect people as individuals and strive to separate the person from behavior that may be dysfunctional
- C Reorient client to person, place, time, and situation
- D Limit or reject inappropriate behavior without rejecting the individual
- E Help individuals set appropriate limits for themselves or set limits for them when they are unable to do so
- F Recognize that all behavior has meaning and is meeting the needs of the person performing it, regardless of how distorted or meaningless it appears to others
- G Accept the dependency needs of individuals while supporting and encouraging moves toward independence; build on ego strengths
- H Create a nonjudgmental environment that encourages individuals to express their feelings
- I Recognize that individuals need to use their dysfunctional defenses until other healthier defenses can be substituted
- J Recognize how feelings, behavior, and thoughts are interactive and influence relationships
- K Recognize that individuals frequently respond to the behavioral expectations of others: family, peers, and authority figures (e.g., health team members)
- L Recognize that all individuals have a potential for movement toward higher levels of emotional health
- M Include family members in the health care team when they can be supportive and with client approval; recognize that in many cultures family bonds and support are important
- N Base interventions on research evidence (evidence-based practice)

Crisis Intervention

Overview

A A crisis is an acute, time-limited emotional response to a stressful event or series of stressful events that can be real, potential, or imagined; a crisis can overwhelm a person’s coping abilities (Table 16-2: Types of Crises)

Table 16-2
Types of Crises

Type of Crisis	Description
Maturational	Transitions in development require new behaviors and skills (basis of Erikson’s theory); considered normal and often are predictable so that preventive strategies can be implemented (e.g., retirement planning)
Situational	Specific common external events that are not anticipated and create stress (e.g., job loss, amputation of a limb)
Adventitious	Disaster type events that affect groups (e.g., tomado) or unpredictable unusual individual event (e.g., rape) Some theorists believe that crisis intervention immediately after an adventitious crisis can reduce the incidence of posttraumatic stress disorder

B Crises progress through four distinct phases (Table 16-3: Caplan’s Phases of Crisis Development)

Table 16-3
Caplan’s Phases of Crisis Development

Phase	Description
Phase 1	Exposure to stressor (can be real or imagined) causes increasing anxiety as usual coping skills do not bring resolution to the problem.
Phase 2	Utilization of more dysfunctional coping behaviors occurs as high level of anxiety impedes problem solving.
Phase 3	Anxiety reaches panic level w hen effective coping is lost.
Phase 4	Anxiety overw helms the individual, w ho feels immobilized or acts out w ith violence and self-destructive behaviors; personality disorganization occurs.

C Continuing stress increases vulnerability and causes anxiety and physical discomfort and threatens the person’s self-esteem, integrity, and safety

D The response to a stressor varies from person to person and will be determined by perception of the situation, prior coping skills, the client’s support system, and psychologic and physical health (e.g., some may experience a midlife crisis or empty-nest syndrome and others may not)

E Crises are usually self-limiting and last between 4 and 6 weeks

F Ineffective coping during a crisis can lead to personality disorganization and long-term maladaptive behaviors

G Crisis intervention is a focused short-term therapy for clients in situations in which their usual coping has been overwhelmed

H The goal is to return the client to precrisis level of functioning, but as the individual tries to regain psychologic equilibrium, there is the opportunity for personal growth by learning new coping skills and developing additional resources

Nursing Care of Clients in Crisis

A Implement interventions that are directive and goal oriented because of the short time frame; focus on present problem and immediate crisis issues only

B Progress through stages: intervening immediately, stabilizing the client, facilitating a realistic understanding of the event, facilitating use of resources, encouraging self-reliance, developing and utilizing healthy support systems

C Assess the client's developmental level, perception of the event, past and current coping skills, resources and support systems, and potential for violence/suicide

D Encourage the client to express feelings and develop healthier coping skills

E Refer the client for more long-term care treatment, to support groups, and to social services as needed

Nursing Care in Relation to Violence

Domestic Violence

Overview

- A Includes child abuse, partner abuse, and elder abuse
- B Abuse can be physical, emotional, sexual, and/or financial
- C Neglect of a dependent child or elder is more common than abuse; neglect is the failure to provide basic care needs such as nutrition, shelter, and health care
- D The incidence of psychiatric illness and addiction disorders is higher in families where there is domestic violence
- E Families where abuse occurs are often isolated, with few support systems, have a history of abusive behaviors, and experience stressors such as unemployment or illness
- F The child who is most likely to be abused has a physical or mental handicap, was born prematurely or at a difficult time in the family's history; such children become scapegoats and are blamed for the family's problems; an elder adult who is abused may have physical or cognitive disabilities that make them more vulnerable and require caregivers to take on more responsibility
- G Societal influences of violence, sexual imagery, cultural norms about family roles, and the use of physical punishment to discipline may increase the tendency toward domestic violence

Nursing Care of Situations of Domestic Violence/Neglect

- A Identify signs of violence/neglect
 1. Unexplained or frequent injuries or accidents, conflicting stories about injuries, delayed treatment for injuries, injuries in various stages of healing
 2. Failure to thrive; delayed growth and development
 3. Inadequate hygiene, inappropriate dress, and eating and sleeping disorders
 4. Depression
 5. Sexually transmitted infections; inappropriate (premature) sexual knowledge
- B Report suspicions of child and elder abuse to the appropriate governmental agency, which is a requirement for nursing licensure in most states; the nurse does not need to be absolutely certain and provide proof, there only needs to be a reasonable suspicion
- C Implement nursing care
 1. Interventions for elder and child abuse include education about usual growth and development, methods of discipline of children, referral to support groups and social services, anger management, assertiveness training, and relaxation therapy
 2. Removal of at-risk children; dependent adults may be removed from the home for their safety
 3. Victims of partner abuse usually require several attempts before successfully leaving an abusive situation; victims should be helped to develop strategies for exiting an abusive situation, which include identifying financial resources, safe houses, and support groups; nurses should guard against expressing frustration to victims who choose to remain in their current situations

Anger Management

Overview

- A A form of therapy that focuses on clients with a history of hostile/aggressive behavior
- B Teaches clients to assume responsibility for hostile actions, identify anger triggers, and learn new methods of responding

Nursing Care Associated with Anger Management Therapy

- A Teach clients enhanced communication skills
- B Teach clients relaxation techniques
- C Encourage cognitive therapy strategies to redefine anger triggers and responses

Assertiveness Training

Overview

- A Clients learn the differences among aggressive, nonassertive, passive-aggressive, and assertive communication and behavior
- B Techniques include role playing, cognitive restructuring, and fogging/clouding (concur with another's statement without being defensive or agreeing to change)

Nursing Care Associated with Assertiveness Training

- A Teach differences among aggressive, nonassertive, passive-aggressive, and assertive communication and behavior
- B Role model assertive communication and behavior
- C Provide positive reinforcement for assertive communication and behavior

Rape Counseling

Overview

- A Rape counseling is a form of therapy directed to victims of sexual assault; sexual assault occurs when there is lack of consent regarding the event; minors and people with cognitive impairments are regarded as being unable to give consent; sexual activity between a minor or a cognitively impaired adult and a competent adult is a form of sexual assault; rape is an assault, the use of power to overwhelm someone
- B Sexual assaults may include actions such as fondling or indecent exposure
- C Although most victims of rape are women, men also can be victims of rape
- D Myths such as the woman must have done something to provoke the rape often keep women from reporting rapes
- E The acute reaction to rape is often shock, disbelief, and dissociation from the event
- F Somatic problems, sleep disorders, phobias, social withdrawal, and depression may occur as later responses, especially if therapy is not sought and received

Nursing Care of Clients Who Have Experienced Sexual Assault

- A Treat physical injuries, protect against sexually transmitted infections, offer pregnancy prevention and emotional support
- B Create a safe environment in which the victim may express feelings and regain some sense of choice and control

C Provide support to family and friends of the victim and direct them how to support the victim appropriately

D Refer to rape counselors and/or rape counseling centers for immediate help and for longer-term support

E Focus on providing physical care and emotional support; assist with gathering evidence for criminal prosecution if needed

Nursing Care in Relation to Therapeutic Modalities

Group Therapy

Overview

A Group therapy uses the dynamics of the group to achieve results less likely to occur in a one-to-one nurse-client relationship (e.g., decreasing sense of isolation, instilling hope through example of others, providing opportunities to help others)

B Group process describes how the group is functioning; group content describes what topics or tasks are addressed

C Groups can be effective or ineffective (see [Table 16-4: Comparison of Group Effectiveness](#))

Table 16-4
Comparison of Group Effectiveness

Factor	Effective Group	Ineffective Group
Atmosphere	Relaxed and interested	Tense and bored
Goal setting	Clearly defined and accepted Modified as needed	Vague and not supported
Goal emphasis	Process and task functions balanced	Tasks and process needs are not balanced
Cohesiveness	Built through trust and mutual support	Too close and overcontrolling or limited connection among members
Conflict	Accept differences Work to resolve conflicts	Avoid facing conflicts or unresolved ongoing conflicts
Power	Shared Determined by ability	Based on position only
Leadership	Based on needs and ability Delegates appropriately	Overcontrolling or weak
Communication	Open and two-way	Closed and one-way Dominated by a few members
Decision making	Consensus when appropriate	From leader down with little input from members
Problem solving	Encourage constructive criticism	Limited by inflexibility
Creativity	Open to new ideas	New ideas discouraged
Self-evaluation	Open to all members Frequently performed	Performed by only a few members infrequently

Nursing Care Associated with Group Therapy

A Select clients suitable for the group (level of attention and communication skills)

B Orient group members to the group process

C Maintain individual member's psychologic and physical safety

D Facilitate group process when necessary

E Assist the group to achieve therapeutic goals by encouraging member participation; all communication has value

Therapeutic Milieu

Overview

A Therapeutic milieu is the provision of an environment that consistently encourages the highest level of functioning of clients

B The environment supports client independence and responsibility, as well as improves social interactions (e.g., daily schedule of activities, communal dining, wearing street clothes) while maintaining safety

C Clients and health team members interact and work together to improve clients' functions

Nursing Care Associated with Maintaining a Therapeutic Milieu

A Develop and maintain a schedule of unit activities

B Encourage client independence in daily activities as appropriate

C Provide opportunities for healthy socialization

D Maintain client safety by increasing supervision and removing dangerous objects

Relaxation Therapy

Overview

A Promotion of relaxation through meditation, progressive relaxation, deep breathing, guided imagery, and biofeedback

B Integration of many types of treatment for clients who need to develop healthier methods for coping with stress

Nursing Care Associated with Relaxation Therapy

A Teach and reinforce relaxation techniques

B Lead relaxation groups

Family Therapy

Overview

A Derived from systems theory and group therapy

B The guiding principle is that treating the individual in isolation from the family allows dysfunctional interpersonal patterns to continue once the client returns to the family environment, which often undermines progress made in individual therapy

C Many of the problems identified in an individual may in actuality be responses to dysfunctional family interactions

D This therapy may be used for a variety of clients and may be the best type of intervention for domestic violence

Related Pharmacology: Psychotropic Medications

Overview

A Chemicals produce profound effects on the mind, emotions, and body

B Within one decade (the 1950s) three major classes of psychotropic drugs—antimanic, antipsychotic, and antidepressant—were developed

C These compounds significantly advanced the treatment of bipolar illness, psychoses, and depression

D The decrease in state hospital census has been attributed to the introduction of psychotropic drugs

E Psychotropic drugs include antianxiety or anxiolytic agents; antipsychotic or neuroleptic agents; antidepressants, antimanic, and mood-stabilizing agents; and sedative and hypnotic agents

F The safety of psychotropic drugs during pregnancy is of concern; consultations with a health care

provider and a pharmacist before administration is advised

G Response to psychotropic medications, both therapeutic and side effects, varies greatly from person to person

H The goal of psychopharmacology is to administer the medication and dosage that will maximize therapeutic effects and minimize side effects

I Medication is only one component of treatment; used to increase clients' abilities to engage in other forms of therapy

J Relapse in clients with psychiatric problems most often is related to failure to adhere to the medication regimen

Antianxiety/Anxiolytic Medications

Description

A Used in the treatment of acute anxiety, for alcohol withdrawal, and in the induction of sleep

B Exert a general depressing effect on the central nervous system (CNS); many also exert skeletal muscle-relaxant and anticonvulsant effects

C Available in oral and parenteral (intramuscular [IM], IV) preparations

D Intended for short-term use when the individual has difficulty in coping with environmental stresses and accomplishing daily activities

E Benzodiazepines: enhance the gamma-aminobutyric acid (GABA) activity (the primary inhibitory neurotransmitter in the brain), resulting in further opening of the chloride ion channel and a further inhibition of neuronal activity; a decrease in the firing rate of neurons results in lowering of anxiety

Types

A Benzodiazepines

1. Short-acting

- a. Alprazolam (Xanax)
- b. Midazolam
- c. Oxazepam
- d. Triazolam (Halcion)

2. Medium-acting

- a. Lorazepam (Ativan)
- b. Temazepam (Restoril)

3. Long-acting

- a. Chlordiazepoxide (Librium)
- b. Clonazepam (Klonopin)
- c. Clorazepate (Tranxene)
- d. Diazepam (Valium)
- e. Flurazepam (Dalmane)

B Nonbenzodiazepines

1. BusPIRone (BuSpar)

2. DiphenhydrAMINE (Benadryl)

3. Eszopiclone (Lunesta)

4. Hydroxyzine (Vistaril)

5. Ramelteon (Rozerem)
 6. Zaleplon (Sonata)
 7. Zolpidem (Ambien)
- C Antidepressants indicated for anxiety
1. Clomipramine (Anafranil)
 2. Fluoxetine (Prozac)
 3. Fluvoxamine (Luvox)
 4. Paroxetine (Paxil)
 5. Sertraline (Zoloft)
 6. Venlafaxine (Effexor XR)

Precautions

- A Drug interactions: these drugs potentiate depressant effects of alcohol or sedatives
- B Adverse effects: related to diminished mental alertness; caution about driving or operating hazardous machinery until tolerance develops; Asians and Eskimos at greater risk for toxic levels
- C Tolerance to the sedative and hypnotic effects develops eventually with all these drugs, although it develops more slowly with the benzodiazepines than other drugs; tolerance can contribute to self-medication and dosage escalation
- D Can lead to physical and emotional dependence if taken in large enough doses or for extended time periods
- E A drop in blood pressure (BP) of 20 mm Hg (systolic) on standing warrants withholding the drug and notifying the health care provider
- F Physical withdrawal symptoms can occur any time these drugs are stopped after being taken continuously for more than 2 weeks; signs and symptoms closely resemble the original sleep or anxiety problems
- G Caffeine can worsen symptoms of anxiety; it is thought to interfere with medications used to treat these disorders
- H Benzodiazepines
1. Should not be discontinued abruptly to avoid a withdrawal syndrome
 2. Should be discontinued if the client is receiving electroconvulsive therapy (ECT)
 3. Because tolerance and dependency may develop with long term use, chronic anxiety disorders are usually treated with antidepressant medications
 4. Overdose necessitates administration of flumazenil (Romazicon) to counter adverse effects
- I Buspirone (BuSpar)
1. Potent anxiolytic agent with no identified addictive potential
 2. Not effective in the management of drug or alcohol abuse
 3. Therapeutic effects are not apparent for 3 to 6 weeks; this is a much longer lag time than other drugs in this category

Nursing Care of Clients Receiving Antianxiety/Anxiolytic Medications

- A Assess the client's medication history, knowledge level, and use of current medications (e.g., prescribed, over-the-counter (OTC), and illicit drugs), medication allergies, and pattern of alcohol, tobacco, and herbal use because all may interfere with the action of anxiolytics
- B Explore the client's perceptions and feelings about medications; clarify misinformation and

concerns

C Monitor the effects of medication (e.g., effects on target symptoms, side effects, and adverse reactions)

D Administer medications exactly as prescribed and in accordance with schedule restrictions

E Teach the client about the medication; desired effect; side effects; food, herbal, and activity restrictions; and lag period between onset of treatment and symptom remission

F Provide education regarding benzodiazepines

1. OTC drugs such as antihistamines may increase potency

2. Driving or working with machinery should be avoided while sedative side effects are present

3. CNS depressants and alcohol potentiate effects

4. Drugs should not be discontinued abruptly

5. If prior assessment reveals use of herbal or related products (St. John's wort, kava, ginseng, etc.), consult with health care provider and pharmacist

G Supplement verbal teaching with appropriate written or audiovisual materials

H Evaluate client's response to medications and understanding of teaching

I Encourage client involvement in therapy to decrease stressors and improve coping to limit long-term need for antianxiety medication

Antipsychotic Agents

Description

A Used to treat agitated and aggressive behavior and psychotic symptoms (e.g., out of touch with reality); makes client better able to participate in therapy

B Act by blocking dopamine receptors in the CNS; they also block the muscarinic receptors for acetylcholine and the alpha receptors for norepinephrine

1. Positive (type I) symptoms of schizophrenia (e.g., hallucinations, delusions) respond to traditional and newer antipsychotic drugs

2. Negative (type II) symptoms (e.g., apathy, flat affect) are more responsive to the newer atypical antipsychotic drugs

C Available in oral and parenteral (IM, IV) preparations

D Effective in treating symptoms of psychosis noted in schizophrenia, schizoaffective disorder, and delusional disorder

E May be prescribed in conjunction with benzodiazepines, which is thought to minimize the dose of antipsychotics and diminish the potential for tardive dyskinesia

F May be prescribed at the onset of mania for sedative effects until therapeutic levels of antimanic medication is achieved

G Antipsychotic effects usually occur within 1 to 2 weeks after initiating treatment, but sedative effect can be immediate

Types

A Traditional drugs (first-generation drugs)—phenothiazines

1. ChlorproMAZINE

2. Thioridazine

3. Fluphenazine

4. Perphenazine
 5. Prochlorperazine
 6. Trifluoperazine
- B Traditional drugs (first-generation drugs)—nonphenothiazines

1. Haloperidol (Haldol)
2. Thiothixene (Navane)
3. Loxapine (Loxitane)
4. Pimozide (Orap)

C Atypical drugs (second-generation drugs)

1. Aripiprazole (Abilify)
2. Clozapine (Clozaril)
3. Olanzapine (Zyprexa, Zydys)
4. Quetiapine (Seroquel)
5. Risperidone (Risperdal)
6. Ziprasidone (Geodon)

Precautions

A Drug interactions

1. Potentiate the action of alcohol, barbiturates, antihypertensives, and anticholinergics; concomitant use should be avoided if possible
2. Should be temporarily discontinued when spinal or epidural anesthesia is necessary

B Adverse effects

1. Agranulocytosis (may be manifested by signs and symptoms of a cold or sore throat)
2. Jaundice (hepatotoxicity)
3. Drowsiness (highest incidence in initial days of therapy because of CNS depression)
4. Orthostatic hypotension (autonomic nervous system [ANS] depression)
5. Anticholinergic side effects: dry mouth, blurred vision, constipation and urinary retention
6. Anorexia (depressed appetite center)
7. Hypersensitivity reactions: tissue fluid accumulation, visual changes, impotence, cessation of menses or ovulation
8. Cardiac toxicity (direct toxic effect)
9. Weight gain and metabolic syndrome (abdominal obesity, dyslipidemia, hypertension, and insulin resistance leading to diabetes)
10. Photosensitivity
11. Extrapyrarnidal side effects (EPS)
 - a. Dystonia: occurs early in treatment, possibly after initial dose; involves grimacing, torticollis, intermittent muscle spasms
 - b. Pseudoparkinsonism: resembles true parkinsonism (tremor, masklike facies, drooling, restlessness, shuffling stooped gait, rigidity)
 - c. Akathisia: motor agitation (restless legs, “jitters,” nervous energy); most common of all EPS
 - d. Akinesia: fatigue, weakness (hypotonia), painful muscles, lack of energy (anergia)
 - e. Tardive dyskinesia: late-appearing after prolonged use of antipsychotic drugs; not related to dopamine-acetylcholine imbalance; most severe effect characterized by involuntary movements of face, jaw, and tongue; lip smacking, grinding of teeth, rolling or protrusion of

tongue, tics, diaphragmatic movements that may impair breathing; condition disappears during sleep; antiparkinsonian drugs ineffective and condition is usually irreversible; all antipsychotics should be discontinued to determine if symptoms subside

12. Neuroleptic malignant syndrome: infrequent yet extreme life-threatening condition occurring in severely ill clients and is thought to be the result of dopamine blockage in the hypothalamus; associated with high-potency antipsychotic drugs, especially when given in a large loading dose; symptoms are hyperthermia (cardinal symptom), muscular rigidity, tremors, impaired ventilation, muteness, altered consciousness, unstable BP, and autonomic hyperactivity

C Antiparkinsonian drugs are given to block the EPS that are related to dopamine and acetylcholine imbalance

1. Anticholinergics are most used for EPS: benztropine (Cogentin), biperiden (Akineton), trihexyphenidyl; a missed dose should be taken up to 2 hours before next dose; tend to worsen some anticholinergic effects of the antipsychotics
2. Antihistamine: diphenhydramine (Benadryl)
3. Others
 - a. Used for neuroleptic malignant syndrome: amantadine, bromocriptine (Parlodel), dantrolene (Dantrium)
 - b. Used for akinesia and akathisia: lorazepam (Ativan) diazepam (Valium), clonazepam (Klonopin)

Nursing Care of Clients Receiving Antipsychotic Agents

A Monitor BP

1. Assess in both supine and standing positions
2. Assess before each dose is administered
3. Assess for tachycardia, which usually is a response to hypotension
4. Consult health care provider as to safe systolic/diastolic parameters for each client
5. Maintain safety if hypotension occurs (e.g., assist with ambulation, assist client to rise from bed slowly and sit on bed before ambulating, keep side rails up when nonambulatory)

B Use precautions to avoid drug contact with skin; can cause contact dermatitis

C Assess for EPS; antiparkinsonism agent may be prescribed to decrease symptoms

D Monitor laboratory results during long-term therapy (e.g., periodic complete blood counts (CBCs), liver function tests, lipid profiles, glucose tolerance, blood glucose levels, and chemistry analysis; weekly white blood cell (WBC) count if administering clozapine [Clozaril])

E Monitor for signs of hepatic toxicity (e.g., jaundice)

F Monitor for signs of infection (e.g., sore throat)

G Monitor dietary intake to avoid weight loss resulting from caloric expenditure caused by EPS

H Monitor for weight gain associated with metabolic syndrome

I Instruct client to

1. Avoid administration with other CNS depressants, including concurrent use of alcohol
2. Avoid engaging in potentially hazardous activities
3. Avoid exposure to direct sunlight; wear protective clothing and sunglasses outdoors
4. Recognize signs and symptoms of EPS and report their occurrence immediately
5. Avoid changing positions rapidly
6. Notify health care provider if sore throat, fever, or weakness occur; avoid crowded, potentially infectious places

7. Use sugar-free chewing gum or hard candy to increase salivation and relieve dry mouth
 8. Increase water intake and eat high-fiber diet to avoid constipation
 9. Expect weight gain; control weight with appropriate diet
 10. Avoid mixing with certain juices or liquids (e.g., coffee, tea, or cola beverages), which may decrease effectiveness of drug
 11. Avoid antacids or take them 1 to 2 hours after antipsychotic drug is taken because antacids decrease absorption of antipsychotics
 12. Eliminate or minimize smoking because it decreases serum levels of antipsychotics
- J Recognize that nonadherence to drug regimen is common; monitor clients during administration to ensure medication is taken to prevent “cheeking” (client may discard tablet or save tablets to attempt overdose); consult health care provider about use of longer-acting drugs such as fluphenazine (Prolixin), haloperidol (Haldol), or risperidone (Risperdal); liquid forms of medications; or rapidly dissolving tablets such as olanzapine (Zyprexa, Zydys)
- K Evaluate client’s response to medication and understanding of teaching

Antidepressants

Description

- A Primarily used for major depressive illness; also used in the treatment of panic disorder, other anxiety disorders, posttraumatic stress disorder, narcolepsy, attention deficit disorders, and enuresis in children
- B Treatment is based on the restoration of acceptable levels of neurotransmitter systems by blocking the uptake in the presynaptic nerve ending, inhibiting breakdown, stimulating the release, and reducing stimulation at the site of the postsynaptic beta receptors (i.e., down-regulation)
- C Affect the neurotransmitters norepinephrine and/or serotonin by partially blocking their reuptake; roles for other neurotransmitters are unclear and under study
- D Available in oral and parenteral (IM) preparations
- E May need to be taken for 1 to 4 weeks before therapeutic response occurs; side effects may occur with initial doses
- F BuPROPion (Wellbutrin), an atypical antidepressant, also is used as an adjunctive treatment for smoking cessation
- G Selective serotonin reuptake inhibitors, with their low side effect profile, are being used to treat eating disorders and obsessive-compulsive disorder
- H Monoamine oxidase inhibitors (MAOIs) elevate norepinephrine levels in brain tissues by interfering with the enzyme MAO; act as psychic energizers; rarely used because of serious drug and food interactions that cause hypertensive crisis

Types

- A Tricyclic drugs (TCAs) or nonselective cyclic drugs
1. Clomipramine (Anafranil)
 2. Desipramine (Norpramin)
 3. Doxepin (Silenor)
 4. Imipramine (Tofranil)
 5. Nortriptyline (Aventyl, Pamelor)

6. Protriptyline (Vivactil, Triptil)

7. Trimipramine (Surmontil)

B Monoamine oxidase inhibitors (MAOIs)

1. Isocarboxazid (Marplan)

2. Phenelzine sulfate (Nardil)

3. Selegiline (Eldepryl, Emsam)

4. Tranylcypromine sulfate (Parnate)

C Selective serotonin reuptake inhibitors (SSRIs)

1. Citalopram (Celexa)

2. Fluoxetine (Prozac, Prozac Weekly, Sarafem)

3. Fluvoxamine (Luvox)

4. Escitalopram (Lexapro)

5. Paroxetine (Paxil)

6. Sertraline (Zoloft)

D Atypical new generation drugs

1. BuPROpion (Wellbutrin, Wellbutrin SR, Zyban)

2. Mirtazapine (Remeron)

3. Trazodone (Oleptro)

4. Venlafaxine (Effexor, Effexor XR)

E Serotonin-norepinephrine reuptake inhibitors (SNRIs)

1. Desvenlafaxine (Pristiq)

2. Duloxetine (Cymbalta)

Precautions

A Tricyclic antidepressants (TCAs)

1. Drug interactions: potentiate effects of anticholinergic drugs and CNS depressants (e.g., alcohol and sedatives)

2. Adverse effects

a. Orthostatic hypotension, skin rash, drowsiness, dry mouth, blurred vision, constipation, urine retention, and tachycardia

b. CNS stimulation in older adults (e.g., excitement, restlessness, incoordination, fine tremor, nightmares, delusions, disorientation, insomnia)

3. Should not be prescribed for clients with narrow-angle glaucoma

4. Contraindicated during recovery phase of myocardial infarction or when client's history indicates cardiac dysrhythmias and cardiac conduction defects

5. Should not be administered concurrently with MAOIs to prevent hypertensive crisis; there should be a minimum of 14 days between switching the TCA-resistant client to an MAOI

6. Abrupt discontinuation of TCAs can cause nausea, headache, and malaise

B Monoamine oxidase inhibitors (MAOIs)

1. Drug interactions: MAOIs potentiate the effects of alcohol, barbiturates, anesthetic agents, cocaine, antihistamines, narcotics, corticoids, anticholinergics, and sympathomimetic drugs

2. Drug-food interactions: hypertensive crisis with vascular rupture, occipital headache, palpitations, stiffness of neck muscles, emesis, sweating, photophobia, and cardiac dysrhythmias may occur when neurohormonal levels are elevated by ingestion of foods with high tyramine content (e.g., pickled herring, beer, wine, chicken livers, aged or natural cheese, chocolate, caffeine, cola,

licorice, avocados, bananas, and bologna); processed cheeses and fresh cheese (e.g., cottage cheese) are low in tyramine

3. Adverse effects

- a. Orthostatic hypotension (CNS effect)
- b. Skin rash (hypersensitivity)
- c. Drowsiness (CNS depression)
- d. Dry mouth, blurred vision, urinary retention, tachycardia (anticholinergic effect)
- e. Sexual dysfunction (autonomic effect)
- f. Nightmares, delusions, disorientation, insomnia (CNS stimulation)

C Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs)

1. Drug interactions: may interact with tryptophan, diazepam, warfarin, and digoxin; should be discontinued 4 to 6 weeks before switching to an MAOI
2. Adverse effects: insomnia, headache, dry mouth, sexual dysfunction, anxiety, diarrhea and other GI complaints
3. Serotonin syndrome: confusion, coma, agitation, tachycardia, BP changes, nausea, myoclonus, hyperreflexia, tremors, ataxia, hyperpyrexia; usually resolves with elimination of SSRIs and supportive care
4. Usually these drugs are administered before noon to avoid insomnia or sleep disturbances

D Atypical new-generation drugs

1. Adverse effects: increased appetite, weight gain, and sleep disturbances; mild anticholinergic side effects noted
2. Bupropion (Wellbutrin) is thought to affect dopamine reuptake and agitation is sometimes produced

Nursing Care of Clients Receiving Antidepressants

A Monitor for self-destructive behavior, particularly during the second week of drug therapy when suicidal ideation remains and energy increases; maintain suicide precautions

B Monitor serum glucose levels in clients with diabetes mellitus

C Instruct client to

1. Change positions slowly
2. Avoid engaging in hazardous activities
3. Use sugar-free chewing gum or hard candy to stimulate salivation
4. Check with the health care provider before taking all OTC preparations, alcohol, and cough or herbal medicines (e.g., St. John's wort)
5. Expect therapeutic effect to be delayed; may take up to 3 weeks with MAOIs and 2 to 4 weeks with other antidepressants

D Avoid concurrent administration of adrenergic drugs; limit or eliminate caffeine use to prevent exacerbation of depression

E MAOIs

1. Maintain dietary restrictions; avoid foods containing tyramine; provide for nutritional education
2. Monitor client for signs and symptoms of hypertensive crisis (e.g., occipital headache, palpitations, and stiff neck); treat with NIFEdipine (Procardia) and phentolamine (Regitine)

F Recommend fluoxetine (Prozac), weekly capsule (90 mg), to treat clients who do not adhere to the drug regimen

G Evaluate client's response to medication and understanding of teaching

Antimanic and Mood-Stabilizing Agents

Description

A Used to control the manic episode of mood disorders and for maintenance in clients with a history of mania

B Improves productivity by decreasing psychomotor activity or response to environmental stimuli

C Available in oral capsules and tablets, both regular and sustained-release forms, and in concentrates

D Lithium affects the neurotransmitters of multiple systems including dopamine, norepinephrine, serotonin, acetylcholine, and GABA

Types

A Antimanic agents and mood stabilizers

1. Lithium carbonate

2. Lithium carbonate sustained release (Lithobid)

3. Lithium citrate concentrate (Cibalith)

B Alternative antimanic agents and mood stabilizers

1. Carbamazepine (Tegretol)

2. Gabapentin (Neurontin)

3. Lamotrigine (Lamictal)

4. Topiramate (Topamax)

5. Valproates (Depakene, Depakote, Depakote ER, Depacon)

C Some antipsychotic agents such as aripiprazole (Abilify) and ziprasidone (Geodon) may be used during the acute manic phase of bipolar illness to assist with symptom control until therapeutic levels of other antimanic medications are achieved

Precautions

A Drug interactions: diuretics increase the reabsorption of lithium, resulting in possible toxic effects; when given with haloperidol (Haldol) encephalopathic syndrome can occur; sodium bicarbonate or sodium chloride increases the excretion of lithium

B Drug-food interaction: restriction of sodium intake increases drug substitution for sodium ions, which causes signs of hyponatremia (e.g., nausea, vomiting, diarrhea, muscle fasciculations, stupor, seizures); daily intake of more than 250 mg of caffeine with lithium decreases effect of antianxiety drugs

C Adverse effects: headache, drowsiness, dizziness, dry mouth, anorexia, nausea, hypotension, edema

D Toxic effects: vomiting, diarrhea, tremors, weakness, lassitude, severe thirst, tinnitus, dilute urine; drug blood levels above 1.5 mEq/L indicate toxicity; toxicity easily occurs because the difference between the therapeutic level and toxic level is slight

E One to 2 weeks of treatment is necessary to achieve a clinical response; antipsychotic agents or benzodiazepines may be used in combination with lithium to control manic symptoms initially until antimanic clinical response occurs

Nursing Care of Clients Receiving Antimanic and Mood-Stabilizing Agents

- A Recognize that therapeutic effects will be delayed for several weeks
- B Check concurrent medications for potential interactions
- C Administer with meals to reduce gastrointestinal (GI) irritation; ensure that drug is not crushed or chewed; liquid forms are available
- D Encourage avoidance of hazardous activities
- E Teach that medication should not be discontinued abruptly and that if it is discontinued, it should be done with medical supervision
- F Provide nursing care specific to lithium
 1. Maintain sodium and adequate fluid intake because dehydration and hyponatremia predispose to lithium toxicity
 2. Monitor weight and for signs of dependent edema
 3. Assess therapeutic blood levels (0.5 to 1.5 mEq/L) weekly for 1 month and then at 2- to 3-month intervals
 4. Teach about signs and symptoms of side effects and toxicity
 5. Refer pregnant woman to health care provider; cessation of lithium during pregnancy is recommended to avoid teratogenic effects during first trimester
- G Provide nursing care specific to valproates
 1. Administer elixir alone; do not dilute with carbonated beverages
 2. Teach about side effects: sedation, drowsiness, nausea, vomiting, diarrhea, constipation, heartburn
 3. Teach about signs of toxicity: visual disturbances, rash, diarrhea, light-colored stools, jaundice, protracted vomiting
- H Evaluate client's response to medication, including CBC results
- I Evaluate client's understanding of self care related to the medication regimen

Sedative and Hypnotic Agents

Description

- A Benzodiazepines have almost entirely replaced barbiturates in the treatment of anxiety and sleep disorders; sedative and hypnotic agents are primarily used in general medicine rather than psychiatry
- B Sedative-hypnotic preparations are generally intended for either occasional or short-term use
- C Insomnia, hypersomnia, narcolepsy, parasomnias, periodic leg movements (nocturnal myoclonus), and sleep apnea are among the disorders that are responsive to these agents; specific psychiatric conditions predispose clients to insomnia (mood disorders, anxiety, and dementias)
- D CNS depressants have antianxiety effects in low dosages, produce sleep in high dosages, and have general anesthetic-like states in very high dosages
- E Sedatives reduce nervousness, excitability, and irritability without inducing sleep, but a sedative can become a hypnotic in large doses
- F All hypnotic drugs probably alter either the character or the duration of rapid eye movement (REM) sleep
- G Hypnotics cause sleep and have a more potent effect on the CNS than sedatives
- H Sedative-hypnotics are classified chemically into three groups: barbiturates, benzodiazepines, and nonbenzodiazepines

Types

- A Barbiturates: pentobarbital (Nembutal)
- B Benzodiazepines: see [Antianxiety/Anxiolytic Medications](#)
- C Nonbenzodiazepine hypnotics: see [Antianxiety/Anxiolytic Medications](#)
- D Antidepressant: trazodone (Oleptro)
- E Antihistamines: diphenhydramine (Benadryl); hydroxyzine (Vistaril)
- F Beta-adrenergic blocker: propranolol (Inderal)
- G Anxiolytic: buspirone (BuSpar)

Precautions

- A The sedative-hypnotics are CNS depressants
- B Adverse effects:
 1. Hypnotic drugs have undesirable effects (e.g., physiologic addiction, fatal overdose potential, and dangerous interactions with other drugs and alcohol)
 2. Barbiturate sedatives increase the metabolism of anticoagulants because they induce liver enzyme synthesis
- C Tolerance develops to sedative and hypnotic agents; therefore, the client in the outpatient setting may resort to increasing doses to produce the desired effect
- D Physical and emotional dependence occurs if taken in large dosages or for a long time period. Once physical dependence develops, abrupt discontinuation of sedative-hypnotics leads to withdrawal
- E Once physical dependence develops, abrupt discontinuation of sedative-hypnotics leads to withdrawal
 1. Withdrawal characteristics: insomnia, weakness, muscle tremors, anxiety, irritability, sweating, anorexia, fever, nausea and vomiting, headache, incoordination, and restlessness
 2. After several days, severe symptoms of withdrawal may develop: postural hypotension, tinnitus, incoherence, delirium, psychosis, seizures, status epilepticus, cardiovascular collapse, loss of temperature regulation, and/or death
- F To avoid severe withdrawal that could result in death, it is important to slowly and gradually taper the dose with the same drug or one that is cross-tolerant
- G Treatment for overdose: removal of the drug from the stomach by aspiration, resuscitative measures (e.g., assisted ventilation, cardiac massage), hemodialysis of diffusible drug, vasopressor administration to counteract vascular collapse, and correction of acidosis
- H Follow-up drug supervision is needed to avoid repetition of the problem
- I Psychotherapy may be required for depressed clients
- J Refer to Precautions under [Antianxiety/Anxiolytic Medications](#) for additional information

Nursing Care of Clients Receiving Sedative and Hypnotic Agents

- A Assess for history of drug or alcohol abuse or suicide attempts by overdose because of the increased risk for abuse
- B Assess for pregnancy and breastfeeding, because safe use has not been established
- C Explore the client's perceptions and feelings about medications; clarify any misinformation and concerns
- D Plan for client teaching about specific sedative-hypnotic agents; institute safety precautions
- E Supplement verbal teaching with appropriate written or audiovisual materials
- F Administer controlled substances according to schedule restrictions

- G Evaluate client's response to medication and understanding of teaching
- H Assess for undesired effects (e.g., respiratory depression, increased sedation, and hypotension)
- I Review methods to improve sleep (e.g., minimizing daytime napping, increasing physical activity except just before bedtime, eliminating caffeine intake after dinner, establishing bedtime routines, maintaining a regular sleep schedule)
- J Refer to Nursing Care of Clients Receiving Antianxiety/Anxiolytic Medications

Anti-Alzheimer Agents

Description

- A Temporary improvement in cognitive function but progression of disease continues
- B Cholinesterase inhibitors: impedes cholinesterase in the CNS thereby increasing acetylcholine
 1. Used to treat mild to moderate Alzheimer disease
 2. Unlabeled use includes vascular dementia
- C *N*-methyl-d-aspartate (NMDA) receptor antagonist: impedes action of CNS NMDA receptors, thereby lowering the glutamate level in the brain; protects CNS neurons
 1. Used to treat moderate to severe Alzheimer disease
 2. Unlabeled use includes vascular dementia

Types

- A Cholinesterase inhibitors
 1. Donepezil (Aricept)
 2. Rivastigmine (Exelon)
 3. Galantamine (Razadyne)
- B NMDA receptor antagonist
 1. Memantine (Namenda)

Precautions

- A Cholinesterase inhibitors
 1. Drug interactions: synergistic effect with other cholinesterase inhibitors; donepezil (Aricept) should not be administered within 2 weeks of MAOIs because hypertensive crisis may occur
 2. Adverse effects: GI disturbances (e.g., nausea, vomiting, diarrhea), headache, insomnia, dizziness
- B NMDA receptor antagonist
 1. Drug interactions: alter effects of both NMDA and other medication; hydrochlorothiazide (HCTZ), H₂-histamine antagonists (e.g., cimetidine [Tagamet], ranitidine [Zantac])
 2. Adverse effects: dizziness, confusion, headache, vomiting, constipation

Nursing Care of Clients Receiving Anti-Alzheimer Agents

- A Administer donepezil between meals; administer rivastigmine and galantamine with meals; administer memantine without regard to meals
- B Provide assistance with ambulation during beginning therapy because dizziness may occur
- C Assess GI status and for behavioral changes, less confusion, increase in mood
- D Assess ability to swallow medication; some are supplied in oral solution, oral disintegrating

tablets, transdermal route, extended release product that can be sprinkled on food

Nursing Care of Clients with Disorders Usually First Evident in Infancy, Childhood, or Adolescence

Overview

A These disorders may be characterized by physical as well as psychologic signs and symptoms and must be distinguished from expected variances in growth and development

B The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) criteria for diagnosis are behavioral manifestations that are not age appropriate, deviate from cultural norms, and create deficits or impairments in adaptive functioning. (In 2013, the DSM-V is expected to be published. Diagnostic categories will change through addition of new diagnoses and deletion or merging of others. This is particularly expected in the area of child and adolescent mental disorders.)

C Psychiatric care of the child or adolescent is a subspecialty within psychiatric nursing. Although there is a wide range of deficits with these disorders, there are fundamental principles that apply

D Care should be based on the child's developmental level and directed toward helping the child grow emotionally. All children, especially these children, require

1. Protection from danger, including impulsive acts and self-destructive behavior
2. Love and acceptance
3. Basic physiologic needs to be met
4. Meaningful trusting relationships
5. Opportunities to explore the environment

E There is increasing awareness of mental illnesses in children and adolescents that were formerly believed to occur only in adults. This includes bipolar disorder, schizophrenia, depression, and posttraumatic stress disorder (PTSD). Manifestations of these illnesses in the younger population may differ from those in adults. Treatments may be modified to meet the developmental level of the child and adolescent.

General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

A Assessment/Analysis

1. Attainment or delay of developmental milestones (e.g., motor, language, social, etc.)
2. Parental behavior and attitude (e.g., expectations, acceptance/rejection, encouragement/pressure)
3. Personal and family health history (e.g., vision, hearing, general health, perinatal history, familial disorders)
4. Onset, characteristics, and pattern of speech; ability to communicate with others
5. Level of anxiety, frustration, self-esteem
6. Behavioral manifestations (e.g., ability to perform activities of daily living (ADLs), hyperactivity, distractibility, attention span, impulsiveness, repetitive behaviors, tics, reports of somatic symptoms)
7. Social abilities (e.g., ability to connect with others/environment, aggressiveness, ability to follow directions/rules, respect for others and their belongings)

B Planning/Implementation

1. Develop a trusting relationship with the child and family
 - a. Be as truthful as possible
 - b. Provide consistent caregivers
 - c. Make explanations as clear as possible and at the appropriate cognitive level
2. Help the child to see self as worthwhile
 - a. Encourage verbalization of feelings
 - b. Accept child and focus on strengths to raise self-esteem
 - c. Foster independence by emphasizing abilities and achievements rather than limitations
 - d. Provide opportunities for the child to experience success and satisfaction
 - e. Use positive reinforcement for child's strengths and abilities
 - f. Teach and role model more adaptive coping behaviors
 - g. Increase sense of empathy through role modeling, role playing, group therapy
 - h. Support and encourage the child's movement toward independence but allow dependency when necessary
3. Establish an environment in which the child can gain or regain a favorable equilibrium
 - a. Set realistic, attainable goals
 - b. Maintain routines based on the child's usual schedule; maintain safety
 - c. Manage hyperactivity and aggressive behaviors: progress from avoiding situations that precipitate unacceptable behavior to monitoring behavior for increasing anxiety, signaling child to use self-control, and finally to placing child in "time out" when appropriate
 - d. Set limits that are as realistic as possible but as firm as necessary, avoiding manipulation
 - e. Provide for consistency, both in approach and in rules/regulations
 - f. Use a firm system of rewards and punishments within set limits
 - g. Point out reality, but accept the child's views of it
 - h. Recognize that the maladaptive behavior has meaning for the child or may be beyond the child's control (e.g., tic disorder)
 - i. Plan activities to provide a balance between energy expenditure and quiet time
 - j. Introduce new situations gradually; permit child to have a familiar, comforting object

- k. Engage in parallel play to connect with a withdrawn child in a nonthreatening manner
- 4. Involve family in parenting education and management training
 - a. Assist parents to
 - (1) Gain an accurate understanding of their child's strengths and weaknesses
 - (2) Cope with feelings such as guilt, failure, or anger
 - (3) Provide firm and consistent discipline and ignore temper tantrums
 - b. Help parents and child to identify triggers to maladaptive behaviors
 - c. Involve family in multifamily therapy to work through problems of daily life and to gain new information and more adaptive coping skills
 - d. Provide parents with a list of available community resources
 - e. Assist family with placement of child when home care can no longer be provided because of changes in child or ability of caregivers
- 5. Administer prescribed medications
 - a. Pervasive developmental disorders: antipsychotics, stimulants
 - b. Attention deficit hyperactivity disorder: methylphenidate (Ritalin, Concerta); give after breakfast to ensure dietary intake; a second dose should be administered before 6 PM to limit insomnia
 - c. Tic disorders: sedatives, anticonvulsants (antiseizure); prescribed but usually have minimal effect
 - d. Enuresis: desmopressin (DDAVP, Stimate); tricyclic antidepressants for children older than 5 years of age
 - e. Anxiety disorders: stimulants, antianxiety agents
- 6. Minimize long-term consequences
 - a. Identify and ensure that deficits are treated early
 - b. Support attendance at school, therapeutic nursery program, day treatment program, or special education program depending on age and degree of disability
 - c. Provide ongoing assistance to promote social and academic success
 - d. Provide activities appropriate for age and disorder (e.g., play, games, sports)
 - e. Allow child time to verbalize, without completing words or sentences for child; use picture boards; use sign language; avoid nonverbal behavior that implies impatience
 - f. Support child and parents receiving treatment
 - (1) Physical therapy
 - (2) Occupational therapy
 - (3) Speech therapy
 - (4) Stimulation therapy
 - (5) Early intervention programs
 - (6) Psychotherapy (e.g., play, group, or individual)

Major Disorders First Evident in Infancy, Childhood, or Adolescence

Mental Retardation

See Cognitive Impairment ([Mental Retardation](#)) in [Chapter 31, Nursing Care of Toddlers](#)

Learning Disorders (LD)

Data Base

A Difficulty processing language, auditory or visual processing disorders, difficulty with calculating numbers (dyscalculia)

B Causative factors: environmental, genetic predisposition, perinatal injury, neurologic dysfunction, and medical conditions

C Behavioral/clinical findings

1. Achievement on individually administered, standardized tests in reading, mathematics, or written expression is substantially below (defined as 2 or more standard deviations between achievement and IQ) that expected for age, schooling, and level of intelligence; LDs must be differentiated from usual variations in academic attainment and from scholastic difficulties resulting from lack of opportunity, inadequate teaching, cultural factors, or impaired vision or hearing
2. Demoralization, low self-esteem, and deficits in social skills may be associated
3. Employment difficulties and social adjustment are noted in adolescence and adulthood

Nursing Care of Children with Learning Disorders

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Participates in school and home activities
2. Follows directions
3. Completes tasks
4. Benefits from remediation

Motor Skills Disorders

Data Base

A Developmental motor and coordination disorders that interfere with academic achievement or ADLs; no specific neurologic disorders are present

B Causative factors: No definitive cause has been identified

C Behavioral/clinical findings: lack of coordination that may continue through adolescence and adulthood

Nursing Care of Children with Motor Skills Disorders

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Maintains or increases mobility/agility
2. Engages in activities suitable to interests, capabilities, and developmental level

Communication Disorders

Data Base

A Developmental type: inability to begin or interruption in patterns of speech in the absence of physiologic causes

B Acquired type: impairment in expressive language from a physiologic cause (e.g., brain tumor, brain attack, head trauma); may occur at any age, with sudden onset or presence of faulty speech patterns that are persistent and increased by stress

C Behavioral/clinical findings

1. Two common types
 - a. Cluttering: abnormally rapid, erratic, dysrhythmic speech patterns that make communication very difficult to follow
 - b. Stuttering: frequent repetition of sounds or syllables that impairs speech fluency although child has acceptable laryngeal skills; usually occurring at the beginning of a word or phrase
2. Communication disorders are associated with anxiety, avoidance of social situations, and loss of self-esteem

Nursing Care of Children with Communication Disorders

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Demonstrates a decrease in speech pattern disturbances
2. Demonstrates increased participation in social and public situations

Pervasive Developmental Disorders (Including Autistic Disorder and Asperger Disorder)

Data Base

A Autism is viewed as a behavioral disorder caused by abnormal brain function, resulting in an alienation or withdrawal from reality; signs may be evident before 2 years of age but it usually is diagnosed by 3 years of age; prognosis is guarded and depends on a multiplicity of factors

B Asperger disorder is similar to but differs from autism in that it has a later onset and has no delay in cognitive and language development; problems with social relationships become evident when child enters school

C Interference with intellect may be so profound that child appears mentally retarded; turns to

inanimate objects and self-centered activity for security

D Puberty can be a crucial stage for showing improvement or further deterioration

E Behavioral/clinical findings

1. Severe and pervasive impairment in reciprocal social interaction (e.g., indifferent or aversion to affection and physical contact)
2. Severe and pervasive impairment of communication skills (verbal: e.g., misuse of pronouns; nonverbal: e.g., lack of eye contact)
3. Exhibits stereotypical behavior, interests, and activities (e.g., adheres to routines and rituals with aversion to minor changes; repetitive motor mannerisms)
4. Disinterest in eating; bizarre, unpredictable, uncontrolled behavior

Nursing Care of Children with Pervasive Developmental Disorders

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Remains safe from injury
2. Decreases inappropriate behavior (e.g., self-destructive behavior)
3. Uses fewer stereotypical/repetitive motor behaviors
4. Increases use of first-person speech

Attention Deficit Hyperactivity Disorder (ADHD)

Data Base

A Thought to have a neurobiologic basis (e.g., genetic, perinatal stress); sometimes complicated by family dynamics and progressive consequences of related learning problems

B More common in males; often diagnosed as child enters the school system

C Symptoms persist in less severe form into adulthood

D Behavioral/clinical findings

1. Inappropriately inattentive; short attention span; easily distracted; learning disabilities
2. Excessive talking and impulsiveness (e.g., cannot take turns, interrupts)
3. Difficulty organizing tasks and activities; does not complete tasks
4. Squirming and fidgeting; hyperactivity may or may not be present

Nursing Care of Children with Attention Deficit Hyperactivity Disorder

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Participates in home and school activities
2. Completes tasks
3. Follows directions

Unspecified Conduct Disorder/Oppositional Defiant Disorder

Data Base

- A Disregard for society's rules/norms and rights of others
- B Disregard and lack of empathy for the feelings of others
- C Onset may occur as early as age 5 or 6, but usually is in late childhood or early adolescence; often diagnosed as having an antisocial personality disorder in adulthood
- D Behavior is repeated despite rational arguments and consequences; causes significant impairment in social, academic, or work performance
- E Behavioral/clinical findings
 1. Aggression toward people and animals
 2. Unfeeling toward others
 3. Destruction of property
 4. Deceitfulness or theft
 5. Serious violations of rules and laws

Nursing Care of Children with Unspecified Conduct Disorder/Oppositional Defiant Disorder

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Decreases destructive acts
2. Demonstrates increased ability to delay gratification

Tic Disorders

Data Base

- A Causative factors: thought to be an imbalance in neurotransmitters; familial or autosomal-dominant patterns exist in high percentage of tic disorders; more common in males
- B Diagnosis based on the duration, variety of tics, and age of onset
- C Behavioral/clinical findings
 1. Tourette disorder: evidence of multiple motor tics (e.g., involuntary, uncontrolled, multiple, rapid movements of muscles such as eye blinking, twitching, and head shaking that occur in episodes throughout the day) and at least one vocal tic (e.g., involuntary production of sounds such as throat clearing, grunting, barking, or the utterance of socially unacceptable words [coprolalia])
 2. Chronic motor or vocal disorder: evidence of single or multiple motor or vocal tics, but not both
 3. Transient disorder: evidence of motor and/or vocal tics lasting for at least 1 month, but no more than 12 consecutive months
 4. Can be controlled for short duration; not usually present during sleep; increased during times of stress

Nursing Care of Children with Tic Disorders

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#)

for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Demonstrates a decrease in tic behavior
2. Functions socially despite presence of tic

Elimination Disorders

Data Base

A Incontinence of feces or urine in inappropriate places

B No identifiable physical problems

C Chronologic age is at least 4 years or equivalent developmental level

D Behavioral/clinical findings

1. Functional encopresis: involuntary or intentional defecation in inappropriate places, including clothing
2. Functional enuresis: involuntary or intentional micturition in inappropriate places, including clothing; nocturnal bedwetting is most frequent; child may or may not be aware of voiding or recall a dream about the act of urinating
3. Avoidance of social situations (e.g., school, play groups) because of loss of self-esteem, anxiety, and/or rejection by peers

Nursing Care of Children with Elimination Disorders

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

1. Demonstrates a decrease in encopresis or enuresis
2. Exhibits an increase in self-esteem

Anxiety Disorders of Infancy, Childhood, or Adolescence

Data Base

A Some anxiety is expected in childhood and adolescence because fears and worries are part of development

B Anxiety becomes a problem when there is a failure to move beyond the fears of a particular developmental stage

C Behavior interferes with daily functioning and educational and social achievement

D Behavioral/clinical findings

1. Separation anxiety: excessive anxiety centered on harm befalling self, family, or those to whom child has attachment
 - a. Onset occurs as early as 2 years of age with the peak between 7 to 9 years of age; a mild form is a common/expected developmental response in children younger than 2 years of age
 - b. Refusal to attend activities that require temporary parental separation
 - c. Physical signs and symptoms when separation is anticipated

- d. Problems with sleeping
- 2. School phobia: Severe anxiety about attending school
 - a. Overwhelming shyness and insecurity
 - b. Psychophysiologic symptoms used to justify nonattendance
 - c. Anxiety increases in response to attempts to force attendance
 - d. Nonattendance at school has emotional and legal implications
- 3. Selective mutism: persistent failure to speak in specific social situations
 - a. Social involvement limited to family members or people who are familiar to the child
 - b. Excessive shyness or timidity with strangers
- 4. Reactive attachment disorder: disturbed or developmentally inappropriate behavior that leads to psychosocial deprivation; begins before age 5
 - a. Failure to initiate or respond to most social interactions
 - b. Difficulty in choice of attachment figures

Nursing Care of Children with Anxiety Disorders of Infancy, Childhood or Adolescence

(See [General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence](#) for Assessment/Analysis and Planning/Implementation)

Evaluation/Outcomes

- 1. States a decrease in anxiety and worry
- 2. Demonstrates a decrease in physiologic symptoms
- 3. Develops relationships outside of family members
- 4. Attends school on a consistent basis

Nursing Care of Clients with Disorders Related to Alterations in Cognition and Perception

Overview

A The primary initial deficit occurs in cognition, although there may be changes in mood and behavior

B Includes disorders associated with

1. Temporary or permanent changes in brain tissue that were formerly classified as organic brain syndrome or organic mental disorders (e.g., delirium, dementia)
2. Persistent disturbances in memory resulting from a medical condition or substance use
3. Psychosis that may be acute and short-term or chronic and debilitating; includes schizophrenia, delusional paranoid, and schizoaffective disorders; brief psychotic and shared psychotic disorders; and psychotic disorders caused by medical conditions or substance use

General Nursing Care of Clients with Disorders Related to Alterations in Cognition and Perception

- A Provide a safe, familiar environment, direct supervision as necessary, and a consistent caregiver to foster trust
- B Reorient to time, place, person, and situation (e.g., clocks, calendar, incorporation of statements into ordinary conversation that reorient the client); however, avoid excessive use of reorientation because it may cause anxiety; keep statements short, simple, and concrete and use nonverbal cues
- C Keep involved in reality-based activities and in the home situation as long as possible
- D Allow to assume as much responsibility for self-care as possible
- E Provide a quiet environment but do not understimulate; reduce unfamiliar stimuli; promote relationships
- F Plan care so that the client can be approached when receptive
- G Attempt to follow familiar routines; keep schedule of activities flexible to make use of the client's lability of mood and easy distractibility
- H Provide prompting for completion of activities of daily living (ADLs)
- I Encourage adequate nutritional intake; set limits on hyperorality; monitor intake and output I&O
- J Provide diversional activities including exercises that are enjoyable and realistic
- K Observe for changing physiologic and neurologic signs and symptoms
- L Protect from physical harm to self or others related to confusion, aggression, or fluid and electrolyte imbalance
- M Support and educate family caregivers; maintain nonjudgmental attitude
- N Encourage the responsible others to obtain periodic relief from total care; refer to community agencies that provide homecare helpers or respite care if appropriate
- O Support family's decision to place client in a long-term facility

Major Disorders Related to Alterations in Cognition and Perception

Delirium

Data Base

A Etiologic factors

1. Temporary, reversible syndrome from which the client usually recovers after treatment
2. Occurs secondary to a physical disorder or drug response
3. Clinical manifestations develop over a short period (hours or days), and cognitive impairment fluctuates during a 24-hour period
4. Stressors
 - a. Infection
 - (1) Intracranial or nervous system (e.g., meningitis or encephalitis)
 - (2) Systemic (e.g., infection, acute or chronic respiratory disorders)
 - b. Head trauma
 - c. Circulatory disturbances resulting in impairment of blood flow to the brain
 - d. Metabolic disorders: electrolyte imbalances resulting from dehydration, diarrhea, or vomiting; fever; endocrine imbalances
 - e. Ingestion of psychoactive substances, accumulative central nervous system (CNS) effect of prescribed medications or street drugs, or withdrawal syndromes (e.g., alcohol withdrawal delirium)
 - f. Multiple etiologies (e.g., combination of medical condition and substance interaction)

B Behavioral/clinical findings ([Table 18-1: Comparison of Clinical Findings of Delirium and Dementia](#))

Table 18-1
Comparison of Clinical Findings of Delirium and Dementia

Delirium	Dementia
Acute onset (hours/days)	Chronic
Rapidly progressive	Insidious
Intense anxiety and irritability	Short attention span
Tremors/hyperreflexia	Recent memory loss; later long-term loss
Insomnia	Impaired new learning
Hyperactivity	Lack of initiative/apathy
Fever and tachycardia	Blunted or labile affect
Hypertension	Loss of judgment
Hallucinations and delusions	Motor disturbances
Seizures	Exaggeration of traits
Death	Lower personal care standards

1. Confusion, hallucinations (perception in absence of an external stimulus), illusions (misinterpretation of an actual stimulus), and delusions (fixed false belief)
2. Disorientation and confusion as to time, place, person, and situation
3. Memory defects for both recent and remote events and facts
4. Slurring or rapid speech that may occur concurrently with an indistinct pronunciation or use of

words

5. Tremors, incoordination, imbalance, and incontinence
 6. Physical signs and symptoms such as hyperthermia, tachycardia, and gastrointestinal (GI) changes (e.g., anorexia, nausea, vomiting, diarrhea)
 7. Agitation and irritability
 8. Insomnia
- C Therapeutic interventions
1. Reduction of causative agent such as fever or toxins
 2. Prevention of further damage
 3. Diet high in calories, protein, and vitamins and an increase in fluid intake if not contraindicated by physical status; elimination of caffeine
 4. Mild sedatives if necessary

Nursing Care of Clients with Delirium

Assessment/Analysis

1. History of onset and progression of symptoms from family members
2. Potential causative factors (e.g., illness, medications, substance abuse)
3. Orientation to time, place, person, and situation
4. Occurrence of memory defects
5. Mood swings or behavior associated with delirium
6. State of consciousness
7. Vital signs and physical symptoms

Planning/Implementation

1. See General Nursing Care of Clients with Disorders Related to Alterations in Cognition and Perception, Nursing Care of Clients with Dementia, and Nursing Care of Clients with Amnesic Disorders
2. Implement prescribed measures to reduce causative factors
3. Reassure family members that symptoms associated with delirium may subside with treatment
4. Assign a one-to-one caregiver during restless or agitated periods
5. Provide a safe, quiet environment with increased supervision
6. Reorient to time, place, person, and situation
7. Communicate with simple direct statements in calm voice; use nonverbal cues
8. Channel agitation into safe activities

Evaluation/Outcomes

1. Remains free from injury
2. Remains oriented ×4 (time, place, person, and situation) to time, place, person, and situation
3. Assumes increased responsibility for self-care
4. Maintains a diet high in calories, protein, and vitamins
5. Avoids intake of pharmacologic substance associated with delirium
6. Continues to visit health care provider for treatment and amelioration of underlying cause

Dementia

Data Base

A Etiologic factors

1. Not associated with expected aging processes
2. Dementia of the Alzheimer type and vascular dementia are the two most common causes; death occurs after years of mental and physical decline; Alzheimer disease is the fourth leading cause of death in the United States
3. Stressors
 - a. Anatomic changes in the brain from trauma, tumors, and degeneration of tissue (e.g., atrophy, widening ventricles, senile plaques caused by deposits of amyloid protein, neurofibrillary tangles)
 - b. Infections such as tertiary syphilis and acquired immunodeficiency syndrome (AIDS)
 - c. Circulatory disturbances causing anoxia and permanent brain damage (e.g., cerebral arteriosclerosis, brain attack)
 - d. Nutritional deprivation of brain cells (e.g., pellagra)
 - e. Toxins (e.g., chronic alcohol abuse)
 - f. Decreased level of neurotransmitters, especially acetylcholine
 - g. Chromosomal defects (e.g., Huntington disease)
 - h. Immunologic defects creating prolonged inflammatory response in brain tissue

B Behavioral/clinical findings ([Table 18-1: Comparison of Clinical Findings of Delirium and Dementia](#))

1. Dementia has an insidious onset with symptoms following a progressively downhill course
2. Early recognition of cognitive deficits may lead to anger, anxiety, and depression; as cognitive deficits progress and self-awareness declines, symptoms may be replaced by apathy and social withdrawal; anxiety may occur when cognitive abilities are overwhelmed and confusion increases
3. Progression moves from mild forgetfulness for recent events and mild expressive aphasia to inability to perform ADLs and mutism
 - a. Aphasia (language disturbance)
 - b. Apraxia (impaired motor activities)
 - c. Agnosia (inability to recognize familiar objects)
 - d. Amnesia (loss of memory)
 - e. Ataxia (impaired coordination)
 - f. Disturbance in planning, organizing, sequencing, and abstracting (executive function)
 - g. Emotional lability or flat affect
 - h. Hallucinations, illusions, and delusions
 - i. Sundowning phenomenon: agitated behaviors of physical aggression between 2 and 9 PM; nighttime sleeplessness and wandering between midnight and 6 AM
4. “4 As” of dementia of the Alzheimer type: amnesia, apraxia, agnosia, aphasia

C Therapeutic interventions

1. The same as those for delirium with greater emphasis on preventing further damage (see Therapeutic Interventions under [Delirium](#))
2. Medications for depression, agitation, and cognitive decline
 - a. Antidepressants: may improve overall level of functioning (see [Chapter 16, Related Pharmacology: Psychotropic Medications](#), Antidepressants)

- b. Antipsychotics: may decrease agitation and aggressive behavior (see [Chapter 16, Related Pharmacology: Psychotropic Medications](#), Antipsychotic Agents)
- c. Antidementia agents: provide a temporary improvement in cognitive function but progression of disease continues (see [Chapter 16, Related Pharmacology: Psychotropic Medications](#), Anti-Alzheimer Agents)

Nursing Care of Clients with Dementia

Assessment/Analysis

1. History of onset and progression of symptoms
2. Physical and emotional status in relation to needs associated with nutrition, fluid and electrolyte status, hygiene and toileting capabilities, and safety
3. History of premorbid personality, abilities, and level of functioning
4. History of impaired memory
5. History of hallucinations (often visual) and delusions (often persecution)
6. Identification of caregivers and their ability to provide adequate care
7. Existence of advance directives
8. Screening with the Mini-Mental State Exam (MMSE); assesses orientation (e.g., identifying year, date, location), registration (e.g., repeating names of objects), attention and calculation (e.g., identifying serial numbers, spelling a word backward), recall (e.g., restating words previously said by examiner), language (e.g., naming objects, following a three-stage command, reading and obeying a command); maximum score is 30; score less than 23 is indicative of cognitive impairment

Planning/Implementation

1. See Nursing Care of Clients with Delirium and Nursing Care of Clients with Amnestic Disorders
2. Toilet frequently
3. Assist with feeding
4. Protect from self and environment; modify environment to prevent injury and wandering; increase supervision
5. Support attempts at independence when appropriate
6. Support family's decisions regarding present and future care; encourage completion of advance directives while client has capacity
7. Assess effectiveness of medication to delay progression of cognitive symptoms
8. Support caregivers as necessary (e.g., respite care, home health aides, long-term residence, support groups)

Evaluation/Outcomes

1. Remains free from injury
2. Maintains maximal potential for as long as possible
3. Family uses community resources as necessary

Amnestic Disorders

Data Base

A Etiologic factors

1. Disturbance in memory related to medical condition (e.g., head trauma, brain attack)
2. Disturbance in memory related to persistent effects of substance (e.g., drug abuse, medication, or toxin exposure)

B Behavioral/clinical findings

1. Impaired ability to learn new information
2. Difficulty recalling previously learned information or past events
3. Absence of anxiety related to a traumatic event
4. Impaired social and occupational abilities

C Therapeutic interventions: see [Dementia](#)

Nursing Care of Clients with Amnestic Disorders

Assessment/Analysis

1. History of onset and progression of symptoms
2. History of previous level of functioning
3. Causative agent
4. Physical and emotional status

Planning/Implementation

1. See Nursing Care of Clients with Substance-Induced Amnestic Disorders, Nursing Care of Clients with Delirium, and Nursing Care of Clients with Dementia
2. Maintain a safe environment
3. Support attempts at independence when appropriate
4. Support client and family regarding present and future care decisions

Evaluation/Outcomes

1. Demonstrates remission of amnesia
2. Returns to previous level of functioning
3. Family utilizes community resources

Substance-Induced Amnestic Disorders

Data Base

A Etiologic factors

1. Nervous system, particularly the CNS, directly affected by factors such as medications and toxins and their excessive use
2. Vitamin deficiency such as thiamine, especially in long-term alcohol abuse resulting in Korsakoff syndrome
3. Persistent memory disturbance long after drug or toxin exposure has ended

B Behavioral/clinical findings

1. Specific neurologic and psychologic signs and maladaptive behavior such as euphoria, dysphoria,

apathy, confabulation, psychomotor agitation, excitement or depression, hypervigilance, and violent behavior

2. Dementia or delirium may be present, depending on substance used
3. Physical symptoms such as depressed respirations, cardiac irregularities, and GI changes
4. Significant impairment in social and work activities with a decline in previous level of function
5. Memory disturbances; impairment in ability to recall previously learned information or to learn new information

C Therapeutic interventions: see [Delirium](#)

Nursing Care of Clients with Substance-Induced Amnestic Disorders

Assessment/Analysis

1. History, physical examination, laboratory findings related to drug abuse or toxin exposure
2. History of symptom onset (rapid/slow)
3. Orientation to time, place, person, and situation
4. Ability to have short-term and long-term recall
5. Level of consciousness and stimulation necessary to evoke a response

Planning/Implementation

1. See Planning/Implementation under Nursing Care of Clients with Amnestic Disorders, Nursing Care of Clients with Dementia, and Nursing Care of Clients with Delirium

Evaluation/Outcomes

1. Abstains from injurious substances
2. Reduces maladaptive behavior
3. Remains free from injury
4. Becomes cognitively stable or slightly improves

Schizophrenic Disorders

Data Base

A Etiologic factors

1. Foremost etiology is the biologic perspective (e.g., neuroanatomy, genetics, endocrinology, and immunology all produce symptoms; trauma and disease as causation continue to be researched)
2. Biologic components
 - a. Heredity and genetics
 - b. Neuroanatomic differences and neurochemicals (e.g., dopamine hyperactivity or overproduction)
 - (1) Structure and function of nervous system
 - (2) Teratogenic drug exposure
 - (3) Neuroanatomic differences in brain (e.g., enlarged ventricles)
 - c. Neurotransmitter function: abnormal neurotransmitter-endocrine interactions
 - d. Immunologic factors: viral exposure during pregnancy
 - e. High arousal levels from stress, disease, drugs, and trauma

- (1) Stress such as bombardment of stimuli from life events may contribute to relapse and return of symptoms
- (2) Diseases such as encephalitis
- (3) Trauma from birth complications, head trauma
- (4) Drugs such as cannabis and cocaine

3. Psychosocial considerations are significant; causative models postulate that biologic vulnerability interacts with stressful environmental influences
4. Onset in men usually between ages 18 and 25 years; later onset for women, between 25 and 35 years; incidence slightly higher in men
5. Chronic insecurity and failure in interpersonal relationships impair functioning
6. Disturbed relationship with environment and family is an almost universal characteristic regardless of the etiology
7. Course of disease is either acute or chronic; some demonstrate almost normal functioning with intermittent psychotic episodes; others have diminished functioning with intermittent psychotic episodes; about 10% to 25% demonstrate severely diminished functioning with ongoing psychotic symptoms

B Types

1. Classification of types is not static; there is overlapping symptomatology; individuals diagnosed in one classification frequently are diagnosed at a later time in another classification
2. Paranoid: delusions of persecution and/or grandiosity; less often noted are delusional themes of jealousy, religiosity, or somatization
3. Disorganized: disorganized speech and behavior; childlike affect and uninhibited sexual behaviors; socially inept
4. Catatonic type: marked psychomotor disturbance that may involve motor immobility (waxy flexibility), excessive motor activity, extreme negativism, mutism, posturing, echolalia, or echopraxia
5. Undifferentiated: delusions, hallucinations, disorganized speech, disorganized behavior; excludes behaviors observed in paranoid, disorganized, or catatonic types
6. Residual: criteria for schizophrenia subtypes listed above are not met; there is continuing evidence of negative symptoms and two or more of these characteristic symptoms (e.g., delusions, hallucinations, disorganized speech, and gross disorganization); develops later in the course of the disease

C Behavioral/clinical findings

1. Characteristic symptoms generally fall into two broad categories ([Table 18-2: Schizophrenia: Symptom Categorization](#))

Table 18-2

Schizophrenia: Symptom Categorization

Type I Symptoms	Type II Symptoms
Hallucinations	Apathy
Delusions	Social withdrawal
Loose association	Flat affect
Concrete thinking	Poor ADLs
Neologisms	Anhedonia
Catatonia	Paucity of ideas
Agitation/violence	Paucity of speech

a. Positive symptoms (additional behaviors)

- (1) Disorganized or bizarre alterations in thinking, speech, perception (e.g., altered reality testing, hallucinations, delusions), behavior, and mood
- (2) More apparent during acute relapses
- (3) More responsive to medication and interactive therapies

b. Negative symptoms (deficits of behaviors)

- (1) Flat affect, apathy/avolition, anhedonia, and attention deficit
- (2) More apparent during nonacute periods
- (3) Less responsive to therapy; more complex and difficult to treat

2. Problems in cognitive functioning: attention deficits, abstract concept formation, decision making, and problem solving

3. Alterations in mood: dysphoria, suicidality, and hopelessness; approximately 15% commit suicide

4. Ability to test reality is distorted by psychopathology

5. Social and occupational role dysfunction

6. Duration of at least 6 months

D Therapeutic interventions

1. Psychotherapy (e.g., individual, family, group)

2. Motivational therapy

3. Occupational and vocational therapy

4. Daycare treatment programs in community settings that foster interpersonal relationships

5. Pharmacologic therapy (see [Chapter 16, Related Pharmacology](#), Antipsychotic Agents)

a. Positive symptoms: traditional antipsychotic drugs

b. Negative symptoms: atypical antipsychotic drugs

6. Paranoid schizophrenia is most responsive to treatment when compared with other subtypes; clients appear to function at a higher level

Nursing Care of Clients with Schizophrenic Disorders

Assessment/Analysis

1. History of onset of disorder

2. Delusional ideation (fixed false belief) and/or hallucinations (perceived stimuli without external stimuli); specific assessment for command hallucinations (demand an action that may hurt self or others)

3. Suspiciousness and/or feelings of paranoia; presence and extent of fear of other clients and staff

4. History of work and social functioning

5. Precipitating or current stress factors

6. Unclear or incomplete client and family communication patterns; double-bind communication (contradictory invalidating messages)

7. Physical status

Planning/Implementation

1. Respect as a human being with both dignity and worth; establish a therapeutic relationship

2. Accept at present level of functioning; meet basic physiologic needs; initially focus interactions on nonthreatening topics

3. Accept that hallucinations and delusions are real to client and possibly frightening; avoid trying to argue out of delusions or hallucinations; stay with client and provide support; focus on feelings, not misperceptions of reality
4. Encourage development of interpersonal relationships; provide consistent interactions to promote development of trust
5. Point out reality but do not impose staff's concept of reality; involve in reality-based activities such as ADLs
6. Monitor nutritional status and hygiene
7. Use distraction or set limits on inappropriate or unsafe behavior
8. Clarify unclear communication such as neologisms (invented words that have meaning only to client)
9. Encourage to follow a plan of organized activity and the prescribed drug regimen
10. Monitor for adverse reactions to antipsychotic medications
11. Teach to recognize and report extrapyramidal side effects (EPS); administer prescribed antiparkinsonian agents to minimize EPS
12. Encourage to continue medications even after signs and symptoms abate
13. Maintain safety, especially during acute phase; safety is the priority because of impaired judgment and/or command hallucinations

Evaluation/Outcomes

1. Remains free from injury to self and others
2. Differentiates between hallucinations and reality
3. Demonstrates a reduction in anxiety through verbalization or body language
4. Demonstrates improved functioning with ADLs and socialization
5. Remains free from adverse side effects of psychotropic drug regimen
6. Continues therapeutic/pharmacological regimen

Delusional (Paranoid) Disorders

Data Base

A Etiologic factors

1. Neurobiologic perspective
 - a. Exact physiologic disruption is not well-defined
 - b. Psychotic disorders thought to involve: neurochemicals such as dopamine, serotonin, and norepinephrine; abnormal transmission of neural impulses; and difficulties at the synaptic level
 - c. Neurologic and cognitive impairments are fewer and prognosis seems better than other subtypes of schizophrenia
 - d. See Biologic components under [Schizophrenic Disorders](#)
2. Paranoid defenses considered by some to be a protective mechanism against unconscious homosexuality or overt hostility
3. Premorbid personality used the compensatory mechanisms of the projective pattern of behavior
4. Cultural and religious background variations
5. Course varies but is more hopeful than other psychotic disorders, because they are most responsive

to treatment

B Behavioral/clinical findings

1. Elaborate, highly organized paranoid delusional system while preserving other functions of the personality
2. Delusions (fixed false beliefs) draw from real-life situations and have a coherent theme; delusions are not bizarre; usually limited to specific areas in client's life; predominant theme determines type of paranoia (e.g., grandiose, jealous, persecutory)
3. Suspiciousness and delusions do not exhibit the thinking and behavioral disorganization or the personality disintegration found in the other psychoses
4. Hallucinations usually are auditory and relate to the delusional theme
5. Intellectual and occupational functioning less impaired than social or marital relationships

C Types

1. Erotomaniac: belief that another person is in love with client; idealized, romantic love or spiritual union, rather than sexual attraction
2. Grandiose: belief that client has some great (but unrecognized) talent or insight or has made an important discovery; less commonly, claims a special relationship with a prominent person or is a prominent person
3. Jealous: belief of unfaithfulness by one's spouse or lover based on incorrect inferences
4. Persecutory: belief that client is being conspired against, spied upon, cheated, followed, poisoned or drugged, maligned, harassed, or obstructed in the pursuit of long-term goals
5. Somatic: belief that something abnormal or dangerous is happening to the body

D Therapeutic interventions

1. Pharmacotherapy with antipsychotic agents (see [Chapter 16, Related Pharmacology](#), Psychotropic Medications Antipsychotic Agents)
2. Individual psychotherapy

Nursing Care of Clients with Delusional (Paranoid) Disorders

Assessment/Analysis

1. History of onset of disorder
2. Hallucinations, delusional ideation, and suspiciousness; may constitute a danger to self or others
3. Absence of odd or bizarre behavior and other criteria related to schizophrenia
4. Social and marital functioning

Planning/Implementation

1. Provide an environment with some intellectual challenges that do not threaten security
2. Accept and recognize client's need for a superior attitude
3. Meet sarcasm and ridicule in a matter-of-fact manner; avoid counteraggression and retaliation
4. Set limits on inappropriate behaviors that are derived from delusions
5. Accept misinterpretations of events; point out reality but do not challenge delusions directly
6. Provide consistency in staff; gradually integrate into unit activities to foster social interaction

Evaluation/Outcomes

1. Avoids factors that stimulate delusional thinking

2. Continues to function in society

Schizoaffective Disorder

Data Base

A Etiologic factors

1. Unrelated to direct physiologic effects of a substance or medication or a general medical condition
2. Uninterrupted period of illness including a major depressive episode or manic episode concurrent with symptoms of schizophrenia (e.g., delusions or hallucinations, disorganized speech or behavior, and negative symptoms)
3. Onset in early adulthood

B Behavioral/clinical findings

1. Mixture of symptoms associated with both schizophrenia and mood disorders (mania or depression)
2. Thought processes and bizarre behavior appear schizophrenic in conjunction with alterations in mood (e.g., marked elation, depression)

C Therapeutic interventions

1. Antipsychotic and/or mood stabilizers; antidepressants may be used to treat symptoms (see [Chapter 16, Related Pharmacology](#), Antipsychotic Agents)
2. Therapy depends on type and severity of symptoms

Nursing Care of Clients with a Schizoaffective Disorder

See Nursing Care of Clients with Schizophrenic Disorders in this chapter and Nursing Care of Clients under Major Disorders Related to Alterations in Mood in [Chapter 19](#).



CHAPTER 19

Nursing Care of Clients with Disorders Related to Anxiety and Alterations in Mood

Overview

A Primary initial deficit occurs in mood or ability to manage anxiety, although there may be changes in cognition and behavior

B Anxiety disorders are the most common of all psychiatric disorders, resulting in distress and functional impairment; rarely treated in inpatient settings unless anxiety is extreme and functioning is impaired or if treated concurrently with another mental health disorder

C Anxiety and depressed mood may find expression in physical symptoms associated with somatoform and dissociative disorders

D Acting out occurs because of fear, not antisocial tendencies

E Anxiety is contagious and can be communicated to others

Major Disorders Associated with Anxiety

General Nursing Care of Clients with Anxiety Disorders

- A Provide an environment that limits demands and permits attention to resolution of conflicts; establish a trusting relationship
- B Identify precipitating stressors and limit them if possible
- C Intervene to protect from acting out on impulses that may be harmful to self or others
- D Accept symptoms as real to client; do not emphasize or call attention to them
- E Attempt to limit client's use of negative defenses, but do not try to stop them until ready to give them up
- F Help to develop appropriate ways of managing anxiety-producing situations through problem solving and cognitive/behavioral therapies; assist to expand supportive network; assist significant others to understand the client's situation
- G Plan a routine schedule of activities
- H Manage aggressive behavior progressively (e.g., diversion, limit setting, medication administration, seclusion, restraints)
- I Collect and document information to assist with determining presence of both an anxiety disorder and depression (comorbidity)
- J Encourage to develop a balance between work and relaxation

Generalized Anxiety Disorder (GAD)

Data Base

- A Etiologic factors
 - 1. Psychologic, behavioral, and neurobiologic theories are postulated; the latter is most promising
 - 2. Functions to permit some measure of social adjustment
 - 3. Commonly begins in early adulthood as a result of environmental factors and pressures of decision making; early life is rigid and orderly
 - 4. Excessive anxiety and worry involves at least two life situations
 - 5. Unrelated to physiologic effects of substances or a medical condition
- B Behavioral/clinical findings
 - 1. Persistent anxiety (longer than 6 months) and excessive worry associated with three or more of the following symptoms: restlessness (akathisia) or feeling on-edge, becomes easily fatigued, difficulty concentrating, irritability, muscle tension, and sleep disturbance
 - 2. Inability to control the anxiety
 - 3. Impairment in social or occupational relationships
 - 4. Symptoms of autonomic hyperarousal (e.g., tachycardia, tachypnea, dizziness, and dilated pupils); however, they are less prominent than in other anxiety disorders
- C Therapeutic interventions: same as those listed under Panic Disorders

Nursing Care of Clients with Generalized Anxiety Disorder

See [General Nursing Care of Clients with Anxiety Disorders](#) under Major Disorders Associated with Anxiety and [Nursing Care of Client with Panic Disorder](#) under Panic Disorder

Panic Disorder

Data Base

A Etiologic factors

1. Biochemical and genetic theories are most often cited as the underlying cause; no one gene or biochemical dysfunction has been identified
2. Onset varies, most often noted between late adolescence and mid-30s; infrequently may begin in childhood or after age 45; early life rigid and orderly
3. Discrete periods of intense discomfort for more than 1 month in duration
4. Recurrent attacks of severe anxiety may be associated with a stimulus or can occur spontaneously
5. Pressures of decision making regarding lifestyle that occur in early adult years act as precipitating factors
6. Functions to permit some measure of social adjustment

B Behavioral/clinical findings

1. Brief attacks of overwhelming, intense discomfort
2. Attack must be accompanied by four or more of the following symptoms: palpitations or accelerated heart rate; sweating; trembling or shaking; shortness of breath; feelings of choking, chest pain, or discomfort; nausea or abdominal distress; depersonalization; fear of losing control; fear of dying; paresthesias; and chills or hot flashes

C Therapeutic interventions

1. Complete diagnostic workup to rule out physical illness
2. Psychotherapy, family therapy, group therapy, cognitive/behavioral therapies
3. Psychotropic medications: sedative/hypnotic and antianxiety agents are used short term when client is unable to cope or accomplish daily activities and until healthier coping emerges; antidepressants are used prophylactically in long-term therapy (see [Chapter 16](#), Related Pharmacology, Psychotropic Medications, Sedative and Hypnotic Agents and Antianxiety/Anxiolytic Medications)

Nursing Care of Clients with Panic Disorder

Assessment/Analysis

1. Progression of somatic symptoms
2. Interference in activities of daily living (ADLs) and social and occupational functioning
3. Situational triggers that may precipitate the onset of an attack
4. Determination whether panic symptoms are related to a phobia (e.g., agoraphobia)

Planning/Implementation

1. See [General Nursing Care of Clients with Anxiety Disorders](#)
2. Remain with client during an attack; maintain safety
3. Remain calm and in control of the situation
4. Assign to a private room if hospitalized because it decreases environmental stimuli
5. Administer prescribed medications

Evaluation/Outcomes

1. Identifies situations that increase anxiety

2. Demonstrates increased use of anxiety-reducing behaviors
3. Follows prescribed treatment regimen
4. Reports a decreased number of panic attacks

Phobic Disorders

Data Base

A Etiologic factors

1. Anxiety unconsciously transferred to an inanimate object or situation, which then symbolically represents the conflict and can be avoided
2. Anxiety is severe if the object, situation, or activity cannot be avoided
3. Multiple theories as to cause (e.g., genetic, psychologic, developmental, and environmental); etiology is unverified
4. Onset begins in childhood; traumatic phobias can occur throughout the life span
5. Pressures of decision making regarding lifestyle that occur in the early adult years act as precipitating factors

B Behavioral/clinical findings

1. Anxiety develops when exposed to a situation that threatens the sense of security
2. Active attempts to avoid the precipitating object/situation
3. Lifestyle is often greatly limited depending on the phobic object/situation
4. Fear of being trapped, embarrassed, or humiliated in social situations
5. Able to recognize that the fear is excessive or unreasonable but cannot control it

C Types

1. Agoraphobia: fear of being alone or in public places where help would not be immediately available if necessary (e.g., tunnels, bridges, crowds, buses, trains)
2. Social phobia: fear of doing something in public that could be embarrassing or cause negative evaluations (e.g., speaking, dancing, eating)
3. Specific phobia: fear of a particular object, animal, or situation

D Therapeutic interventions

1. Same as those listed under Panic Disorder
2. Behavior modification: a counter-conditioning technique to overcome fears by gradually increasing exposure to feared object, situation, or animal (desensitization) or by continuous exposure to the feared stimulus until anxiety is extinguished (flooding)
3. Pharmacologic and cognitive therapies

Nursing Care of Clients with Phobic Disorders

Assessment/Analysis

1. Presence, type, and duration of phobia
2. Interference in ADLs and social and occupational functioning
3. Avoidance behaviors to prevent exposure to phobic object or stress-producing situation
4. Pervasive anxiety and fear
5. Behaviors associated with other anxiety disorders

Planning/Implementation

1. See [General Nursing Care of Clients with Anxiety Disorders](#)
2. Identify and accept client's feelings about phobic object or situation
3. Provide constant support if exposure to phobic object or situation cannot be avoided
4. Assist with relaxation and cognitive/behavioral techniques to control or diminish anxiety levels

Evaluation/Outcomes

1. Copes with anxiety-producing object or situation effectively
2. Continues prescribed treatment regimen
3. Uses relaxation techniques to diminish anxiety

Obsessive-Compulsive Disorder (OCD)

Data Base

A Etiologic factors

1. Chronic anxiety disorder with decreased levels of serotonin
2. Control of anxiety with obsessions (intrusive recurring thoughts) or compulsions (repetitive ritualistic behaviors)
3. Compulsive behavior precedes obsessive thinking
4. Symptoms worsen with stress
5. OCD symptoms are similar in adults and children; adults recognize behavior is excessive and interferes with daily activities but cannot be controlled; children do not have this insight
6. Pressures of decision making regarding lifestyle that occur in the early adult years act as precipitating factors; some evidence that early life patterns were rigid and orderly

B Behavioral/clinical findings

1. Major defensive mechanisms are isolation, undoing, and reaction formation; intellectual and verbal defenses are used
2. Thoughts persist and become repetitive and obsessive
3. Demonstrates indecisiveness and a striving for perfection and superiority
4. Anxiety and depression present in various degrees, particularly if rituals are prevented
5. Obsessions or compulsions consume most of client's waking hours (at minimum more than 1 hour per day) and interfere with ADLs, occupation, social activities, or relationships
6. Limiting or interrupting a ritual increases anxiety

C Therapeutic interventions

1. Same as those listed under Panic Disorder
2. Behavior modification to attempt to limit length and/or frequency of ritual
3. Cognitive therapy
4. Psychotropic medications: clomipramine (Anafranil) and fluvoxamine (Luvox) to control symptoms

Nursing Care of Clients with Obsessive-Compulsive Disorders

Assessment/Analysis

1. Type and use of ritual or obsession

2. Level of anxiety (e.g., mild, moderate, severe, panic)
3. Level of interference in lifestyle
4. Extent of danger inherent in ritual or obsession
5. Behaviors associated with other anxiety disorders

Planning/Implementation

1. See [General Nursing Care of Clients with Anxiety Disorders](#)
2. Allow performance of the ritual initially unless ritual causes harm and must be stopped (e.g., excessive hand washing causing skin damage); eventually attempt to limit length and frequency of the ritual
3. Support attempts to reduce dependency on the ritual
4. Role model appropriate behavior and discuss adaptive responses

Evaluation/Outcomes

1. Decreases obsessive thoughts and length and frequency of ritual
2. Follows prescribed treatment regimen
3. Learns new adaptive coping responses

Posttraumatic Stress Disorder (PTSD)

Data Base

A Etiologic factors

1. Follows a devastating event that is outside the range of usual human experience (e.g., rape, assault, military combat, hostage situations, natural or precipitated disasters)
2. Neurobiology of PTSD does not follow the usual fight-or-flight stress response; studies indicate a complex interaction of neuroendocrinology, neuroanatomy, genetics, and traumatic stress
3. Adult's response involves intense fear, helplessness, or horror; child's response involves disorganized or agitated behaviors
4. Traumatic event is persistently reexperienced as flashbacks, distressing dreams, sense of reliving the experience, or exposure to situations (including anniversaries) that foster recall of the event

B Behavioral/clinical findings

1. Exposure to a traumatic event resulting in death, threatened death, or serious injury to others or self
2. Responds to traumatic event with intense fear, confusion, helplessness, horror, or denial
3. Feelings of isolation and detachment; depression
4. Interrupted concentration; difficulty sleeping
5. Violent outbursts of anger
6. Hypervigilance; hyperarousal; exaggerated startle reflex; avoidance of associated stimuli
7. Risk taking behaviors; substance abuse in attempt to control symptoms

C Therapeutic interventions

1. Same as those listed under Panic Disorder
2. Behavior modification to provide controlled exposure to recall of event
3. Use of eye movement, desensitization, reprocessing techniques (EMDR)
4. Imagery, relaxation, and meditation
5. Cognitive restructuring and reframing

Nursing Care of Clients with Posttraumatic Stress Disorder

Assessment/Analysis

1. History of traumatic experience
2. Sleep-pattern disturbances, outbursts of anger, and decreased concentration
3. Screening for symptoms of major depression, phobias, and substance abuse
4. Behaviors associated with other anxiety disorders

Planning/Implementation

1. See [General Nursing Care of Clients with Anxiety Disorders](#)
2. Stay with client when memory of event returns to conscious level
3. Protect from acting out violently with disregard for safety of self or others

Evaluation/Outcomes

1. Uses positive coping mechanisms to manage anxiety and reactions to the traumatic event and its flashbacks
2. Verbalizes a decrease in dreams or flashbacks regarding the traumatic event
3. Follows prescribed treatment regimen

Major Somatoform Disorders

General Nursing Care of Clients with Somatoform Disorders

- A Identify when anxiety is translated into physical illness or bodily complaints (somatization)
- B Establish a trusting relationship
- C Provide an environment that limits demands on and permits attention to resolution of conflicts
- D Identify pattern of recurring clinically significant somatic symptoms; accept that symptoms are real to client
- E Attempt to limit client's use of negative defenses, but do not try to stop them until ready to give them up
- F Help to develop appropriate ways of managing anxiety-producing situations through problem solving and cognitive therapies
- G Accept physical symptoms but do not talk about, emphasize, or call attention to them
- H Minimize sick-role behavior; encourage independence within abilities; avoid providing secondary gains
- I Encourage to develop a balance between work and relaxation
- J Help to identify and label needs met by symptoms

Conversion Disorders

Data Base

- A Etiologic factors
 - 1. Anxiety unconsciously converted to physical symptoms that are not under voluntary control; usually localized to one area of the body; symptoms permit avoidance of an unacceptable activity
 - 2. Symptom or deficit is not related to an underlying medical condition, to substances, or to a cultural norm; distinguishes conversion from psychophysiologic disorders associated with tissue changes
 - 3. Symptoms permit some measure of social adjustment
 - 4. Onset before 30 years of age; may recur
 - 5. Physical illness frequently used by family as excuse for problems; early life often rigid and orderly
 - 6. Pressures of decision making regarding lifestyle in early adult years act as precipitating factors
- B Behavioral/clinical findings
 - 1. Symptoms or deficits that affect voluntary motor or sensory function (e.g., paralysis, blindness, deafness)
 - 2. Conflicts or stressors (usually dependence versus independence) precede initiation or exacerbation of symptoms or deficits
 - 3. Noticeable lack of concern about problem ("la belle indifférence")
 - 4. Impairment may vary over different episodes; may not follow anatomic structure (e.g., paralysis or numbness may circle foot or arm [stocking-and-glove anesthesia])
- C Therapeutic interventions
 - 1. Complete diagnostic workup to rule out physical problems
 - 2. Psychotherapy, family therapy, group therapy as necessary to resolve severe emotional problems
 - 3. Psychotropic medications: antidepressants (selective serotonin reuptake inhibitors [SSRIs]);

anxiety agents rarely helpful (see [Chapter 16](#), The Practice of Mental Health/Psychiatric Nursing, Related Pharmacology: Psychotropic Medications, Antidepressants)

Nursing Care of Clients with Conversion Disorders

Assessment/Analysis

1. Presence of physical symptoms with no pathophysiologic basis
2. Level of concern regarding physical symptoms
3. Degree of impairment
4. Level of anxiety

Planning/Implementation

See [General Nursing Care of Clients with Somatoform Disorders](#)

Evaluation/Outcomes

1. Uses problem solving rather than physical symptoms to manage anxiety-producing situations
2. Decreases episodes that use physical symptoms to manage anxiety

Body Dysmorphic Disorders

Data Base

A Etiologic factors

1. Preoccupation (not of a delusional intensity) with a defect in appearance, either imagined or exaggerated, even if there is a slight defect
2. Onset usually during adolescence but can begin in childhood; may continue for years
3. No predisposing factor in early life or family patterns is identified

B Behavioral/clinical findings

1. History of multiple plastic surgeries to correct imagined defects
2. Preoccupation with imagined deficit causes avoidance or impairment in social and occupational relationships
3. Often exhibits symptoms of depression or obsessive-compulsive personality traits

C Therapeutic interventions

1. Same as those listed under Conversion Disorder

Nursing Care of Clients with Body Dysmorphic Disorders

Assessment/Analysis

1. Preoccupation with imagined physical defects
2. History of medical and surgical therapies to correct imagined defects
3. Ability to manage stressful situations
4. Level of anxiety

Planning/Implementation

See [General Nursing Care of Clients with Somatoform Disorders](#)

Evaluation/Outcomes

1. Uses problem solving rather than physical defect to manage anxiety-producing situations
2. Verbalizes that emphasis on physical defect is exaggerated
3. Accepts and is comfortable with self

Hypochondriasis

Data Base

A Etiologic factors

1. Preoccupation with belief that there is a serious illness because of misinterpretation of physical symptoms
2. Diagnostic evaluation does not support beliefs and does not allay client fears
3. Client's knowledge of symptoms associated with a disease aids in development of a similar set of symptoms, leading to a conclusion that the disease is present
4. Psychosocial stresses influence development of this disorder
5. Usually begins between 20 and 30 years of age; can occur across the life span

B Behavioral/clinical findings

1. Misinterpretation and exaggeration of physical symptoms
2. Inability to accept reassurance even after exhaustive testing and therapy; leads to "doctor shopping"
3. History of repeated absences from work
4. Adoption of sick role and invalid lifestyle

C Therapeutic interventions

1. Same as those listed under Conversion Disorder

Nursing Care of Clients with Hypochondriasis

Assessment/Analysis

1. Level of preoccupation with symptoms
2. Duration and degree of impaired functioning associated with symptoms
3. History of psychosocial precipitant stressors

Planning/Implementation

See [General Nursing Care of Clients with Somatoform Disorders](#)

Evaluation/Outcomes

1. Accepts that there is no physical basis for the symptoms
2. Uses more effective coping mechanisms to manage anxiety
3. Continues therapy even after condition has improved

Dissociative Disorders

Data Base

A Characterized by either a sudden or a gradual disruption in integrated functions of consciousness, memory, identity, or perception of the environment

B May be transient or become a well-established pattern

C Etiologic factors: related to increased stress or traumatic event(s) such as sexual abuse during childhood

D Types

1. Dissociative amnesia: inability to recall important personal information, usually of a traumatic or stressful nature as distinguished from ordinary forgetfulness
2. Dissociative fugue: sudden, unexpected travel accompanied by an inability to recall one's past, identity confusion, or assumption of a new identity
3. Dissociative identity (also known as multiple personality disorder): coexistence of two or more distinct personalities within an individual
4. Depersonalization: persistent or recurrent feeling of being detached from one's mental processes or body that is accompanied by intact reality testing

E Behavioral/clinical findings

1. Inability to recall important personal information usually of a traumatic or stressful nature
2. Gaps in recalling aspects of one's life history; usually related to traumatic episodes

F Therapeutic interventions

1. Complete diagnostic workup to rule out possibility of organic causes (e.g., brain tumor)
2. Psychotherapy (e.g., individual, family)
3. Development of more effective and satisfying ways to manage anxiety

Nursing Care of Clients with Dissociative Disorders

Assessment/Analysis

1. Identity; memory; consciousness
2. Physical condition
3. Psychosocial component to discover fundamental anxiety source
4. History of emotional trauma in childhood
5. Suicidal risk
6. Recent use of alcohol or drugs

Planning/Implementation

1. See [General Nursing Care of Clients with Anxiety Disorders](#)
2. Assist with treatment plan to alleviate symptoms
3. Reinforce effective coping skills
4. Assist with problem solving
5. Encourage involvement in individual long-term therapy and family therapy

Evaluation/Outcomes

1. Recalls and identifies past experiences accurately
2. Verbalizes increased satisfaction with family and work relationships
3. Ceases incidents of being absent without explanation

4. Develops more effective coping mechanisms to manage anxiety

Major Disorders Related to Alterations in Mood

General Nursing Care of Clients with Mood Disorders

- A Monitor nutritional intake and elimination
- B Keep environment nonchallenging with decreased stimuli; avoid boredom; focus on feelings
- C Observe for mood swings, irritability, and depressive episodes
- D Protect from suicide or violent acting out; keep under constant observation if necessary; keep communication open and direct; ask if client has a specific plan to commit suicide
- E Keep activities simple, uncomplicated, and repetitive and of short duration requiring little concentration
- F Base activities on client's status: psychomotor retardation in depression and hyperactivity in mania; initiate one-to-one interactions with client and eventually expand to one or two other people
- G Observe for adverse effects of drugs; monitor therapeutic blood levels if appropriate
- H Encourage to continue medications even after symptoms abate
- I Provide information regarding special dietary precautions when taking certain medications (e.g., monoamine oxidase inhibitors [MAOIs])
- J Assist with developing coping strategies; plan for follow-up support and supervision

Bipolar Disorder

Data Base

- A Characterized by a cyclical disturbance of mood, encompassing emotional extremes: episodes of vehement energy of mania, despair and lethargy of depression, or a mixture of both
- B Presence of one or more manic or hypomanic episodes with a history of depressive episodes; predominant mood is elevated or irritable, accompanied by one or more of these symptoms: hyperactivity, lack of judgment with no regard for consequences, pressured speech, flight of ideas, distractibility, inflated self-esteem, risky behavior, and hypersexuality
 1. Hypomanic: mood elation with higher than usual activity and social interaction, but not as expansive as full mania; a distinct period of elevated or irritable mood that is different from mania; duration of at least 4 days
 2. Mania: elevated, expansive, or irritable mood accompanied by hyperactivity, grandiosity, and loss of reality
- C Neurobiologic perspective
 1. Neurotransmitters, or certain chemicals in the brain that regulate mood, have been identified (e.g., serotonin, dopamine, norepinephrine, and gamma-aminobutyric acid [GABA])
 - a. Increased levels of norepinephrine, dopamine, and serotonin in acute mania
 - b. Decreased levels of norepinephrine, dopamine, and serotonin in depression
 2. Research suggests this disorder results from complex interactions among chemicals, including neurotransmitters and hormones
 3. Family and twin studies suggest a genetic component, but no gene has been identified except in rare, familial forms of the disorder
 4. Biologic rhythms and physiology related to depression show abnormal sleep electroencephalogram (EEG), sensitivity to absence of sunlight, and circadian rhythm disturbance
- D Physiologic theory postulates that mood also may respond to drugs or a variety of physical

disorders

1. Drugs associated with depressive status: alcohol, sedative-hypnotics, amphetamine withdrawal, glucocorticoids, propranolol, risperidone, and steroid contraceptives
 2. Drugs associated with manic status: cocaine, MAOIs, tricyclic antidepressants, steroids, and levodopa
 3. Physical illness, such as brain attack (cerebrovascular accident) and some endocrine disorders (e.g., Cushing disease and hypothyroidism) can lead to depressive episodes
 4. Obesity is a related factor to depression
- E May be response to loss (dysfunctional grieving), increased stress, or change in life events, role, and sleeping and/or eating patterns; overreaction to stress may lead to suicide
- F Generally occurs between 20 and 40 years of age; however, reported in clients older than 50 years, and increasingly in children and adolescents
- G Resumption of customary activities between episodes

Depressive Episode of a Bipolar Disorder

Data Base

A Etiologic factors: see [Data Base](#) under Bipolar Disorder

B Behavioral/clinical findings

1. Either a depressed mood or loss of interest or pleasure, occurring during a 2-week period, with a change in level of functioning, plus five or more of the following:
 - a. Change in weight
 - b. Insomnia (especially early morning awakening)
 - c. Psychomotor agitation or retardation
 - d. Fatigue
 - e. Worthless feelings or inappropriate guilt
 - f. Somatic complaints
 - g. Diminished hygiene
 - h. Concentration difficulties
 - i. Inability to make decisions
 - j. Social withdrawal
 - k. Pessimism
 - l. Suicidal behavior progresses from suicidal ideation, suicide threats, suicide gestures, suicide attempts, to successful suicides; presuicidal behaviors include no interest in the future, giving away personal possessions
2. Orientation and logic unaffected
3. Sex drive (libido) decreased
4. Constipation and urinary retention
5. Anniversary reaction: depression and suicidal gestures may increase as anniversary of loss of loved object nears

C Therapeutic interventions

1. Antidepressant medications that increase the level of norepinephrine and serotonin (see [Chapter 16](#), The Practice of Mental Health/Psychiatric Nursing, Related Pharmacology: Psychotropic Medications, Antidepressants)
2. Cognitive and behavioral psychotherapy

3. High-protein, high-carbohydrate diet; dietary supplements if necessary
4. Electroconvulsive therapy (ECT)
 - a. Brief electrical stimulus applied to brain, resulting in a seizure that alters brain chemistry and eventually alters mood
 - b. Used most often for recurrent depressions, delusions, suicidal ideation, and clients who are resistant to drug therapy
 - c. A depolarizing muscle relaxant causes paralysis (e.g., succinylcholine [Anectine]), which reduces intensity of muscle contractions during tonic/clonic stage of seizure; given after a short-acting barbiturate or other sedative/anesthetic such as propofol (Diprivan)
 - d. Side effects: fatigue, muscle soreness, mild temporary confusion, and short-term memory loss; effects should resolve a few weeks after treatment ends

Nursing Care of Clients during a Depressive Episode of Bipolar Disorder

Assessment/Analysis

(Table 19-1: Bipolar Disorder: Symptoms of Depression)

Table 19-1
Bipolar Disorder: Symptoms of Depression

Affect	Cognition	Physiology	Behavior
Apathy	Pessimism	Anorexia	Decreased ADLs
Anhedonia	Worry	Insomnia	Irritability
Anxiety	Poor	Early-morning awakening	Agitation
Anger	concentration	Fatigue	Psychomotor
Guilt	Slowed thinking	Constipation	retardation
Helplessness	Indecisiveness	Impotence	Social withdrawal
Loneliness	Hypochondriasis	Decreased libido	Crying
Low	Suicidal ideation	Hypersomnia and compulsive	Self-abusive acts
self-esteem	Negative	eating initially in some	Substance abuse
Sadness	self-appraisal	clients; this changes to	
Emptiness	Psychosis	anorexia and insomnia as	
Flat expression		depression worsens	

1. Feelings of worthlessness, guilt; often fearful of feelings
2. Suicidal ideation or acting out; presence of a plan increases the danger of suicide; may be ambivalent about suicide
3. Depressed mood, loss of interest or pleasure, and slowing of psychomotor activity

4. Weight for recent changes and to establish a baseline
5. Changes in sleep patterns
6. Changes in ability to concentrate

Planning/Implementation

1. See [General Nursing Care of Clients with Mood Disorders](#)
2. Accept inability to carry out daily routines; assist with ADLs
3. Set expectations that can be achieved
4. Provide realistic praise whenever possible
5. Involve in simple repetitious tasks and activities
6. Accept feelings of worthlessness as real; do not deny, condone, or approve feelings
7. Spend time with client to demonstrate recognition of client's worth
8. Protect from acting on suicidal thoughts, especially when depression begins to lift; suicide is a real and ever-present danger throughout entire illness
9. Teach about ECT procedure
 - a. Informed consent required
 - b. Never left alone during and after the procedure; remain in recovery for 1 to 3 hours after procedure; criteria for return to unit includes stable vital signs, alert, oriented, and able to ambulate without assistance
 - c. Eliminate food and fluids for 6 to 8 hours before procedure
 - d. Asleep at beginning of procedure; short-acting sedative administered
 - e. Oxygen administered before and after the procedure
 - f. Full-body muscle response is minimized by medication; muscle-paralyzing agent administered
 - g. Brief electrical stimulus (no more than 2 seconds) precipitates seizure that eventually causes an elevation in mood
 - h. May experience disorientation, headache, and muscle aches for about 1 hour after procedure; analgesic given to treat headache
 - i. May experience temporary memory loss during and for several weeks after completion of therapy
10. Refer for grief counseling, assertiveness training, and anger management

Evaluation/Outcomes

1. Remains free from injury
2. Verbalizes feelings
3. Verbalizes increased feelings of self-worth
4. Continues prescribed treatment regimen
5. Returns to preillness level of functioning

Manic Episode of a Bipolar Disorder

Data Base

A Etiologic factors: see [Data Base](#) under Bipolar Disorder

B Behavioral/clinical findings

1. Persistently elevated, expansive, or irritable mood for a duration of 1 week, plus three or more of

the following:

- a. Grandiosity
- b. Insomnia
- c. Verbosity (pressured speech)
- d. Flight of ideas
- e. Hypersexuality
- f. Distractibility
- g. Social intrusiveness
- h. Psychomotor agitation
- i. Excessive involvement in pleasurable activities without regard for consequences (e.g., shopping, gambling, sexual activity)

2. Marked impairment in daily functioning, occupational and social activities, and relationships

3. Excessive overactivity requiring hospitalization to prevent harm to self or others

4. Symptoms are unrelated to physical illness or physiologic effects of a substance

C Therapeutic interventions

1. High-protein, high-carbohydrate diet; handheld foods should be available; adequate fluids

2. Behavioral and cognitive therapy when medication has decreased mania

3. Pharmacologic approach: improves productivity by decreasing psychomotor activity or response to environmental stimuli; antimanic and mood stabilizing agents (e.g., lithium, anticonvulsants) (see [Chapter 16](#), Practice of Mental Health/Psychiatric Nursing, Related Pharmacology: Psychotropic Medications, Antimanic and Mood Stabilizing Agents)

Nursing Care of Clients during a Manic Episode of a Bipolar Disorder

Assessment/Analysis

([Table 19-2](#): Bipolar Disorder: Symptoms of Mania)

Table 19-2
Bipolar Disorder: Symptoms of Mania

Affect	Cognition	Physiology	Behavior
Extroverted	Poor insight	Weight loss	Pressured speech
Irritable/brittle	Impulsive	Dehydration	Increased libido
Overly optimistic	Poor judgment	Poor nutrition	Spending sprees
Euphoric/high	No introspection	Lack of sleep	Restlessness
Labile	Poor concentration	Does not feel tired	Wastes energy
Lack of shame or guilt	Flight of ideas		Legal troubles
Overly humorous	Loose association		Aggressive
Low intimacy	Poor reality testing		Irresponsible
	Distractibility		Inappropriate attire
	Grandiose and persecutory delusions		Socially intrusive
	Weak ego boundaries		

1. Progression of manic behavior
2. Extent of elevated mood
3. Extent of psychomotor agitation
4. Impairment in performing ADLs
5. Feelings of grandiosity and euphoria
6. Nutrition, hygiene, and rest patterns
7. Danger to self or others
8. Physiologic status

Planning/Implementation

1. See [General Nursing Care of Clients with Mood Disorders](#)
2. Accept client while rejecting objectionable behavior
3. Permit expression of hostility and ambivalence without reinforcement of guilt feelings that usually are precipitated by anxiety
4. Approach in a calm, collected manner and maintain self-control
5. Set limits for intrusive, aggressive, and hyperactive behavior; channel excess energy into safe, nonstrenuous, noncompetitive activities
6. Communicate in a nonargumentative manner
7. Use client’s easy distractibility to interrupt hyperactive behavior, which may avoid injury and exhaustion
8. Advise caregivers to approach client in a consistent manner

9. Limit physical exhaustion and maintain physical health; provide foods that can be eaten on the run
10. Maintain environmental safety for client, other clients, and staff
11. Maintain client's contact with reality by helping with grooming and dressing
12. Monitor medications and side effects
13. Educate family as to early symptoms of hypomanic episode

Evaluation/Outcomes

1. Exhibits a decrease in manic behavior
2. Verbalizes feelings of increased self-worth
3. Maintains adequate nutrition
4. Adheres to medication regimen
5. Demonstrates an absence of destructive behaviors

Major Depression

Data Base

A Etiologic factors

1. See [Data Bases](#) under Bipolar Disorder and [Depressive Episode of a Bipolar Disorder](#)
2. Neurotransmitter dysregulation includes serotonin, norepinephrine, dopamine, acetylcholine, and GABA systems; altered neuropeptides include corticotropin-releasing hormones
3. Individuals with chronic or severe medical conditions are at increased risk
4. Psychosocial stressors associated with a major loss play a significant role in first or second depressive onset
5. Familial history among close biologic relatives increases risk for disorder
6. Onset usually in late 20s, but may occur across life span

B Behavioral/clinical findings

1. Recurrent pessimistic thoughts; suicidal ideation with or without a plan ([Table 19-3: Suicide: Stressors and Risk Factors and Lethality of Means Chosen](#))

Table 19-3
Suicide: Stressors and Risk Factors and Lethality of Means Chosen

Stressors and Risk Factors	
Older adults	
Male gender	
Single status	
Social isolation	
Chronic and painful illnesses	
Substance abuse (including overdose, intoxication, withdrawal)	
History of attempts	
Specific plan	
Availability of means to commit suicide	
Recent stressors	
Psychiatric illness (especially depression and schizophrenia)	
Inadequate coping skills	
Religious/cultural attitudes	
Lethality of intended means of suicide	
Lethality of Means Chosen	
Higher	Lower
Hanging	Overdose
Guns	Wrist cutting
Jumping	

People die from “lower lethality” methods. All suicidal threats, gestures, and attempts must be taken seriously.

- 2. Interruption in thinking and concentration that may interfere with occupational and social functioning; difficulty making decisions
 - 3. Diminished interest or pleasure in all activities (anhedonia); apathy
 - 4. Decreased appetite with weight loss or overeating with weight gain
 - 5. Psychomotor retardation; anergia; constipation
 - 6. Anxiety, somatic ailments, tearfulness, fearfulness, and hopelessness
 - 7. Insomnia or hypersomnia
 - 8. Feelings of worthlessness
 - 9. Inappropriate guilt
- C Therapeutic interventions
- See [Depressive Episode of a Bipolar Disorder](#), Data Base, Therapeutic interventions

Nursing Care of Clients with Major Depression

See [General Nursing Care of Clients with Mood Disorders](#) and [Nursing Care of Clients during a Depressive Episode of a Bipolar Disorder](#)

Cyclothymic Disorder

Data Base

A Etiologic factors

1. Numerous hypomanic episodes dispersed with periods of depressed mood and lack of interest in pleasurable activities
2. No evidence of obvious manic or major depressive episodes
3. Mood disturbance not caused by physiologic effects of substances or a physical illness
4. Symptom-free intervals usually are shorter than 2 months' duration
5. Duration: at least 2 years in adults; in children/adolescents irritable mood can continue for at least 1 year

B Behavioral/clinical findings

1. Alternating mood swings between elation and sadness; apparently unrelated to external environment
2. Individual is regarded as temperamental, moody, unpredictable, inconsistent, or unreliable
3. Mood swings do not have obvious emotional intensity
4. See Data Base under Bipolar Disorder for hypomanic symptoms

C Therapeutic interventions

1. Often unnecessary; if required, same as those listed under Depressive or Manic Episode of a Bipolar Disorder
2. Medication often unnecessary; if required, same as those listed under Depressive or Manic Episode of a Bipolar Disorder

Nursing Care of Clients with a Cyclothymic Disorder

See [General Nursing Care of Clients with Mood Disorders](#), [Nursing Care of Clients during a Depressive Episode of a Bipolar Disorder](#) and [Nursing Care of Clients during a Manic Episode of a Bipolar Disorder](#)

Dysthymic Disorder

Data Base

A Etiologic factors

1. Biochemical theories continue to be researched
2. Genetic transmission theories derived from family studies
3. Feelings of guilt or brooding about the past
4. Depression may progress to suicide

B Behavioral/clinical findings

1. Depressed mood for most of day
2. Two or more of the following: depressed appetite or overeating, insomnia, low energy or fatigue, low self-esteem, concentration/problem-solving difficulties, feelings of hopelessness, anergia

3. Some impairment in social, occupational, and other roles (less than with major depression)
4. No evidence of manic or hypomanic episodes in present or past history
5. In children/adolescents symptoms noted are irritability and depression, low self-esteem, poor social skills, pessimism, and impaired school performance and social interactions
6. Duration: at least 2 years in adults; irritable mood for at least 1 year in children and adolescents

C Therapeutic interventions

1. Often unnecessary; if required, same as those listed under Depressive Episode of a Bipolar Disorder
2. Medications often unnecessary; if required, same as those listed under Depressive Episode of a Bipolar Disorder

Nursing Care of Clients with a Dysthymic Disorder

See [General Nursing Care of Clients with Mood Disorders](#) and [Nursing Care of Clients during a Depressive Episode of a Bipolar Disorder](#)



CHAPTER 20

Nursing Care of Clients with Disorders Related to Alterations in Behavior

Overview

A The primary/initial deficit occurs in behavior, although there will be changes in the client's mood and cognition

B Includes disorders with dysfunctional behaviors

1. Sleep disorders
2. Eating disorders
3. Personality disorders
4. Adjustment disorders
5. Substance abuse
6. Factitious disorders (although not classified as psychiatric illnesses in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR), they are also maladaptive behaviors and will be presented here)

Major Disorders Related to Alterations in Behavior

Sleep Disorders

Data Base

A Basic information

1. A common problem in adults, rarely treated in an inpatient psychiatric setting, can present as a symptom of depressive, manic, or anxiety disorders
2. Sleep consists of two distinct states: REM (rapid eye movement), also called dream sleep, and NREM (non-REM) sleep, which is divided into four stages
3. Sleep is a cyclic phenomenon with restorative qualities
4. Sleep disorders are conditions that repeatedly disrupt the pattern of sleep, leading to diminished performance

B Etiologic factors

1. The sleep cycle evolves throughout the life cycle and decreases with age
2. It is a disorder from which the client usually recovers, because the changes may be reversible and temporary if treated
3. Neuroendocrine arousal system is thought to release corticosteroids by the hypothalamic-pituitary-adrenal axis, as well as stimulate the neurotransmitter system, producing norepinephrine and serotonin
4. Genetic factors show a biologic tendency that may be inherited (e.g., light sleepers in a family); no single gene has been identified
5. Environmental factors are thought to contribute to sleep disturbances, such as jet lag, shift work, fast pace of life, stress, and noise
6. Biologic factors such as cardiovascular, endocrine, psychiatric, infections, cough related to pulmonary disease, pain, use of stimulants including caffeine, and side effects or drug interactions of many medications contribute to sleep-related problems
7. Impaired function results from sleep deprivation

C Types

1. Primary
 - a. Insomnia: disorder of initiating or maintaining sleep not caused by physical or mental illness
 - b. Parasomnias: disorders associated with sleep stages (e.g., sleepwalking, night terrors, nightmares, restless leg syndrome, and enuresis); most common in children
 - c. Narcolepsy: disorder of repeated uncontrollable brief episodes of sleep while engaging in meaningful activities
2. Secondary
 - a. Sleep disorders related to mental disorders—noted in this category are anxiety-related disorders, depressive disorders, and manic episodes
 - b. Substance-induced sleep disorders—included in this subclass are conditions related to intoxication, periods of withdrawal, use of stimulants, and side effects of many medications
 - c. Sleep disorders related to general medical condition—included in this category is sleep apnea; etiology must be established through history, physical examination, or laboratory findings in this subclass

D Behavioral/clinical findings

1. Onset usually in young adulthood; more prevalent with increasing age
 2. Difficulty initiating or maintaining sleep, or nonrestorative sleep, for at least 1 month
 3. Depression usually associated with fragmented sleep patterns
 4. Sleeplessness as a cardinal feature noted in manic disorders; an early sign of impending mania in bipolar disorders
 5. Abuse of alcohol or stimulants, heavy smoking, and use of over-the-counter (OTC) cold remedies cause decreased total sleep time
 6. Insomnia precipitated by anxiety
- E Therapeutic interventions
1. Relaxation techniques
 2. Sleep hygiene practices (interventions that enhance sleep)
 3. Sedative/hypnotic agents (see [Chapter 16](#), The Practice of Mental Health/Psychiatric Nursing, Related Pharmacology: Psychotropic Medications, Sedative and Hypnotic Agents; used judiciously, particularly in older adults; used short-term, not long-term)

Nursing Care of Clients with Sleep Disorders

Assessment/Analysis

1. History of onset, duration, and sleep patterns
2. Daily routines, night rituals
3. Diet and physical activity
4. Stressors
5. Level of daytime alertness, nap patterns
6. Restless leg movement, snoring
7. Drug, alcohol, caffeine, nicotine use
8. Pharmacologic or herbal remedies
9. Sleep journal

Planning/Implementation

1. Assist with ruling out medical conditions that contribute to sleep-related problems
2. Obtain a diet diary to assess food/liquid intake and caffeine consumption
3. Control physical disturbances at night; provide a private room if necessary
4. Administer prescribed hypnotic
5. Teach sleep hygiene practices
 - a. Establish a daily exercise regimen during the day hours to reduce stress
 - b. Engage in diversional activities during the day to avoid napping
 - c. Eat a larger meal at noon rather than at dinner
 - d. Avoid stimulants (e.g., coffee, tea, chocolate, nicotine, and OTC cold remedies) before bedtime
 - e. Perform relaxation techniques
 - f. Establish set sleep patterns (bedtime and awakening schedule)
 - g. Ensure a quiet, restful environment at bedtime
 - h. Avoid physical exercise or mental stimulation just before bedtime
 - i. Limit bedroom activities to sleep and sex; leave the bedroom if unable to sleep

Evaluation/Outcomes

1. Copes with anxiety-producing situations effectively
2. Uses relaxation techniques
3. Limits use of stimulants
4. Reports restorative sleep
5. Reports improved sense of well-being

Eating Disorders

Overview

- A Eating behaviors and perceptions of body shape and weight are severely disturbed
- B Anorexia and bulimia nervosa may be present in the same client or exist separately
- C Compulsive overeating, although not currently classified as an eating disorder, is another maladaptive behavior involving eating

General Nursing Care of Clients with Eating Disorders

- A Recognize that the adolescent or adult requires
 1. Basic physiologic and safety needs to be met
 2. Acceptance
 3. Meaningful relationships
 4. Limit setting of manipulative behavior
 5. Monitoring during and after mealtime
 6. An awareness of type, amount, and patterns of food eaten (food diary)
 7. Consultation with nutritionist to determine adequate dietary regimen
- B Provide care for clients with eating disorders
 1. Establish a relationship based on trust
 2. Promote self-worth
 3. Set limits that are realistic
 4. Be consistent in approach and in rules and regulations
 5. Support and encourage independence
 6. Teach more effective ways of coping
 7. Encourage participation in individual and family therapy

Anorexia Nervosa

Data Base

- A Etiologic factors
 1. Decreased levels of norepinephrine, serotonin, and dopamine
 2. Combination of genetic, neurochemical, developmental, psychologic, social, cultural, and familial factors cited
 3. More common in females
 4. Avoidance of food may result from excessive concern with obesity
 5. Apparent failure to separate from mother and become autonomous; unconscious fear of maturing
 6. Onset usually during adolescence through young adulthood; less common in older adults but is

increasing in perimenopausal women

B Behavioral/clinical findings

1. Subtypes

- a. Restricting type: weight loss is accomplished through dieting, fasting, or excessive exercise
- b. Binge eating/purging type: weight loss is accomplished through purging (e.g., use of self-induced vomiting and misuse of laxatives, diuretics, or enemas on a weekly basis)

2. Weight less than 85% of expected weight; cachexia

3. Distorted self-image; appear fat to themselves even when emaciated

4. Intense fear of becoming fat, even though underweight

5. May have history of compulsive traits such as rigidity, ritualistic behavior, and meticulousness; need to control or prove control

6. Usually very manipulative

7. Usually high achiever academically

8. Frequent discord in family relationships, especially with mother

9. Often interested in food and cooking in general; serves as a control strategy

10. Cessation of menses for more than 3 months in females (amenorrhea)

11. Inability to sustain self-starvation may result in bulimic episodes (bingeing of food followed by self-induced vomiting)

12. Fatigue or hyperactivity

13. Gastrointestinal (GI) disturbances (e.g., feeling of fullness after small intake, nausea, and constipation)

14. Hypotension; bradycardia

15. Fluid and electrolyte disturbances; dependent edema

16. Low blood glucose level

17. Anemia

18. Sensitivity to cold

19. Erosion of tooth enamel (if vomiting)

20. Lanugo (fine, brittle body hair); dry skin

C Therapeutic interventions

1. Unified team approach

2. Behavior modification techniques that focus on client's responsibility for weight gain

3. Time limit on meals; monitor client after meals

4. Use of enteral feedings if weight loss is so great or fluid and electrolyte imbalance is so severe that it causes a threat to life

5. Limit on excessive physical activity

6. Psychotherapy focusing on self-image

7. Group and cognitive therapy

8. Family therapy with all members of family involved

9. Gradual increase in calories and protein under guidance of nutritionist

10. Antidepressants are helpful especially with comorbid depression

Nursing Care of Clients with Anorexia Nervosa

Assessment/Analysis

1. Complete physical and dental examination to rule out associated medical complications of eating disorder; involved systems: central nervous system (CNS), renal, hematologic, GI, endocrine, cardiovascular, and integumentary
2. Weight and height
3. Signs of fluid and electrolyte imbalance
4. History of amenorrhea
5. Indulgence in excessive exercise
6. Behavior reflecting obsessiveness with food
7. History of stringent control of food intake
8. Depressive mood
9. Motivation to change maladaptive eating patterns
10. Heart rate and rhythm

Planning/Implementation

1. See [General Nursing Care of Clients with Eating Disorders](#)
2. Develop a therapeutic environment
3. Establish a behavior modification program
4. Help client identify feelings
5. Briefly discuss dietary modification in a nonthreatening manner
6. Provide diet high in nutrient-dense foods
7. Avoid focusing on eating or weight loss

Evaluation/Outcomes

1. Maintains dietary intake adequate to meet daily caloric requirements
2. Reaches and maintains appropriate body weight
3. Develops realistic body image
4. Identifies and verbalizes feelings
5. Accepts age-appropriate role
6. Resolves separation and individuation issues

Bulimia Nervosa

Data Base

A Etiologic factors

1. Most common in adolescent through 30-year-old population
2. More common in females but seen in males who need to maintain low weights (e.g., jockeys, wrestlers, gymnasts, ice skaters)
3. Obesity frequently found in parents or siblings
4. Predisposition to depression
5. Discord in family relationships
6. Obsession with food results from morbid fear of obesity and the pathologic need to binge
7. Purging is an attempt to regain control after binge eating

B Behavioral/clinical findings

1. Subtypes

- a. Purging type: engages in purging behaviors that occur at least biweekly for a minimum of 3 months
 - b. Nonpurging type: uses fasting or excessive exercise, not purging
 2. Compulsive eating binges characterized by rapid consumption of excessive amounts of high-caloric foods in brief periods; followed by induced purging (e.g., vomiting, enemas, laxatives, diuretics) in the purging subtype
 3. Periods of severe dieting or fasting between binges
 4. Sporadic vigorous exercising between binges
 5. Weight may be within expected range with frequent fluctuations above or below expected range because of alternating binges and fasts
 6. Lack of control over eating during episode
 7. Depression and self-deprecating thoughts follow binges
 8. Extroverted
 9. Possible intermittent substance abuse
 10. Very concerned with body image and appearance
 11. Repeated attempts to control or lose weight
- C Therapeutic interventions
1. See Therapeutic interventions under Anorexia Nervosa, except for the use of an enteral feeding tube
 2. Treatment of depression, which is the most frequently observed psychologic concomitant condition associated with bulimia

Nursing Care of Clients with Bulimia Nervosa

Assessment/Analysis

1. Behavior indicative of purging such as self-induced vomiting and use of enemas, laxatives, and/or diuretics
2. Obsession with excessive exercise
3. Pattern and duration of bingeing
4. Undue concern with body weight and shape
5. Physiologic changes such as dental caries, chipped teeth, enlarged parotid glands, calluses or scars on knuckles from induced vomiting
6. Signs of fluid and electrolyte imbalances
7. Weight and height
8. History of consuming tremendous amounts of calories in a short period of time
9. Symptoms of depression or obsessive-compulsive behaviors
10. Substance abuse (drug[s], pattern, duration)

Planning/Implementation

1. See General Nursing Care of Clients with Eating Disorders
2. Provide a nonjudgmental, accepting environment
3. Set realistic limits; keep under close observation to prevent purging
4. Encourage verbalization of feelings
5. Help to identify feelings associated with bingeing and purging

6. Shift focus from food, eating, and exercise to emotional issues
7. Encourage journaling to identify situational and emotional triggers to bingeing

Evaluation/Outcomes

1. Limits dietary intake to caloric requirements
2. Reduces episodes of bingeing
3. Reduces episodes of purging
4. Identifies feelings
5. Verbalizes emotions and needs
6. Reports no depressive symptoms
7. Develops a healthy lifestyle balancing eating and exercise

Personality Disorders

Data Base

A Basic information

1. These disorders are extreme exaggerations of personality traits or styles that often define the uniqueness of the individual
2. Under stress, individuals manifest patterns of inflexibility, maladaptive emotional responses, and functioning impairments
3. A personality disorder, according to the DSM-IV-TR, is an “enduring pattern of inner experiences and behavior that deviates markedly from the expectations of the individual’s culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment”

B Etiologic factors

1. Psychodynamic theory postulates that individuals with personality disorders have deficits in psychosexual development or failure to achieve object constancy
2. Neurobiologic perspective
 - a. Research evidence suggests that the development of major personality disorders is determined by environmental factors that interact with biologic factors such as inability to tolerate anxiety, aggressiveness, and genetic vulnerability
 - b. Family and twin studies demonstrate a strong genetic influence suggesting a connection between biologic factors and personality organization
 - c. Study findings suggest a structural brain deficit in antisocial personality disorder that may cause low arousal, low fear, lack of conscience, and deficits in decision making
 - d. Further research is needed to clarify the role of inheritance in relation to brain structure and function in the development of personality disorders
3. Sociocultural factors (isolation and family instability) influence the ability to establish and maintain relationships
4. Relationship problems develop early in life, and often move through predictable stages beginning with idealization and overevaluation and end with rationalization, devaluation, and rejection of other persons
5. Premorbid personality of individuals with these disorders resembles the compensatory behaviors associated with the pathologic counterpart

C Types and behavioral/clinical findings

1. Cluster A personality disorders: odd or eccentric behavior

a. Paranoid personality disorder

- (1) Frequent use of projective mechanisms
- (2) Suspiciousness, fear, irritability, and stubbornness

b. Schizoid personality disorder

- (1) Avoidance of meaningful interpersonal relationships; prefers solitary activities
- (2) Use of autistic thinking, emotional detachment, and daydreaming
- (3) Introverted since childhood but maintains fair contact with reality
- (4) Asexual

c. Schizotypal personality disorder

- (1) Unattached, withdrawn
- (2) Affectively and intellectually diminished
- (3) Frequently part of vagabond or transient groups of society
- (4) Behavior or appearance that is eccentric

2. Cluster B personality disorders: dramatic behavior

a. Antisocial personality disorder

- (1) Chronic lifelong disturbance that conflicts with society's laws and customs
- (2) Inability to postpone gratification; lives only for the moment
- (3) Randomly acts out aggressive egocentric impulses on society
- (4) Does not profit from past experiences or punishment; does not take responsibility for actions and blames others for problems; lacks remorse for unacceptable behavior
- (5) Has the ability to ingratiate self with others but eventually wears them down
- (6) Is in contact with reality but does not seem to care about it or people
- (7) More common in men

b. Borderline personality disorder

- (1) Unstable and intense interpersonal relationships
- (2) Impulsive, unpredictable behavior that is potentially self-destructive
- (3) Marked mood shifts
- (4) Intense inappropriate discharge of anger
- (5) Black-or-white (splitting) thinking
- (6) Unstable sense of self; identity disturbances
- (7) Chronic feeling of emptiness
- (8) History of parental abuse or neglect in early childhood; sexual abuse by nonparents
- (9) More common in women

c. Histrionic personality disorder

- (1) Emotional instability and hyperexcitability
- (2) Extroverted and directed toward gaining attention
- (3) Vain and deliberately manipulative
- (4) Theatrical and overreactive

d. Narcissistic personality disorder

- (1) Overblown sense of importance
- (2) Strong need for attention and admiration
- (3) Relationships marked by ambivalence
- (4) Preoccupation with appearance

3. Cluster C personality disorders: anxious or fearful behaviors
 - a. Avoidant personality disorder
 - (1) Social discomfort and timidity
 - (2) Loner; unwilling to get involved with others
 - (3) Fear of negative evaluation from others
 - b. Dependent personality disorder
 - (1) Unable to make decisions
 - (2) Lack of self-confidence
 - (3) Dependent; submissive
 - (4) Induces others to assume responsibility
 - c. Obsessive-compulsive personality disorder
 - (1) Rigidity, overconscientiousness, inordinate capacity for work
 - (2) Driven by obsessive concerns
 - (3) Behavior may contain many rituals that cannot be controlled
 4. Unspecified personality disorders
 - a. Does not meet criteria for a specific personality disorder
 - b. Generally has features of more than one specific type (mixed disorders)
 - c. Personality disorders not in the current classification: passive-aggressive personality, depressive personality
 - d. Causes functional impairments that are clinically significant beginning in early adulthood
- D Therapeutic interventions
1. Individual, group, and family psychotherapy
 2. Crisis intervention when necessary
 3. Vocational and occupational therapy
 4. Psychotropic drugs, but they have a limited role
 5. Dialectical behavioral therapy: the use of dialogue to help the client learn new patterns of thoughts and behavior

Nursing Care of Clients with Personality Disorders

Assessment/Analysis

1. Level of social and occupational functioning
2. Individual's perception of problem
3. Reason for seeking treatment
4. Level of anxiety
5. Pending criminal charges
6. Drug and alcohol abuse
7. History of suicidal gestures and present risk

Planning/Implementation

1. Maintain consistency, concern, and a professional relationship
2. Accept the individual as is; do not retaliate if provoked; manage countertransference
3. Protect the individual from others while protecting others from the individual
4. Place realistic limits on behavior; make known what those limits are

5. Strive for consistency among health team members; avoid splitting of staff
6. Initiate cognitive, behavioral and dialectic behavioral strategies

Evaluation/Outcomes

1. Demonstrates decreased episodes of acting out
2. Verbalizes decrease in anxiety
3. Accepts and continues long-term therapy
4. Recognizes and functions within limits of personality

Adjustment Disorders

Data Base

A Etiologic factors

1. These disorders are characterized by a short-term disturbance in mood or behavior with nonpsychotic manifestations resulting from identifiable stressors
2. Severity of the reaction is not proportionate to the severity of stressors
3. Problematic response to life events, either developmental or situational
4. Interaction of personality, crisis, developmental factors, and cultural influences
5. No apparent underlying mental disorder, but there may be low self-esteem and present behavior may be extremely disturbed
6. Exhibits capacity to adapt to overwhelming stress when given the time to do so
7. Problems with distortions or interruptions in thinking processes and decision making tend to resolve themselves

B Behavioral/clinical findings

1. Infancy: extremely upset; demonstrating grief when separated from mother
2. Childhood: regression to an earlier level of development when a new sibling arrives; intense anxiety on entering school
3. Adolescence: struggle for independence; leads to hypersensitivity and frequent episodes of heightened anxiety
4. Adult life: heightened anxiety in response to stressors associated with events such as marriage, pregnancy, divorce, change of employment, purchase of a house
5. Later life: menopause and climacteric, “loss” of children to marriage, retirement, and death of a mate produce extreme stress
6. Onset begins within 3 months of stressors
7. Significant impairment in social and occupational functioning
8. Duration of disorder lasts no longer than 6 months after stress ceases
9. Onset may occur at any age; commonly noted in children and adolescents

C Therapeutic interventions

See [Chapter 19](#), Panic Disorder, Data Base

Nursing Care of Clients with Adjustment Disorders

Assessment/Analysis

1. Individual’s perception of problem

2. Factors impinging on current situation
3. Individual's personal strengths and support systems
4. Level of anxiety
5. Identification of type(s) of stressors and onset

Planning/Implementation

1. Help client and/or parents recognize and accept that a problem exists
2. Maintain client safety
3. Encourage identification and use of support systems
4. Attempt to minimize environmental pressures
5. Allow the client time to recover personal resources

Evaluation/Outcomes

1. Reorganizes defenses
2. Utilizes support systems
3. Verbalizes a decrease in anxiety
4. Develops more effective coping

Substance Abuse and Dependency

Overview

A Substance refers to any mind-altering chemical

B Substance abuse: maladaptive pattern of drug use leading to impairment or distress, as manifested by one or more of the following occurring within a 12-month period

1. Failure to fulfill major roles
2. Use in hazardous situations
3. Recurring related legal problems
4. Continued use despite social or interpersonal problems

C Although not currently classified as addiction diagnoses in the DSM-IV-TR, behaviors such as compulsive gambling, compulsive sexual activity, and compulsive overeating are now being treated as addictive disorders

D Substance intoxication: a reversible substance-specific syndrome caused by recent ingestion of, or exposure to, a substance resulting in maladaptive behavior or psychologic changes from effect on the CNS

E Substance withdrawal: development of a substance-specific syndrome resulting from cessation or reduction in substance use that has been heavy or prolonged

1. Impairment in role functioning (e.g., social, school, or occupational)
2. Symptoms are not associated with another mental disorder
3. Substance withdrawal is more risky with drugs that are CNS depressants or have a short half-life (e.g., alcohol) than those with a long half-life (e.g., marijuana); withdrawal is not lethal with some (e.g., cocaine)
4. Withdrawal may cause more problems in older adults because they possess less physiological reserves

F Substance tolerance: the need for greatly increased amounts of the substance to achieve the desired

effects or a markedly diminished effect with the continued use of the same amount of substance; substance tolerance does not occur with all substances

G Polysubstance abuse: abuse of three or more drugs or of alcohol and drugs

H Potentiation: two or more substances interact in the body to produce an effect greater than the sum of the effects of each substance taken alone

I Substance dependence: the continued use of a substance despite significant related problems in cognitive, physiologic, and behavioral components; spending more time in getting, taking, and recovering from the substance; continuous abuse despite knowledge of physical or psychologic problems or awareness of complications resulting from continued use of the substance; dependency can be both psychological (needed to enhance coping) and physiological (discontinuance results in withdrawal signs and symptoms)

Alcohol Abuse and Dependency

Data Base

A Etiologic factors

1. Affects neurotransmitters causing depression of major brain functions (e.g., mood, cognition, attention, concentration, insight, judgment, memory, affect)
2. Is dose-dependent and ranges from lethargy, unconsciousness, coma, respiratory distress, to death
3. Causation theories range from genetic, stress, or environmental factors to interpersonal factors; none fully explains causation
4. Neurobiologic perspective
 - a. Biologic and genetic theories continue to be researched
 - b. Some researchers subscribe to single genetic transmission; others think that complex genetic factors are involved
 - c. Biologic differences in the response to alcohol may influence susceptibility

B Behavioral/clinical findings

1. Warning signs of alcoholism: frequent drinking sprees, increased intake, drinking alone or in the early morning, blackouts
2. Intoxication: state in which coordination or speech is impaired and behavior is altered
3. Episodic excessive drinking: becoming intoxicated as infrequently as four times a year; episodes may vary in length from hours to days or weeks; may be called binge drinking
4. Habitual excessive drinking: becoming intoxicated more than 12 times a year or being recognizably under the influence of alcohol more than once a week even though not considered intoxicated
5. Defense mechanisms of rationalization and denial are often used; may fill in gaps in memory with fabricated information (confabulation)
6. Alcohol dependence: cessation of drinking results in signs and symptoms of withdrawal (e.g., nausea, vomiting, tremor, paroxysmal sweats, anxiety, agitation, headache, impaired orientation/clouding of sensorium, and tactile, auditory, and visual disturbances)
7. Chronic excessive alcohol consumption leads to multisystem physiologic impairments, including cardiomyopathy, peripheral neuropathy, blackouts, Wernicke encephalopathy, and Korsakoff syndrome
8. Alcohol withdrawal delirium: occurs on days 2 and 3 but may appear as late as 14 days after the last drink; confusion, disorientation, hallucinations, tachycardia, hypertension/hypotension, tremors,

agitation, diaphoresis, fever

C Therapeutic interventions

1. Should be multifaceted (social and medical); involves psychotherapy (e.g., group, family, and individual counseling); clients can be assisted only when they admit they need help
2. Self-help groups such as Alcoholics Anonymous provide support; most effective intervention to change destructive behaviors
3. Pharmacologic therapies
 - a. Benzodiazepines during alcohol withdrawal to help prevent seizures and decrease vital signs
 - b. Negative conditioning with disulfiram (Antabuse) appears to help but never given without the client's full knowledge, understanding, and consent; the drug interferes with the metabolism of alcohol and causes significant negative physiological effects (e.g., headache, nausea, dyspnea) if the person drinks after taking the medication
 - c. Naltrexone (ReVia, Vivitrol) to help overcome the craving for alcohol and decrease the euphoria of intoxication
 - d. Thiamine to support neurologic functioning and limit peripheral neuropathies
4. Relaxation therapy
5. Physical needs must be met because of prolonged malnutrition
6. Referral of significant others to self-help groups such as Al-Anon and Adult Children of Alcoholics to assist with the understanding of the effects of alcoholism and issues of codependency and enabling

Nursing Care of Clients Who Abuse Alcohol

Assessment/Analysis

1. History of alcohol use, abuse, and dependence from client and family if available (e.g., type, amount, and frequency)
2. Use of the CAGE questionnaire
 - a. Have you ever felt that you ought to **C**ut down on your drinking?
 - b. Have people **A**nnoyed you by criticizing your drinking?
 - c. Have you ever felt **G**uilty about your drinking?
 - d. Have you ever had a drink first thing in the morning (**E**ye opener) to steady your nerves or get rid of a hangover?
3. Blood alcohol level (BAL) also called blood alcohol concentration (BAC); people with high tolerance to alcohol will appear less intoxicated despite having elevated blood alcohol levels ([Table 20-1: Effects of Blood Alcohol Levels](#))

Table 20-1
Effects of Blood Alcohol Levels

Blood Alcohol Level	Effect on Body
0.02	Slight mood changes
0.06	Lowered inhibition, impaired judgment, decreased rational decision-making abilities
0.08	Legally drunk, deterioration of reaction time and control
0.15	Impaired balance, movement, and coordination Difficulty standing, walking, talking
0.20	Decreased pain and sensation Erratic emotions
0.30	Diminished reflexes Semiconsciousness
0.40	Loss of consciousness Very limited reflexes Anesthetic effects
0.50	Death

- 4. Data pertaining to substance dependence and psychiatric impairment
- 5. Client’s perception of the problem
- 6. Sleep patterns
- 7. Use of the Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar) Scale to assess withdrawal and evaluate medication used to limit withdrawal symptoms (Table 20-2: Clinical Institute Withdrawal Assessment for Alcohol [CIWA-Ar] Scale)

Table 20-2

Clinical Institute Withdrawal Assessment for Alcohol [CIWA-Ar] Scale

Nausea and vomiting	None to constant nausea Frequent dry heaves Vomiting
Tremors	None to severe
Paroxysmal sweats	None to drenching sweats
Anxiety	None to equivalent to acute panic states
Agitation	None to pacing back and forth constantly Thrashing about
Tactile disturbances	None to continuous tactile hallucinations (itching, burning, numbness)
Auditory disturbances	None to continuous auditory hallucinations
Visual disturbances	None to continuous visual hallucinations
Headache	None to extremely severe
Orientation	Oriented to disoriented to place and/or person

Modified from Sullivan JT, Sykora K, Schneiderman J et al: Assessment of alcohol withdrawal: the revised Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar). *Br J Addict* 84:1353-1357, 1989.

- 8. Physical and emotional status in relation to nutrition, fluid and electrolytes, and safety
- 9. Factors influencing the client’s decision to seek treatment at this time

Planning/Implementation

1. Supervise and prevent injury; institute seizure precautions during withdrawal
2. Monitor for CNS and respiratory depression if intoxicated
3. Provide support without criticism or judgment
4. Accept the smooth facade presented while approaching the lonely and fearful individual inside
5. Administer prescribed medications that support nutritional status and limit signs and symptoms of withdrawal
6. Provide support during alcohol withdrawal delirium
7. Provide support if hallucinations and illusions occur; stay with client; point out reality
8. Monitor visitors because they may supply the client with alcohol
9. Encourage increased fluid intake, well-balanced diet, and no caffeine
10. Provide a well-controlled, alcohol-free environment; explain unit routines
11. Plan a full program of activities but provide for adequate rest; environment should be well lit and quiet
12. Avoid attempting to talk client out of the problem or making client feel guilty

13. Accept hostility and acting-out behaviors without criticism or retaliation; set appropriate limits if hostility is physical or escalates
14. Recognize ambivalence and limit the need for decision making
15. Maintain the client's interest in a therapy program
16. Provide education on alcohol as a disease with negative effects on physical and mental health
17. Refer to an appropriate 12-step group such as Alcoholics Anonymous
18. Expect and accept lapses as client is changing a long-term habit; accept failures without judgment or punishment; teach how to handle relapses
19. Provide family counseling and refer to self-help groups to address effects of drinking and sobriety on the family

Evaluation/Outcomes

1. Recognizes, accepts, and seeks treatment for problem
2. Accepts responsibility for problem without blaming others
3. Achieves optimal physiologic and nutritional status
4. Learns new, more self-preserving coping mechanisms
5. Verbalizes feelings and situations that pose increased risk for alcohol use
6. Enters into and continues with community-based self-help program
7. Maintains abstinence from alcohol and chemical substances
8. Demonstrates responsibility in meeting own health care needs

Drug Abuse

Data Base

A Etiologic factors

1. Misuse of drugs, usually by self-administration, in such a way as to bring about physical, emotional, or behavioral changes and a blurring of reality
2. In addition to illegal drugs, many prescription drugs such as narcotic analgesics and antianxiety agents may be abused
3. Premorbid addictive personality; addictive patterns of behavior

B Addictive capacity depends on the drug, from lowest potential to highest potential (e.g., progressing from codeine, alcohol, and barbiturates to heroin); concurrent use of multiple drugs (polysubstance use) including alcohol

C Behavioral/clinical findings

1. Physical examination reflects type of drug used and route of delivery
2. Job or academic failure; marital conflicts; poor reality testing; personality change
3. History of violent acting out with disregard for human life or suffering
4. History of stealing, selling drugs, and prostitution
5. Inability to maintain activities of daily living or fulfill role obligations
6. Marked tolerance for some drugs such as opioids and cocaine with a progressive need for higher doses to achieve desired effect
7. Opioids: heroin, Hycodan (Oxy-Contin), hydrocodone (Hycodon), fentanyl (Sublimaze)
 - a. Use: constricted pupils, drowsiness, euphoria, slurred speech, psychomotor retardation; needle marks (track marks), particularly on limbs or between toes, which can lead to infections (e.g.,

endocarditis, hepatitis, or human immunodeficiency virus [HIV]); wearing long-sleeved shirts, even in warm weather

b. Overdose: respiratory depression, bradycardia, death

c. Withdrawal: yawning, lacrimation, rhinorrhea, and perspiration appear 10 to 15 hours after last opioid injection; unrealistic high; pronounced depression; severe abdominal cramps, nausea and vomiting if too much time has elapsed between doses

8. Stimulants: cocaine, amphetamines, attention deficit hyperactivity disorder (ADHD) stimulant medications

a. Use: hypervigilance, increased sexual activity, hyperactivity, dilated pupils, euphoria, anorexia and thirst; snorting leads to nasal septum destruction, hoarseness, and throat infections

b. Overdose: cardiac dysrhythmias, seizures, hypertension, paranoid ideation, psychosis with hallucinations

c. Withdrawal: marked emotional and physical letdown with progression to severe depression and paranoia

9. CNS depressants (other than alcohol): barbiturates, antianxiety agents, hypnotics use, overdose, and withdrawal are similar to that of alcohol

10. Hallucinogens: lysergic acid diethylamide (LSD), phencyclidine (PCP), mescaline

a. Use: euphoria, visual hallucinations, disorientation, tachycardia, anxiety

b. Extreme use: agitation, psychosis, violence, seizures

c. Withdrawal: no symptoms; however, flashbacks of hallucinations and other symptoms of use can occur even after periods of abstinence

11. Inhalants: aromatic hydrocarbons found in aerosol propellants, solvents, glues

a. Use: apathy; aggressiveness; lethargy; ataxia; euphoria; dizziness; irritation of eyes, nose, throat and lungs; liver damage

b. Extreme use: depressed reflexes, respiratory compromise, coma

c. Withdrawal: no symptoms

12. Cannabis: marijuana, hashish

a. Use: euphoria, anxiety, paranoia, restlessness, talkativeness, increased appetite

b. Overdose: hallucinations

c. Withdrawal: restlessness, irritability, decreased appetite, insomnia

13. Techno/club drugs (recreational drugs): methylenedioxymethamphetamine (MDMA, ecstasy) and ketamine resemble effects of amphetamine; flunitrazepam (Rohypnol)

a. Use: sleep disorders, depression, high anxiety levels, hostility, and impulsiveness; sexual assault/rape drug (flunitrazepam) produces disinhibition and voluntary muscle relaxation along with anterograde amnesia; alcohol potentiates the effects

b. Extreme use: dehydration, hyperthermia, acute renal failure, psychosis cardiovascular collapse

c. Withdrawal: no symptoms

D Therapeutic interventions

1. Treatment for drug overdose

a. Opioid antagonists

(1) Naloxone, an opioid antagonist, improves respiratory rate, although it may not affect level of consciousness; respiratory depression can recur when the drug is metabolized before the opioid has been metabolized to a safe level

(2) This antagonist completely or partially reverses opioid depression and may produce

an acute abstinence (withdrawal) syndrome by blocking euphoric and physiologic effects of the opioid

b. Gastric lavage may be necessary if substance was taken orally within the past several hours

2. Treatment for withdrawal symptoms

a. Antidepressants seem to block the “high” from stimulant abuse and diminish the craving for the substance

b. Clonidine (Catapres) suppresses opioid withdrawal signs and symptoms and decreases adrenergic excess while opioid receptors return to normal levels

(1) Heroin addicts who are first stabilized on methadone before detoxification respond better than those who go directly from heroin to clonidine

(2) Clonidine should not be used in those individuals who also abuse alcohol or those who have unstable psychiatric or cardiovascular conditions

3. Methadone maintenance for opioid dependence: programs change the dependence from an illegal drug to a legal drug, which is administered under supervision; has proven successful only in individuals with long-standing addictions

a. Reduction in dosage can cause withdrawal signs and symptoms

b. Withdrawal signs and symptoms begin to develop in 8 hours and may last as long as 2 weeks

c. Approved for treatment of pregnant opioid addicts

d. Levomethadyl acetate (Orlaam) is an alternative to methadone; its 3-day effectiveness increases independence; it is an addictive opioid with effects similar to morphine

4. High-calorie, high-protein diet with vitamin supplements

5. Treatment in groups led by former addicts

6. Therapeutic community setting

7. Psychotherapy and family therapy on an outpatient basis

8. Vocational counseling

Nursing Care of Clients Who Abuse Drugs

Assessment/Analysis

1. History of drugs being used (e.g., types, amount, and frequency)

2. Urine toxicology screen and HIV testing

3. Drug abuse screening test

4. History of length and pattern of drug dependence

5. Time since last dose was taken

6. Physical status of the client for signs and symptoms of drug dependence; nutritional status

7. Signs of drug overdose or withdrawal; use of established scales (e.g., Clinical Institute Narcotic Assessment [CINA] Scale or Clinical Opiate Withdrawal Scale [COWS]) to help with completeness and consistency of assessment

8. Degree of difficulty sustaining role in relation to family members, job, school, etc.

9. Why client is seeking treatment at this time

10. Pending criminal charges

11. Potential for violence toward others or self

12. Presence of hallucinations, paranoid ideation, and depression

13. Relationship between substance use and psychiatric disorders (known as dual diagnosis)

14. Potential for recurrence of drug abuse after period of withdrawal

Planning/Implementation

1. Maintain drug-free environment when hospitalized
2. Keep atmosphere pleasant and cheerful but not overly stimulating
3. Contribute to the client's self-confidence, self-respect, and security in a realistic manner; focus on feelings
4. Expect and accept evasion, manipulative behavior, and negativism, but require the maintenance of standards of responsibility; set realistic limits
5. Accept client without approving the behavior
6. Do not permit client to become isolated
7. Introduce to group activities as soon as possible; evaluate response to group interaction
8. Protect client from self and others
9. Refer to appropriate 12-step group such as Cocaine Anonymous and Narcotics Anonymous
10. Treat physical effects of substance abuse
11. Provide education related to the disease process and health effects

Evaluation/Outcomes

1. Recognizes, accepts, and seeks treatment for problem
2. Accepts responsibility for problem without blaming others
3. Achieves optimal physiologic and nutritional status
4. Learns new, more self-preserving coping mechanisms
5. Verbalizes feelings and emotions
6. Enters into and continues with community-based self-help program
7. Abstains from all mood-altering chemicals

Factitious Disorders

Data Base

A The DSM-IV-TR does not classify specific factitious disorders, but falling within this category are

1. Malingering: making a conscious attempt to deceive others by pretending to be sick
2. Munchausen syndrome: intentionally causing own illness; this may involve self-mutilation, fever, hemorrhage, hypoglycemia, seizures, nonhealing wounds, and abdominal or back pain
3. Munchausen syndrome by proxy: parent creates an illness in the child through simulation or production of illness; frequent symptoms include bleeding, seizures, apnea, diarrhea, vomiting, fever, and rash

B Etiologic factors

1. Manipulation of the health care system for personal gain
2. No identifiable predisposing factor
3. Health care knowledge may be used to aid in deception

C Behavioral/clinical findings

1. Physical or psychologic symptoms are intentionally produced or feigned to enable one to assume the sick role and for other secondary gains; reports of back pain and recurrent headaches are most common

2. “Doctor shopping,” seeking treatment in multiple emergency departments; little or no improvement is made in comfort or symptom management after treatment
3. Must be distinguished from a true medical condition through a medical diagnostic workup
4. When under supervision of other caretakers the child who is abused by Munchausen syndrome by proxy exhibits no symptoms

D Therapeutic interventions

1. Psychiatric treatment
2. Supervision of child who is victim of Munchausen syndrome by proxy
3. Munchausen syndrome by proxy reported to child protective services

Nursing Care of Clients with Factitious Disorders

Assessment/Analysis

1. Level of preoccupation with symptoms that keep recurring despite treatment
2. Absence of symptoms when client is closely observed
3. Past and present degree of interference with functioning related to symptoms
4. Duration and degree of disability associated with symptoms
5. History of psychosocial stressors

Planning/Implementation

1. Report suspected Munchausen syndrome by proxy to child protective services
2. Recognize negative feelings toward the client; remain nonjudgmental while establishing nurse-client relationship
3. Keep lines of communication open and direct
4. See [Chapter 19](#), Nursing Care of Clients with Disorders Related to Anxiety and Alterations in Mood, General Nursing Care for Clients with Somatoform Disorders

Evaluation/Outcomes

1. Uses more effective coping mechanisms to cope with anxiety than feigning illness
2. Accepts need for psychotherapy
3. Avoids causing harm to self or others

Nursing Care of Clients with Sexual and Gender Identity Disorders

Overview

A Changing social and cultural mores have removed many of the sexual behaviors that were once considered deviations from the list of “abnormal practices”

B Today sexual activities are considered abnormal only if they are directed toward anyone or anything other than consenting adults or are performed under unusual circumstances

C Sexual needs are basic human needs

General Nursing Care of Clients with Sexual and Gender Identity Disorders

- A Reflect on own sexual values and mores
- B Accept individual as a person in emotional pain
- C Create a safe, nonjudgmental environment that permits open communication
- D Begin with less sensitive topics and move gradually to more personal issues
- E Avoid punitive or judgmental remarks or responses; maintain a matter-of-fact manner
- F Provide for privacy and protect individual from others
- G Set limits on sexual acting out behavior
- H Report suspected child or elder abuse to appropriate protective service agencies

Major Disorders Associated with Sexual and Gender Identity Conditions

Paraphilias

Data Base

A Etiologic factors

1. Paraphilias: sexual urges or fantasies that are directed toward nonhuman objects or infliction of pain to self, partner, children, or other nonconsenting individuals
2. Concurrent overt or covert emotional problems
3. Behavior continues for at least 6 months

B Behavioral/clinical findings are based on type of paraphilia

1. Exhibitionism: sexual pleasure by exposing the genitals
2. Pedophilia: attraction to children as sex objects; acting on impulses results in child abuse
3. Voyeurism: sexual gratification by watching sexual play of others
4. Sadism: sexual gratification through cruelty to others; acting on impulses may result in abuse of vulnerable person (e.g., child, older adult, significant other)
5. Masochism: sexual gratification obtained from self-suffering

C Therapeutic interventions

1. Successful only if there is motivation to change
2. Cognitive and behavioral therapy may be effective if change is desired

Nursing Care of Clients with Paraphilias

Assessment/Analysis

1. History of sexual behavior
2. Presence of other psychosocial difficulties
3. Level of anxiety regarding sexual behavior
4. Potential for violence toward others or self
5. Reason for seeking treatment
6. Pending criminal charges

Planning/Implementation

See [General Nursing Care for Clients with Sexual and Gender Identity Disorders](#)

Evaluation/Outcomes

1. Ceases socially unacceptable behavior
2. Seeks and continues long-term therapy
3. Limits paraphiliac behavior to consenting adults
4. Uses safer sex practices

Sexual Dysfunction

Data Base

A Etiologic factors

1. Inhibition or interference with the desire, excitement, orgasm, or resolution phases of the sexual response cycle
2. Often a combination of psychogenic and physiologic factors
3. Can be lifelong or acquired
4. Can be generalized or situational

B Types and behavioral/clinical findings

1. Sexual desire disorders: deficient, absent, or extreme aversion to and avoidance of sexual activity
2. Sexual arousal disorders: partial or complete failure to achieve a physiologic or psychologic (subjective) response to sexual activity
3. Orgasm disorders: delay in or absence of orgasm, premature ejaculation
4. Sexual pain disorders: recurrent or persistent genital pain before, during, or after sexual activity (dyspareunia)

C Therapeutic interventions

1. Treatment of underlying physiologic cause if present
2. Sexual counseling for client and partner
3. Vacuum constriction device for males
4. Pharmacologic therapy: sildenafil (Viagra), tadalafil (Cialis), alprostadil (Muse, Caverject)
5. Surgical intervention: semirigid or inflatable penile prosthesis

Nursing Care of Clients with Sexual Dysfunction

Assessment/Analysis

1. Feelings about difficulties in functioning sexually
2. Expectations regarding sexual ability
3. Effect of sexual dysfunction on sexual relationship(s)

Planning/Implementation

1. See [General Nursing Care for Clients with Sexual and Gender Identity Disorders](#)
2. Accept that problem is real to client regardless of age
3. Accept that desire to function sexually does not diminish with age
4. Teach how to support/promote an erection (e.g., avoid alcohol, recreational drug use, sedatives/hypnotics); use penile vacuum constrictive device
5. Teach side effects of erectile agents (e.g., sildenafil [Viagra] tadalafil [Cialis]): headache, flushing, dizziness, hypotension, diarrhea, dyspepsia, prolonged erection; avoid concurrent use with nitroglycerin because it can cause cardiovascular collapse

Evaluation/Outcomes

1. Reports an increased satisfaction in sexual functioning
2. Reports sexual ability approaches sexual expectations

Gender Identity Disorders

Data Base

A Etiologic factors

1. Origins are unknown
2. Most children are firmly committed to gender role expectations as early as 18 months

B Behavioral/clinical findings

1. Persistent discomfort with one's assigned gender and a feeling that it is inappropriate or inaccurate
2. Persistent preference for cross-sex roles
3. Cross-dressing

C Therapeutic interventions

1. Individual and/or group psychotherapy
2. Pharmacologic therapy: anxiolytics, antidepressants (see [Chapter 16, The Practice of Mental Health/Psychiatric Nursing, Related Pharmacology, Antianxiety/Anxiolytic Medications and Antidepressants](#))
3. Monitoring of children/adolescents over an extended period of time to aid in diagnosis and treatment
4. Surgical sex reassignment and hormone therapy

Nursing Care of Clients with Gender Identity Disorders

Assessment/Analysis

1. Distress about assigned sex role
2. Behaviors, social habits, and cross-dressing inappropriate for sexual gender
3. Preoccupation with becoming, being, or behaving like a person of the opposite sex
4. History of sexual orientation (e.g., asexual, homosexual, bisexual, heterosexual)
5. Presence of depressive behaviors and suicidal ideation

Planning/Implementation

1. See [General Nursing Care for Clients with Sexual and Gender Identity Disorders](#)
2. Accept own feelings about client's cross-dressing
3. Accept client's discomfort with gender
4. Encourage to become involved with support groups
5. Monitor risk for depression, self-mutilation, and suicide
6. Assist to arrive at a solution (e.g., acceptance, suppression, surgical sex reassignment)

Evaluation/Outcomes

1. Verbalizes increased comfort with self
2. Accepts assigned gender, lives as the opposite sex, and/or explores surgical options
3. Participates in support group

Mental Health/Psychiatric Nursing

Review Questions with Answers and Rationales

Questions

Note: Thousands of additional practice questions are available on the enclosed companion CD.

▶ Denotes alternate format question.

Foundations of Mental Health/Psychiatric Nursing

1. At what age does Freud's phallic stage of psychosexual development compare with Erikson's psychosocial phase of initiative versus guilt?
 1. Adolescence
 2. 6 to 12 years
 3. 3 to $5\frac{1}{2}$ years
 4. Birth to 1 year
2. Which relationship is of **most** concern to the nurse because of its importance in the formation of the personality?
 1. Peer
 2. Sibling
 3. Spousal
 4. Parent-child
3. A nurse concludes that a client is using displacement. Which behavior has the nurse identified?
 1. Ignoring unpleasant aspects of reality
 2. Resisting any demands made by others
 3. Using imaginative activity to escape reality
 4. Directing pent-up emotions to other than the primary source
4. In the process of development the individual strives to maintain, protect, and enhance the integrity of the self. The nurse determines that this usually is accomplished through the use of:
 1. affective reactions.
 2. withdrawal patterns.
 3. ritualistic behaviors.
 4. defense mechanisms.
5. A client diagnosed with major depression tells a nurse, "No matter what I do, everything turns out bad." The nurse concludes that this is an example of:
 1. using a cognitive distortion.
 2. seeking sympathy from the nurse.
 3. regressing to an earlier developmental level.
 4. avoiding responsibility for previous behavior.
6. A male college student who is smaller than average and unable to participate in sports becomes the life of the party and a stylish dresser. What defense mechanism should the nurse determine that the client is using?
 1. Introjection
 2. Sublimation
 3. Compensation
 4. Reaction formation
7. A staff member tells a nurse that an older client gets irritable when asked to assist with activities of daily living. On what general information about older adults should the nurse base a response?
 1. Decreased ability to cope
 2. Loss of ability to cooperate
 3. Ambivalence toward authority
 4. Difficulty performing step procedures
8. The parents of a toddler who was recently diagnosed with moderate retardation discuss their child's

future independent functioning. What should the nurse conclude?

1. They accept the child's diagnosis.
 2. Denial is being used as a defense.
 3. They want to explore their child's limitations.
 4. Intellectualization helps them put the diagnosis into perspective.
9. On which generally accepted concept of personality development should a nurse base care?
1. By 2 years of age the personality is firmly set.
 2. The personality is capable of modification throughout life.
 3. The capacity for personality change decreases rapidly after adolescence.
 4. By the end of the first 6 years of life the personality has reached its adult parameters.

10. A 6-year-old child is diagnosed with type 1 diabetes. Considering the child's cognitive developmental level, which explanation of the illness is **most** appropriate?

1. "Diabetes is caused by not having any insulin in your body."
 2. "Diabetes will require you to take insulin shots for the rest of your life."
 3. "You will be taught how to give yourself insulin now that you have diabetes."
 4. "Taking insulin for your diabetes is like getting new batteries for your superhero toys."
11. Which individual is coping with issues concerning dependence versus independence?

1. Infant
2. Toddler
3. School-age child
4. Preschool-age child

►12. A 17-year-old teenager is diagnosed with leukemia. Which statements by the teenager reflect Piaget's cognitive processes associated with adolescence? **Select all that apply.**

1. "My smoking pot probably caused the leukemia."
2. "I'm going to do my best to fight this terrible disease."
3. "Now I can't go to the prom because I have this stupid illness."
4. "I know I got sick because I've been causing a lot of problems at home."
5. "This illness is serious, but with treatment I think I will have a chance to get better."

13. A person mowing the lawn is badly disfigured by the lawn mower blade. According to Erikson's theory, which age will demonstrate the greatest risk of longer-term psychological effects?

1. 11-year-old
2. 35-year-old
3. 55-year-old
4. 70-year-old

14. A nurse is interviewing an 8-year-old girl who was admitted to the pediatric unit. Which statement by the child needs to be explored?

1. "Wow! This place has bright colors."
2. "Is my mother allowed to visit me tonight?"
3. "Those boys are so cute. I hope their room is next to mine!"
4. "I am scared about being here. Can you stay with me awhile?"

15. A nurse must consider a child's cognitive level of development when providing preoperative teaching. At which stage of Piaget's cognitive theory should the nurse anticipate a child will experience the greatest fear of surgery?

1. Sensorimotor
2. Preoperational

- 3. Formal operational
- 4. Concrete operational

16. After a child's visit to a health care provider, a parent tells the nurse, "I am very upset. An antidepressant was prescribed for my child." What is the nurse's **best** response?

- 1. "Tell me more about what's bothering you."
- 2. "Weren't you told why your child needs an antidepressant?"
- 3. "You need to speak with the health care provider about your concern."
- 4. "Are you sure it's an antidepressant and not a drug for attention deficit disorder?"

17. A nurse greets a client who had been experiencing delusions of persecution and auditory hallucinations by saying, "Good evening. How are you?" The client, who has been referring to himself as "man," answers, "The man is bad." Of what is this an example?

- 1. Dissociation
- 2. Transference
- 3. Displacement
- 4. Identification

18. A client with a diagnosis of borderline personality disorder has negative feelings toward the other clients on the unit and considers them all to be "bad." Which defense was the client using when this statement was made?

- 1. Splitting
- 2. Ambivalence
- 3. Passive aggression
- 4. Reaction formation

19. In response to a question posed during a group meeting, the nurse explains that the superego is that part of the self that says:

- 1. "I like what I want."
- 2. "I want what I want."
- 3. "I should not want that."
- 4. "I can wait for what I want."

20. Incidents of child molestation often are revealed years later when the victim is an adult. Which defense mechanism reflects this situation?

- 1. Isolation
- 2. Repression
- 3. Regression
- 4. Introjection

21. A client with diabetes mellitus is able to discuss in detail the diabetic metabolic process while eating a piece of chocolate cake. What defense mechanism does the nurse identify when evaluating this behavior?

- 1. Projection
- 2. Dissociation
- 3. Displacement
- 4. Intellectualization

22. An older adult tells the nurse, "I regret many of the choices I have made during my life." Which of Erikson's developmental conflicts does the nurse identify that the client has probably failed to accomplish?

- 1. Ego integrity versus despair

- 2. Identity versus role confusion
- 3. Generativity versus stagnation
- 4. Autonomy versus shame and doubt

23. A client states, "I get down on myself when I make a mistake." When a cognitive therapy approach is used, which nursing interventions are **most** appropriate? **Select all that apply.**

- 1. Teaching the client relaxation exercises to diminish stress
- 2. Exploring with the client past experiences that caused distress
- 3. Providing the client with mastery experiences to boost self-esteem
- 4. Encouraging the client to replace negative thoughts with positive thoughts
- 5. Helping the client to modify the belief that anything less than perfection is unacceptable

24. A psychiatric unit uses a behavioral approach to determine a client's level of privileges. Which factor should a nurse use to determine an increase in privileges?

- 1. Statements that the depression is lifting
- 2. An improvement in short-term memory
- 3. Performing hygiene activities independently
- 4. Verbalizing a desire to change the response to stress

25. A nurse is teaching a class about child abuse. What defense mechanism **most** often used by the physically abusive individual should the nurse include?

- 1. Repression
- 2. Transference
- 3. Manipulation
- 4. Displacement

26. A nurse is planning to teach a client about self-care. What level of anxiety will **best** enhance the client's learning abilities?

- 1. Mild
- 2. Panic
- 3. Severe
- 4. Moderate

27. A client is scheduled for several diagnostic studies. Which behavior **best** indicates to the nurse that the client has received adequate preparation?

- 1. Requests that the tests be reexplained
- 2. Checks the appointment card repeatedly
- 3. Arrives early and waits quietly to be called for the tests
- 4. Paces up and down the hallway the morning of the tests

28. Before discharge of an anxious client, the nurse should teach the family that anxiety can be recognized as:

- 1. a totally unique feeling.
- 2. fears specifically related to the total environment.
- 3. consciously motivated actions, thoughts, and wishes.
- 4. a pattern of emotional and behavioral responses to stress.

29. What should a nurse conclude that a client is doing when using the defense mechanism of sublimation?

- 1. Acting out in reverse something already done or thought
- 2. Returning to an earlier, less mature stage of development
- 3. Channeling unacceptable impulses into socially approved behavior

4. Excluding from consciousness thoughts that are psychologically disturbing

The Practice of Mental Health/Psychiatric Nursing

- ▶30. Among members of the nursing team, which functions are registered nurses legally permitted to perform in a mental health hospital? **Select all that apply.**
1. Psychotherapy
 2. Health promotion
 3. Case management
 4. Prescribing medication
 5. Treating human responses
31. A health care provider orders “Restraints prn” for a client who has a history of violent behavior. What is the nurse’s responsibility concerning this order?
1. Ask that the order indicate the type of restraint.
 2. Recognize that prn orders for restraints are unacceptable.
 3. Implement the restraint order when the client begins to act out.
 4. Ensure that the entire staff is aware of the order for the restraint.
32. A client on the psychiatric unit asks a nurse about psychiatric advance directives (PADs). What information should form the basis of the nurse’s response?
1. The appointment of a surrogate decision maker is unnecessary.
 2. A client is permitted to dictate what treatments will be given during future hospitalizations.
 3. The need for involuntary admissions is eliminated when a client is a threat to self or others.
 4. A client is allowed to consent or refuse potential psychiatric treatments if a future incapacitating mental health crisis occurs.
33. Which statement **best** describes the practice of psychiatric nursing?
1. Helps people with present or potential mental health problems
 2. Ensures clients’ legal and ethical rights by being a client advocate
 3. Focuses interpersonal skills on people with physical or emotional problems
 4. Acts in a therapeutic way with people who are diagnosed as having a mental disorder
34. A physician is admitted to the psychiatric unit of a community hospital. The client, who was restless, loud, aggressive, and resistive during the admission procedure, states, “I will take my own blood pressure.” What is the nurse’s **most** therapeutic response?
1. “Right now you are just another client.”
 2. “If you would rather, I’m sure you will do it correctly.”
 3. “I will get the attendants to assist me if you do not cooperate.”
 4. “I am sorry, but I cannot allow that because I must take your blood pressure.”
35. What is the **most** difficult initial task when developing a nurse-client relationship?
1. Remaining therapeutic and professional
 2. Being able to understand and accept a client’s behavior
 3. Developing an awareness of self and the professional role in the relationship
 4. Accepting responsibility for identifying and evaluating the real needs of a client
36. A parent of a 13-year-old adolescent who was recently diagnosed with Hodgkin disease tells a nurse, “I don’t want my child to know the diagnosis.” How should the nurse respond?
1. “It is best if your child knows the diagnosis.”
 2. “Did you know the cure rate for Hodgkin disease is high?”
 3. “Would you like someone with Hodgkin disease to talk with you?”
 4. “Let’s talk about your feeling regarding your child’s diagnosis.”

37. A male nurse is caring for a client. The client states, "You know, I've never had a male nurse before." What is the nurse's **best** reply?

1. "Does it bother you to have a male nurse?"
2. "How do you feel about having a male nurse?"
3. "There aren't many male nurses. We are a minority."
4. "You sound upset. I will get a female nurse to care for you."

38. A nurse reminds a client that it is time for group therapy. The client responds by yelling at the nurse, "You are always telling me what to do, just like my father!" What defense mechanism is the client using?

1. Regression
2. Transference
3. Reaction formation
4. Cognitive distortion

39. What is the **most** important tool a nurse brings to the therapeutic nurse-client relationship?

1. Oneself and a desire to help
2. Knowledge of psychopathology
3. Advanced communication skills
4. Years of experience in psychiatric nursing

40. A Latino client with schizophrenia is admitted to a mental health unit in an aggravated and disheveled state after failing to take prescribed medications for the last 5 days. When developing a plan of care that incorporates the client's cultural background, the nurse gives **priority** to:

1. socioeconomic considerations regarding hospitalization.
2. the meaning and attention the client places on the future.
3. the client's need to control care to ensure desired outcomes.
4. inclusion of the family in the plan of care with the client's permission.

▶41. A family member brings a relative to the local community hospital because the relative "has been acting strange." Which statements meet involuntary hospitalization criteria? **Select all that apply.**

1. "I cry all the time, I am so sad."
2. "Since I retired I have been so depressed."
3. "I would like to end it all with sleeping pills."
4. "Voices say it is okay for me to kill all prostitutes."
5. "My boss makes me so angry by always picking on me."

42. A nurse encourages a client to join a self-help group after being discharged from a mental health facility. What is the purpose of having people work in a group?

1. Support
2. Confrontation
3. Psychotherapy
4. Self-awareness

43. As depression begins to lift, a client is asked to join a small discussion group that meets every evening on the unit. The client is reluctant to join because "I have nothing to talk about." What is the **best** response by the nurse?

1. "Maybe tomorrow you will feel more like talking."
2. "Could you start off by talking about your family?"
3. "A person like you has a great deal to offer the group."
4. "You feel you will not be accepted unless you have something to say?"

44. During a group meeting a client tells everyone, "I am afraid of my impending discharge from the hospital." What is the **most** appropriate response by the nurse facilitator?

1. "You ought to be happy that you're leaving."
2. "Maybe you're not ready to be discharged yet."
3. "Maybe others in the group have similar feelings that they would share."
4. "How many in the group feel that this member is ready to be discharged?"

45. At a group therapy session a client tearfully tells the other members, "I just lost my job this week." What is the nurse leader's **most** appropriate response?

1. Ask the client to consider the reasons this may have occurred.
2. Quietly observe how the group responds to the client's statement.
3. Gently suggest that the client check the help-wanted advertisements in the local paper.
4. Request that the group help the client reflect on how the dismissal may have been prevented.

46. A 44-year-old client is unable to function since her husband asked for a divorce 2 weeks ago. She is brought to the crisis intervention center by a friend. What type of crisis reflects this situation?

1. Social
2. Situational
3. Maturational
4. Developmental

47. A client with the diagnosis of paranoid schizophrenia throws a chair across the room and starts screaming at the other clients. Several of these clients have frightened expressions, one starts to cry, and another begins to pace. A nurse removes the agitated client from the room. What should the nurse remaining in the room do next?

1. Continue the unit's activities as if nothing happened.
2. Arrange a unit meeting to discuss what just happened.
3. Refocus clients' negative comments to more positive topics.
4. Have a private talk with the clients who cried or started to pace.

48. A client with a history of violence is becoming increasingly agitated. Which nursing intervention will **most** likely increase the risk of acting out behavior?

1. Being assertive
2. Responding early
3. Providing choices
4. Teaching relaxation

49. A client is diagnosed with a borderline personality disorder. What is a realistic **initial** intervention for this client?

1. Establish clear boundaries.
2. Explore job possibilities with the nurse.
3. Initiate discussion of feelings of being victimized.
4. Spend one hour twice a day discussing problems with the nurse.

50. A nurse is aware that a co-worker's mother died 16 months ago. The co-worker cries every time someone says the word "mother" or if the mother's name is mentioned. What does the nurse conclude about this behavior?

1. It is an expected response.
2. Most people cry when their mother dies.
3. The co-worker may need help with grieving.
4. The co-worker was extremely attached to the mother.

51. A nurse educator is leading a class on supporting middle-aged adults who are experiencing midlife crisis. What should the nurse include as the **most** significant factor in the development of this type of crisis?

1. The perception of their life situation
2. Many role changes that alter their experiences at this time
3. The anticipation of negative changes associated with old age
4. Lack of support from family members who are busy with their own lives

52. What is the **priority** goal when planning care for a client in crisis?

1. Referring the client for occupational therapy
2. Restoring the client's psychologic equilibrium
3. Scheduling the client for follow-up counseling
4. Having the client gain insight into the problem

►53. An adult who has been in a gay relationship for 3 years arrives at the emergency department in a near panic state. The client states, "My partner just left me. I am a wreck." What should the nurse do to help the client cope with this loss? **Select all that apply.**

1. Identify the client's support systems.
2. Explore the client's psychotic thoughts.
3. Reinforce the client's current self-image.
4. Encourage the client to talk about the situation.
5. Suggest that the client explore personal sexual attitudes.

►54. Which approaches should a nurse use during crisis intervention? **Select all that apply.**

1. Active
2. Passive
3. Reflective
4. Interpretative
5. Goal-directed

55. Which is the **most** important assessment data for a nurse to gather from the client in crisis?

1. The client's work habits
2. Any significant physical health data
3. A history of emotional problems in the family
4. The client's perception of the circumstances surrounding the crisis

56. An extremely anxious client enters a crisis center and asks a nurse for help. Which response **best** reflects the nurse's role in crisis intervention?

1. "Tell me what you have done to help yourself."
2. "I will be here for you to help you figure things out."
3. "I understand that in the past you have had problems."
4. "Tell me about the things that are bothering you the most."

►57. When assisting clients to cope with a crisis, the health care provider should follow the principles of intervention. Place the following interventions in order of their priority.

1. _____ Stabilize the client.
2. _____ Intervene immediately.
3. _____ Encourage self-reliance.
4. _____ Use the available resources.
5. _____ Facilitate understanding of the event.

58. A child in the first grade is murdered, and counseling is planned for the other children in the

school. What should a nurse identify **first** before assessing a child's response to a crisis?

1. Developmental level of the child
2. Quality of the child's peer relationships
3. Child's perception of the crisis situation
4. Child's communication patterns with family members

59. What is an initial client objective in relation to anger management?

1. Expressing remorse over aggressive actions
2. Taking responsibility for the hostile behavior
3. Developing alternative methods to release feelings
4. Teaching others how to avoid triggering the angry behavior

60. A nurse leads an assertiveness training program for a group of clients. Which client statement demonstrates that the treatment has been effective?

1. "I know I should put the needs of others before mine."
2. "I won't stand for it, so I told my boss he's a jerk and to get off my back."
3. "It annoys me when people call me 'Dearie,' so I told him not to do it anymore."
4. "It is easier for me to agree up front and then just do enough so that no one notices."

61. A nurse is working with a married woman who has come to the emergency department several times with injuries that appear to be related to domestic violence. While talking with the nurse manager, a nurse expresses disgust that the woman returns to the same situation. What is the nurse manager's **best** response?

1. "She must not have the financial resources to leave her husband."
2. "Most women attempt to leave about six times before they are able to do so."
3. "There is nothing the staff can do because people are free to choose their own life."
4. "These women should be told how foolish they are to remain in their current situation."

62. What is the **most** important information a nurse should teach to prevent relapse in a client with a psychiatric illness?

1. Develop close support systems
2. Create a stress-free environment
3. Refrain from activities that cause anxiety
4. Follow the prescribed medication regimen

63. A depressed client has been prescribed a tricyclic antidepressant. How long should the nurse inform the client it will take before noticing a significant change in the depression?

1. 4 to 6 days
2. 2 to 4 weeks
3. 5 to 6 weeks
4. 12 to 16 hours

64. A nurse is teaching clients about dietary restrictions when taking a monoamine oxidase inhibitor (MAOI). What response does the nurse tell them to anticipate if they do not follow these restrictions?

1. Occipital headaches
2. Generalized urticaria
3. Severe muscle spasms
4. Sudden drop in blood pressure

65. A client is receiving lithium. What is an important nursing intervention while this medication is being administered?

1. Restrict the client's daily sodium intake.

2. Test the client's urine specific gravity weekly.
 3. Monitor the client's drug blood level regularly.
 4. Withhold the client's other medications for several days.
66. A client in the hyperactive phase of a mood disorder, bipolar type, is receiving lithium. A nurse identifies that the client's lithium blood level is 1.8 mEq/L. What is the **most** appropriate nursing action?
1. Continue the usual dose of lithium and note any adverse reactions.
 2. Discontinue the drug until the lithium serum level drops to 0.5 mEq/L.
 3. Ask the health care provider to increase the dose of lithium because the blood lithium level is too low.
 4. Hold the drug and notify the health care provider immediately because the blood lithium level may be toxic.
67. A nurse administers an antipsychotic to a client. For which **common** manageable side effect should the nurse assess the client?
1. Jaundice
 2. Melanocytosis
 3. Drooping eyelids
 4. Unintentional tremors
68. What medication should the nurse expect to administer to actively reverse the overdose sedative effects of benzodiazepines?
1. Lithium
 2. Flumazenil
 3. Methadone
 4. ChlorproMAZINE
69. A nurse is caring for a client who abruptly withdrew from barbiturate use. What should the nurse anticipate that the client may experience?
1. Ataxia
 2. Seizures
 3. Diarrhea
 4. Urticaria
70. Chlordiazepoxide (Librium) 100 mg PO per hour is prescribed for a client with a Clinical Institute Withdrawal Assessment (CIWA) score of 25. The client had 300 mg in 3 hours and is still displaying acute alcohol withdrawal symptoms. What is the next nursing action?
1. Inform the client that the limit of chlordiazepoxide has been reached.
 2. Administer chlordiazepoxide as indicated by the client's CIWA score.
 3. Request a prescription for another medication to replace the chlordiazepoxide.
 4. Inform the health care provider that the maximum dose of chlordiazepoxide has been reached.
71. A client with schizophrenia who has type II (negative) symptoms is prescribed risperidone (Risperdal). Which outcomes indicate that the medication has minimized these symptoms? **Select all that apply.**
1. There is less agitation.
 2. There are fewer delusions.
 3. There is more interest shown in unit activities.
 4. The client reports that the hallucinations have stopped.
 5. The client performs activities of daily living independently.

72. A client with a diagnosis of schizophrenia is discharged from the hospital. At home the client forgets to take the medication, is unable to function, and must be rehospitalized. What medication may be prescribed that can be administered on an outpatient basis every 2 to 3 weeks?

1. Lithium
2. Diazepam
3. Fluvoxamine
4. Fluphenazine

73. A client is scheduled for a 6-week electroconvulsive therapy (ECT) treatment program. What intervention is important during the 6-week course of treatment?

1. Provision of tyramine-free meals
2. Avoidance of exposure to the sun
3. Maintenance of a steady sodium intake
4. Elimination of benzodiazepines for nighttime sedation

74. Imipramine (Tofranil), 75 mg three times per day, is prescribed for a client. What nursing action is appropriate when administering this medication?

1. Tell the client that barbiturates and steroids will not be prescribed.
2. Warn the client not to eat cheese, fermenting products, and chicken liver.
3. Monitor the client for increased tolerance and report if the dosage is no longer effective.
4. Have the client checked for increased intraocular pressure and teach about symptoms of glaucoma.

75. A health care provider prescribes haloperidol (Haldol) for a client. What should the nurse teach the client to avoid while taking this medication?

1. Driving at night
2. Staying in the sun
3. Ingesting aged cheeses
4. Taking medications containing aspirin

76. A nurse is evaluating the medication regimens of a group of clients to determine whether the therapeutic level has been achieved. For which medication should the nurse review the client's serum blood level?

1. Sertraline (Zoloft)
2. Lorazepam (Ativan)
3. Olanzapine (Zyprexa)
4. Valproic acid (Depakene)

77. A client with depression is to receive fluoxetine (Prozac). What precaution should the nurse consider when initiating treatment with this drug?

1. It must be given with milk and crackers to avoid hyperacidity and discomfort.
2. Eating cheese or pickled herring or drinking wine may cause a hypertensive crisis.
3. Blood levels may not be sufficient to cause noticeable improvement for 2 to 4 weeks.
4. Blood levels should be obtained weekly for 3 months to monitor for appropriate levels.

78. A client with type 1 diabetes is diagnosed with a psychosis and is to receive haloperidol (Haldol). Which response should a nurse anticipate with this drug combination?

1. Depressed respirations
2. Intensified action of both drugs
3. Decreased control of the diabetes
4. Increased danger of extrapyramidal side effects

79. In conjunction with which classification of medication are trihexyphenidyl, biperiden (Akineton),

or benztropine (Cogentin) often prescribed?

1. Anxiolytics
2. Barbiturates
3. Antipsychotics
4. Antidepressants

80. A nurse is educating a client who is taking clozapine (Clozaril) for paranoid schizophrenia. What should the nurse emphasize about the side effects of clozapine?

1. Risk for falls
2. Inability to sit still
3. Increase in temperature
4. Dizziness upon standing

81. A nurse is teaching clients in a medication education group about side effects of medications. Which drug will cause a heightened skin reaction to sunlight?

1. Lithium
2. Sertraline
3. Methylphenidate
4. Chlorpromazine

82. A primary nurse observes that a client has become jaundiced after 2 weeks of antipsychotic drug therapy. The primary nurse continues to administer the antipsychotic until the health care provider can be consulted. What does the nurse manager conclude concerning this situation?

1. Jaundice is sufficient reason to discontinue the antipsychotic.
2. The blood level of antipsychotics must be maintained once established.
3. Jaundice is a benign side effect of antipsychotics that has little significance.
4. The prescribed dose for the antipsychotic should have been reduced by the nurse.

83. A client has been receiving fluphenazine for several months. For which side effects should the nurse assess the client? **Select all that apply.**

1. Tremors
2. Excess salivation
3. Rambling speech
4. Reluctance to converse
5. Minimal use of nonverbal expression
6. Uncoordinated movement of extremities

84. A client with chronic undifferentiated schizophrenia is receiving an antipsychotic medication. For which potentially irreversible extrapyramidal side effect should a nurse monitor the client?

1. Torticollis
2. Oculogyric crisis
3. Tardive dyskinesia
4. Pseudoparkinsonism

85. A monoamine oxidase inhibitor (MAOI) is prescribed. What should the nurse include in the teaching plan about what to avoid when taking this drug?

1. Ingesting aged cheeses
2. Prolonged exposure to the sun
3. Engaging in active physical exercise
4. Over-the-counter antihistamine drugs

86. A client has been receiving escitalopram (Lexapro) for treatment of a major depressive episode.

On the fifth day of therapy the client refuses the medication stating, “It doesn’t help, so what’s the use of taking it?” What is the nurse’s **best** response?

1. “Sometimes it takes 1 to 4 weeks to see an improvement.”
2. “It takes 6 to 8 weeks for this medication to have an effect.”
3. “I’ll talk to your health care provider about increasing the dose. That may help.”
4. “You should have felt a response by now. I’ll notify your health care provider immediately.”

87. A client is receiving doxepin (Silenor). For which **most** dangerous side effect of tricyclic antidepressants should a nurse monitor the client?

1. Mydriasis
2. Dry mouth
3. Constipation
4. Urinary retention

88. A client with schizophrenia is actively psychotic, and a new medication regimen is prescribed. A student nurse asks the primary nurse, “Which of the prescribed medications will be **most** helpful for reducing psychotic signs and symptoms?” What should the nurse respond?

1. Citalopram (Celexa)
2. Ziprasidone (Geodon)
3. Benztropine (Cogentin)
4. Acetaminophen with hydrocodone (Lortab)

89. A client with a psychosis is receiving olanzapine (Zydis). What is important for a nurse to consider when administering this drug?

1. It can be given intramuscularly.
2. A special tyramine-free diet is required.
3. It dissolves instantly after oral administration.
4. An empty stomach increases its effectiveness.

90. Antipsychotic drugs can cause extrapyramidal side effects. Which responses should the nurse document as indicating pseudoparkinsonism? **Select all that apply.**

1. Rigidity
2. Tremors
3. Mydriasis
4. Photophobia
5. Bradykinesia

91. A client with schizophrenia is taking benztropine (Cogentin) in conjunction with an antipsychotic. The client tells a nurse, “Sometimes I forget to take the Cogentin.” What should the nurse teach the client to do if this happens again?

1. Use 2 pills at the next regularly scheduled dose.
2. Notify the health care provider about the missed dose immediately.
3. Take a dose as soon as possible, up to 2 hours before the next dose.
4. Skip the dose, and then take the next regularly scheduled dose 2 hours early.

92. Olanzapine (Zyprexa) is prescribed for a client with bipolar disorder, manic episode. What cautionary advice should the nurse give the client?

1. Sit up slowly.
2. Report double vision.
3. Expect increased salivation.
4. Take the medication on an empty stomach.

►93. Neuroleptic malignant syndrome is a potentially fatal reaction to antipsychotic therapy. What signs and symptoms of this syndrome should the nurse identify? **Select all that apply.**

1. Jaundice
2. Diaphoresis
3. Hyperrigidity
4. Hyperthermia
5. Photosensitivity

►94. Olanzapine (Zyprexa) is prescribed for a client who experienced agranulocytosis from Clozapine (Clozaril). Which statements indicate that the nurse's teaching about olanzapine has been effective? **Select all that apply.**

1. "I need to be careful that I do not gain too much weight."
2. "I should be careful so I don't nick myself when I shave."
3. "This medication should help me enjoy pleasurable activities."
4. "I will have to remember to take my benztropine (Cogentin)."
5. "Restlessness can occur when I am taking this medication."

►95. A client is admitted to the acute medical unit for severe amphetamine intoxication. Which medications should a nurse anticipate will be prescribed to counteract the effects of stimulant intoxication? **Select all that apply.**

1. Diazepam
2. Propranolol
3. Benztropine
4. BuPROPion
5. Amitriptyline

96. A client with mild Alzheimer disease has been taking galantamine (Razadyne), and the health care provider prescribes paroxetine (Paxil) for depression. For what effect should a nurse assess the client when these medications are taken concurrently?

1. Allergic
2. Dystonic
3. Additive
4. Extrapiramidal

Nursing Care of Clients with Disorders Usually First Evident in Infancy, Childhood, or Adolescence

97. A nurse is caring for a preschool-age child with a history of physical and sexual abuse. What is the **most** advantageous therapy for this child?

1. Play
2. Group
3. Family
4. Psychodrama

98. A 3-year-old child is diagnosed with autism. Which behaviors should the nurse expect when assessing this child? **Select all that apply.**

1. Imitates others.
2. Seeks physical contact.
3. Avoids eye-to-eye contact.
4. Engages in cooperative play.
5. Performs repetitive activities.
6. Displays interest in children rather than adults.

99. A nurse uses behavior modification to foster toilet training efforts in a cognitively impaired child. What reward should the nurse provide to reinforce appropriate use of the toilet?

1. Candy bar
2. Piece of fruit
3. Hug with praise
4. Choice of rewards

100. A nurse is planning care for a group of hospitalized children. Which age group does the nurse anticipate will have the **most** problem with separation anxiety?

1. 12 to 18 years
2. 5 to 11½ years
3. 6 to 30 months
4. 36 to 59 months

101. A nurse considers that autism is a form of a pervasive developmental disorder (PDD). Which factor unique to autism differentiates it from other forms of PDD?

1. Has less severe linguistic handicaps
2. Has an early onset before 36 months of age
3. Is the only form that does not include seizures
4. Is the only form that does not include mental retardation

102. What is the prognosis for a normal productive life for a child diagnosed with autism?

1. Dependent on an early diagnosis
2. Often related to the child's overall temperament
3. Ensured as long as the child attends a school tailored to meet needs
4. Unlikely because of interference with so many parameters of functioning

103. For what **most** common characteristic of autism should a nurse assess a child suspected of having this disorder?

1. Responds to any stimulus.
2. Responds to physical contact.

3. Seems unresponsive to the environment.

4. Interacts with children rather than adults.

104. A nurse is assessing a child suspected of having autism. At what age does the nurse determine that the signs of autism **initially** may be evident?

1. 2 years of age

2. 6 years of age

3. 6 months of age

4. 1 to 3 months of age

105. For which clinical indication should a nurse observe a child suspected of being autistic?

1. Lack of eye contact

2. Crying for attention

3. Catatonic-like rigidity

4. Engaging in parallel play

106. A 6-year-old child with autism is nonverbal and has limited eye contact. What should a nurse do **initially** to promote social interaction?

1. Encourage the child to sing songs with the nurse.

2. Engage in parallel play while sitting next to the child.

3. Provide opportunities for the child to play with other children.

4. Use therapeutic holding when the child does not respond to verbal interactions.

107. A 10-year-old child who was diagnosed with autism at the age of 3 attends a school for developmentally disabled children and lives with the parents. The child has frequent episodes of self-biting behavior, banging the head, and needing help with feeding and toileting. The **priority** nursing goal for this child is “The child will:

1. control repetitive behaviors.”

2. be able to feed independently.”

3. remain safe from self-inflicted injury.”

4. develop control of urinary elimination.”

108. When planning activities for a child with autism, the nurse considers that autistic children respond **best** to:

1. loud, cheerful music.

2. large-group activities.

3. individuals in small groups.

4. their own self-stimulating acts.

109. A nurse is interviewing a child with attention deficit disorder. For which major characteristic should the nurse assess this child?

1. Overreaction to stimuli

2. Continued use of rituals

3. Delayed speech development

4. Inability to use abstract thought

110. A nurse is teaching parents of a child with attention deficit hyperactivity disorder (ADHD). What should the nurse include as the **most** frequently prescribed medication for this disorder?

1. Lorazepam (Ativan)

2. Haloperidol (Haldol)

3. Methylphenidate (Ritalin)

4. Methocarbamol (Robaxin)

111. A hyperactive 9-year-old child with a history of attention deficit hyperactivity disorder (ADHD) is admitted for observation after a motor vehicle collision. What should be the focus of nursing actions when teaching about personal safety?

1. Requesting that the child write at least three safety rules
2. Asking the child to verbalize as many safety rules as possible
3. Talking with the child about the importance of using a seat belt
4. Encouraging the child to talk with other children about their opinions of safety rules

▶112. A 4-year-old child is diagnosed with attention deficit hyperactivity disorder (ADHD). What information about the child's behavior should the nurse expect when obtaining a health history from the parents? **Select all that apply.**

1. Is impulsive
2. Talks excessively
3. Is spiteful and vindictive
4. Annoys others deliberately
5. Plays video games for hours
6. Does not follow through or finish tasks

113. A nurse is counseling the family of a child with school phobia. What should the parents be taught to do?

1. Accompany the child to the classroom
2. Return the child to school immediately
3. Instruct the child as to why school attendance is necessary
4. Allow the child to enter the classroom before other children

114. What childhood problem has legal as well as emotional aspects and cannot be ignored?

1. School phobias
2. Fear of animals
3. Fear of monsters
4. Sleep disturbances

115. The parent of a child with a tentative diagnosis of attention deficit hyperactivity disorder (ADHD) arrives at the pediatric clinic insisting on receiving a prescription for medication that will control the child's behavior. What is the nurse's **best** response?

1. "It must be frustrating to deal with your child's behavior."
2. "Have you considered any alternatives to using medication?"
3. "Perhaps you are looking for an easy solution to the problem."
4. "Let me teach you about the side effects of medications used for ADHD."

116. A nurse anticipates that children with attention deficit hyperactivity disorder (ADHD) may be learning-disabled. This means that these children:

1. will probably not be self-directed learners.
2. have intellectual deficits that interfere with learning.
3. experience perceptual difficulties that interfere with learning.
4. are performing usually two grade levels below their age norm.

117. A nurse is teaching the parents of a child with attention deficit hyperactivity disorder (ADHD) about the prescribed medication methylphenidate (Ritalin). What time should the daily dose be administered?

1. Before breakfast
2. Just after breakfast

3. Immediately before lunch
4. As soon as the child awakens

118. A child is diagnosed with attention deficit hyperactivity disorder (ADHD). What is a strategy that the nurse should teach the parents to assist in coping with this disorder?

1. Orient the child to reality.
2. Reward appropriate conduct.
3. Suppress feelings of frustration.
4. Use restraints when behavior is out of control.

119. An 8-year-old child is diagnosed with oppositional defiant disorder. What behavior should the nurse identify that supports this diagnosis?

1. Is easily distracted
2. Argues with adults
3. Lies to obtain favors
4. Initiates physical fights

120. An adolescent with the diagnosis of conduct disorder since the age of 9 is placed in a residential facility. The adolescent has a history of fighting, stealing, vandalizing property, and running away from home. The adolescent is aggressive, has no friends, and has been suspended from school repeatedly. What is the nurse's **priority** when developing a plan of care?

1. Preventing violence
2. Encouraging insight
3. Supporting self-esteem
4. Promoting social interaction

121. A nurse works with school-age children who have a conduct disorder, childhood-onset type. The nurse considers that these children are at risk for progressing to an additional disorder during adolescence. For signs of which disorder should the nurse assess their present behavior?

1. Oppositional defiant
2. Antisocial personality
3. Pervasive developmental
4. Attention deficit hyperactivity

▶122. A child with attention deficit hyperactivity disorder (ADHD) often becomes frustrated and loses control. A nurse uses a variety of graduated techniques to manage disruptive behaviors. List the following interventions in order from the **least** invasive to the **most** invasive technique.

1. _____ Placing the child in a time-out
2. _____ Monitoring behavior for cues of rising anxiety
3. _____ Using a signal to remind the child to use self-control
4. _____ Avoiding situations that usually precipitate frustration
5. _____ Refocusing the child's behavior with a specific directive

123. An adolescent with a conduct disorder is receiving behavioral therapy to attempt to limit activities that violate societal norms. A specific outcome criterion unique for adolescents with this problem is "The client will:

1. exhibit increased impulse control."
2. identify two positive personal attributes."
3. demonstrate respect for the rights of others."
4. use age-appropriate play activities with at least one peer."

Nursing Care of Clients with Disorders Related to Alterations in Cognition and Perception

124. A nurse is conducting a mini-mental status examination on an older client. What should the nurse ask the client to do when testing short-term memory?

1. Subtract serial 7s from 100.
2. Copy one simple geometric figure.
3. State three random words mentioned earlier in the exam.
4. Name two common objects when the nurse points to them.

125. A nurse is teaching a client and family about the characteristics of dementia of the Alzheimer type. What characteristic should the nurse include?

1. Periodic exacerbations
2. Aggressive acting-out behavior
3. Hypoxia of selected areas of brain tissue
4. Areas of brain destruction called senile plaques

126. A client with dementia has been cared for by the spouse for 5 years. During the last month the client has become agitated and aggressive and is incontinent of urine and feces. What is the **priority** nursing care while this client is in an inpatient mental health facility?

1. Managing the behavior
2. Preventing further deterioration
3. Focusing on the needs of the spouse
4. Establishing an elimination retraining program

127. Which nursing intervention is **most** helpful in meeting the needs of an older adult with the diagnosis of dementia of the Alzheimer type?

1. Providing nutritious foods high in carbohydrates and proteins
2. Offering opportunities for choices in the daily schedule to stimulate interest
3. Developing a consistent plan with fixed time schedules to provide for emotional needs
4. Simplifying the environment as much as possible and eliminating the need for decisions and choices

128. When attempting to assess the behavior of an older adult diagnosed with vascular dementia, a nurse considers that the client probably is:

1. not capable of using any defense mechanisms.
2. using one method of defense for every situation.
3. making exaggerated use of old, familiar mechanisms.
4. attempting to develop new defense mechanisms to meet the current situation.

129. What should a nurse include in the plan of care for a client with vascular dementia?

1. A reeducation program
2. Details for supportive care
3. An introduction of new leisure-time activities
4. Plans for involvement in group therapy sessions

▶130. A nurse is assessing a client and attempting to distinguish between dementia and delirium. Which factors are unique to delirium? **Select all that apply.**

1. Slurred speech
2. Lability of mood

3. Long-term memory loss
4. Visual or tactile hallucinations
5. Insidious deterioration in cognition
6. Fluctuating levels of consciousness

131. A delirious client sees a design on the wallpaper and perceives it as an animal. How should a nurse communicate what the client perceived at the change of shift report?

1. A delusion
2. An illusion
3. A hallucination
4. An idea of reference

132. A nurse's **best** approach when caring for a confused, older client is to provide an environment with:

1. space for privacy.
2. group involvement.
3. trusting relationships.
4. activities that are varied.

133. An older adult on the mental health unit begins acting out while in the day room. What is a nurse's initial intervention?

1. Instruct the client to be quiet.
2. Allow the client to act out until fatigue sets in.
3. Give the client directions in a firm, low-pitched voice.
4. Guide the client from the room by gently holding the client's arm.

134.▶ A nurse is assessing an older adult with the diagnosis of dementia. Which manifestations are expected in this client? **Select all that apply.**

1. Resistance to change
2. Inability to recognize familiar objects
3. Preoccupation with personal appearance
4. Inability to concentrate on new activities or interests
5. Tendency to dwell on the past and ignore the present

135. When answering questions from the family of a client with Alzheimer disease, the nurse explains, "This disease is:

1. one that emerges in the fourth decade of life."
2. a slow and relentless deterioration of the mind."
3. functional in origin that occurs in the later years."
4. diagnosed through laboratory and psychologic tests."

▶136. A client in the early dementia stage of Alzheimer's disease is admitted to a long-term care facility. Which activities must the nurse initiate? **Select all that apply.**

1. Weigh the client once a week.
2. Have specialized rehabilitation equipment available.
3. Keep the client in pajamas and robe most of the day.
4. Establish a schedule with periods of rest after activities.
5. Review the client's weekly budget and use of community resources.
6. Set up a plan for weekly entertainment through a senior citizens group.

137. Nurses working with clients who have a diagnosis of dementia should adopt a common approach of care because these clients need to:

1. relate in a consistent manner to staff.
2. learn that the staff cannot be manipulated.
3. accept controls that are concrete and fairly applied.
4. have sameness and consistency in their environment.

138. A nurse is assessing a client with dementia. Which clinical manifestations are expected? **Select all that apply.**

1. Agitation
2. Pessimism
3. Short attention span
4. Disordered reasoning
5. Impaired motor activities

139. What is the **priority** nursing objective of the therapeutic psychiatric environment for a confused client?

1. Assist the client to relate to others.
2. Make the hospital atmosphere more home-like.
3. Help the client become accepted in a controlled setting.
4. Maintain the highest level of safe, independent functioning.

140. What is the **most** appropriate nursing intervention for clients who exhibit mild cognitive impairment?

1. Reality orientation
2. Behavioral confrontation
3. Reflective communication
4. Reminiscence group therapy

141. What are the four “As” for which nurses should assess clients suspected of having Alzheimer disease?

1. Amnesia, apraxia, agnosia, aphasia
2. Avoidance, aloofness, asocial, asexual
3. Autism, loose association, apathy, affect
4. Aggressive, amoral, ambivalent, attractive

142. An older adult is brought to the clinic by a family member because of increasing confusion over the past week. What can the nurse ask clients to assess their orientation to place?

1. Explain a proverb.
2. State where they were born.
3. Identify the name of the town.
4. Recall what they had eaten for breakfast.

143. A nurse is assigned to care for a regressed college student who has been talking to unseen people and refusing to get out of bed, go to class, or get involved in daily grooming activities. What is the nurse’s initial effort toward helping this client?

1. Providing frequent rest periods
2. Reducing environmental stimuli
3. Facilitating the client’s social relationships with a peer group
4. Attempting to establish a meaningful relationship with the client

▶144. A client diagnosed with schizophrenia is experiencing auditory hallucinations. A nurse makes the following statements when interacting with this client. Place these statements in the order in which they should occur.

1. _____ “I do not hear any voices.”
2. _____ “Come with me for a walk.”
3. _____ “Hearing voices must be frightening.”
4. _____ “The voices you hear are part of your illness.”
5. _____ “Let’s play cards with another client in the recreation room.”

145. A client with schizophrenia has a history of hearing voices that say, “You are a bad person.” While having a conversation with a nurse with whom the client has been working, the client states, “I am starting to hear the same voices again.” What is the nurse’s **best** response?

1. “Try to ignore the voices.”
2. “What are the voices saying to you?”
3. “Do you believe what the voices are saying?”
4. “Try not to be afraid because they are only voices.”

146. What should a nurse do when caring for a client whose behavior is characterized by pathologic suspicion?

1. Protect the client from environmental stress.
2. Help the client realize the suspicions are unrealistic.
3. Ask the client to explain the reasons for the feelings.
4. Help the client to feel accepted by the staff on the unit.

147. One evening a nurse finds a client who has been experiencing persecutory delusions trying to get out the door. The client states, “Please let me go. I trust you. The Mafia is going to kill me tonight.” Which response is **most** therapeutic?

1. “You are frightened. Come with me to your room, and we can talk about it.”
2. “Come with me to your room. I’ll lock the door, and no one will get in to harm you.”
3. “Nobody here wants to harm you, and you know that. I’ll come with you to your room.”
4. “Thank you for trusting me. Maybe you can trust me when I tell you no one will kill you here.”

148. A delusional client refuses to eat because of a belief that the food is poisoned. What is the **most** appropriate initial nursing intervention?

1. State that the food is not poisoned.
2. Taste the food in the client’s presence.
3. Show the client that other people are eating without being harmed.
4. Tell the client that tube feedings will be started if eating does not begin.

149. A client with schizophrenia is admitted to an acute care psychiatric unit. Which clinical findings indicate positive signs and symptoms associated with schizophrenia?

1. Withdrawal, poverty of speech, inattentiveness
2. Flat affect, decreased spontaneity, asocial behavior
3. Hypomania, labile mood swings, episodes of euphoria
4. Hyperactivity, auditory hallucinations, loose associations

150. An acutely ill client with the diagnosis of schizophrenia has just been admitted to the mental health unit. What is the **most** therapeutic initial nursing intervention?

1. Spend time with the client to build trust and demonstrate acceptance.
2. Involve the client in occupational therapy and use diversional activity.
3. Delay one-to-one client interactions until medications reduce the psychotic symptoms.
4. Involve the client in multiple small-group discussions to distract attention from the fantasy world.

151. A client with schizophrenia plans an activity schedule with the help of the treatment team. A written copy is posted in the client’s room. What should the nurse say when it is time for the client to

go for a walk?

1. "It's time for you to go for a walk now."
2. "Do you want to take your scheduled walk now?"
3. "When would you like to go for your walk today?"
4. "You are supposed to be going for your walk now."

152. During the admission procedure, a client appears to be responding to voices. The client cries out at intervals, "No, no, I didn't kill him. You know the truth; tell that police officer. Please help me!"

What is the nurse's **most** appropriate response?

1. Sit quietly and not respond to the client's statements.
2. Listen attentively and assume a facial expression of disbelief.
3. Respond by saying, "I want to help you. I realize you must be very frightened."
4. Say, "Do not become so upset. No one is talking to you; those voices are part of your illness."

153. A client is delusional, talking about people who are plotting to do harm. A nurse identifies that the client is pacing more than usual and is concerned that the client is beginning to lose control. What is the **best** nursing intervention?

1. Advise the client to use a punching bag.
2. Move the client to a quiet place on the unit.
3. Encourage the client to sit down for a while.
4. Allow the client to continue pacing with supervision.

154. A client with a history of schizophrenia attends the mental health clinic for a regularly scheduled group therapy session. The client arrives agitated and exhibits behaviors that indicates the hearing of voices. When a nurse begins to walk toward the client, the client pulls out a large knife. Which is the nurse's **best** approach?

1. Firm
2. Passive
3. Empathetic
4. Confrontational

155. While a nurse is talking with a client, another client comes up and yells, "I hate you! You're talking about me again," and throws a glass of juice at the nurse. What is the nurse's **best** response to this outburst?

1. Repeat the client's words and ask for clarification.
2. Remove the client from the room because limits must be placed on the behavior.
3. Ignore both the behavior and the client, clean up the juice, and talk with the client later.
4. Verbalize feelings of annoyance as an example to the client that it is more acceptable to verbalize feelings than to act them out.

156. As a nurse enters a room and approaches a client who has schizophrenia, the client states, "Get out of here before I hit you! Go away!" The nurse concludes that this aggressive behavior is probably related to the fact that the client felt:

1. that voices were directing the behavior.
2. trapped when the nurse walked into the room.
3. afraid of doing harm to the nurse if the nurse came closer.
4. that nurse was similar to someone who was previously frightening.

157. A client who experiences auditory hallucinations agrees to discuss alternative coping strategies with a nurse. For the next 3 days when the nurse attempts to focus on alternative strategies, the client gets up and leaves the interaction. What is the nurse's **most** therapeutic response?

1. "Come back; you agreed that you would discuss other ways to cope."
2. "You seem very uncomfortable every time I bring up a new way to cope."
3. "Did you agree to talk about other ways to cope because you thought that was what I wanted?"
4. "You walk out each time I start to discuss the hallucinations; does that mean you've changed your mind?"

158. What is a nurse's **most** appropriate action when a client is seen openly masturbating in the recreation room?

1. Restraining the client's hands
2. Putting the client in seclusion
3. Escorting the client out of the room
4. Teaching the client acceptable behavior

159. What should the nurse do to achieve a primary objective of providing a therapeutic daycare environment for a client who is withdrawn and reclusive?

1. Foster a trusting relationship.
2. Administer medications on time.
3. Involve the client in a group with peers.
4. Remove the client from the family home.

160. A client experiencing hallucinations tells a nurse, "The voices are telling me I'm no good." The client asks whether the nurse hears the voices. Which is the nurse's **most** appropriate response?

1. "No, I do not hear the voices, but I believe you can hear them."
2. "It is the voice of your conscience, which only you can control."
3. "Those voices are coming from within you; only you can hear them."
4. "Hearing the voices are a symptom of your illness; don't pay attention to them."

161. A nurse enters a client's room and identifies that the client appears preoccupied. Turning to the nurse, the client states, "They are saying terrible things about me. Can't you hear them?" What is the nurse's **most** therapeutic response?

1. "It seems you heard them before."
2. "Try to get control of your feelings."
3. "There is no one here but me, and I don't hear anything."
4. "I don't hear anyone else talking, but I can see you are upset."

162. A nurse observes a regressed, emotionally disturbed client using the hands to eat soft foods. What is the **best** nursing intervention?

1. Give the client a spoon and suggest it be used.
2. Say in a joking way, "Well, I guess fingers were made before forks."
3. Ignore the behavior and observe several additional meals before intervening.
4. Remove the food while saying, "You can't have any more until you use your spoon."

163. What clinical manifestation is the **most** serious indication of impending assaultive behavior by a client on a mental health unit?

1. Uses profane language
2. Touches people excessively
3. Exhibits a sudden withdrawal
4. Experiences command hallucinations

164. While watching TV in the day room, a client who has demonstrated withdrawn, regressed behavior suddenly screams, bursts into tears, and runs out of the room to the far end of the hallway. What is the **most** therapeutic action by the nurse?

1. Walk to the end of the hallway where the client is standing.
 2. Accept the action as being the impulsive behavior of a sick person.
 3. Ask another client in the day room why the client acted as she did.
 4. Document the incident in the client's record while the memory is fresh.
165. How should a nurse intervene when a regressed, emotionally disturbed client voids on the floor in the sitting room of the mental health unit?
1. Make the client mop the floor.
 2. Restrict the client's fluids for the rest of the day.
 3. Toilet the client more frequently with supervision.
 4. Withhold the client's privileges each time the client voids on the floor.
166. A regressed, emotionally disturbed client who has been watching a nurse for a few days suddenly walks up and shouts, "You think you're so damned perfect and good. I think you stink!" What is the nurse's **most** appropriate response?
1. "Do you mean I smell?"
 2. "You seem angry with me."
 3. "Boy, you're in a bad mood."
 4. "I can't be all that bad, can I?"
167. A client tells the nurse, "I am a terrible, evil person; the voices are telling me that God needs to punish me." What is the nurse's **most** therapeutic initial response?
1. "God is loving and will not punish you."
 2. "Those voices you are hearing are a fantasy."
 3. "Tell me what you are thinking about yourself."
 4. "You aren't wicked, since both God and I love you."
168. What is the **most** appropriate way for the nurse to help a withdrawn, emotionally disturbed adolescent client to accept the realities of daily living?
1. Assist the client to care for personal hygiene needs.
 2. Encourage the client to keep up with school studies.
 3. Persuade the client to join the other clients in group activities.
 4. Leave the client alone when there appears to be a disinterest in daily activities.
169. What is the **best** nursing intervention to encourage a withdrawn, noncommunicative client to talk?
1. Focus on nonthreatening subjects.
 2. Try to get the client to discuss feelings.
 3. Ask simple questions that require "yes" or "no" answers.
 4. Sit quietly while looking through magazines with the client.
170. What is an important aspect of nursing care for a client exhibiting psychotic patterns of thinking and behavior?
1. Help keep the client oriented to reality.
 2. Involve the client in activities throughout the day.
 3. Help the client understand that it is harmful to withdraw from situations.
 4. Encourage the client to discuss why interacting with other people is being avoided.
171. Why is observation an especially important aspect of nursing care for a withdrawn client?
1. It assists in confirming the client's diagnosis.
 2. It helps in understanding the client's behavior.
 3. The staff is informed about the client's illness.

4. The degree of the client's depression is indicated.

Nursing Care of Clients with Disorders Related to Anxiety and Alterations in Mood

172. A client's admitting history indicates signs of akathisia. What clinical finding should the nurse expect when assessing for akathisia?

1. Facial tics
2. Motor restlessness
3. Maintaining a body position for hours
4. Repeating the movements of another person

173. A client is diagnosed with generalized anxiety disorder. For what behavior should the nurse assess a client to determine the effectiveness of therapy?

1. Participates in activities
2. Learns how to avoid anxiety
3. Takes medication as prescribed
4. Identifies when anxiety is developing

174. A nurse is caring for a client with a generalized anxiety disorder. Which factor should be assessed to determine the client's present status?

1. Memory
2. Behavior
3. Judgment
4. Responsiveness

175. A client arrives at the mental health clinic disheveled, agitated, and demanding that the nurse "do something to end this feeling." What clinical manifestation is evident?

1. Feelings of panic
2. Suicidal tendencies
3. Narcissistic ideation
4. Demanding personality

176. A client's severe anxiety and panic are often considered to be "contagious." What action should be taken when a nurse's personal feelings of anxiety are increasing?

1. Refocus the conversation on some pleasant topics.
2. Say to the client, "Calm down. You are making me anxious, too."
3. Say, "Another staff member is coming in. I will leave and return later."
4. Remain quiet so that personal feelings of anxiety do not become apparent to the client.

177. In what situation should a nurse anticipate that a client will experience a phobic reaction?

1. Seeking attention from others
2. Thinking about the feared object
3. Coming into contact with the feared object
4. Being exposed to an unfamiliar environment

178. A nurse is interviewing a client with a phobia. Which treatment should the nurse inform the client has the highest success rate?

1. Insight therapy to determine the origin of the fear
2. Systematic desensitization using relaxation techniques
3. Psychotherapy aimed at rearranging psychotic thought processes
4. Psychoanalytic exploration of repressed conflicts of an earlier developmental phase

►179. An adult reports anxiety, palpitations, and a feeling of impending doom. After a thorough physical examination, the health care provider diagnoses a panic attack. Lorazepam (Ativan) 1.5 mg po stat is prescribed. The Ativan is available in 0.5 mg tablets. How many tablets should the nurse administer? **Record your answer using a whole number.**

Answer: _____ tablets

180. A nurse speaks with a client who just experienced a panic attack. Which statement is **most** therapeutic when addressing the client's concerns?

1. "I would have been upset, too."
2. "You are concerned that this might happen again."
3. "Episodes like this can be upsetting even though they do end."
4. "Your family must have thought you were having a heart attack."

►181. People who are involved in a bioterrorism attack exhibit immediate reactions to the traumatic event. Which responses can a nurse expect in survivors during the immediate period after a traumatic event? **Select all that apply.**

1. Guilt
2. Denial
3. Altruism
4. Confusion
5. Helplessness

182. The parents of an adolescent who is experiencing posttraumatic stress disorder have decided to care for their child at home. What is the **priority** intervention that the home health nurse must include in the plan of care?

1. Encourage the parents to keep their child within the home environment.
2. Help the parents identify their child's problems that cause them to be fearful.
3. Assist the parents to understand that their child may avoid emotional attachments.
4. Discuss with the parents their feelings of ambivalence about what their child is enduring.

183. A client with a general anxiety disorder says to the nurse, "What can I do to prevent overreacting to stress?" What is the nurse's **best** response?

1. "Hone your problem-solving skills."
2. "Improve your time management skills."
3. "Ignore situations that you cannot change."
4. "Develop a wide variety of coping strategies."

184.► What clinical findings may be expected when a nurse assesses an individual with an anxiety disorder? **Select all that apply.**

1. Worrying about a variety of issues
2. Acting out with antisocial behavior
3. Regressing to an earlier level of adjustment
4. Converting the anxiety into a physical symptom
5. Displacing the anxiety onto a less threatening object

185. How should a nurse expect a client's anxiety to be manifested physiologically?

1. Constricted pupils
2. Narrowed bronchioles
3. Decreased blood pressure
4. Increased blood glucose level

186. What is an appropriate way a nurse can help a client to decrease anxiety?

1. Avoid unpleasant events.
2. Prolong exposure to fearful situations.
3. Acquire skills with which to face stressful events.
4. Introduce an element of pleasure into fearful situations.

187. A client comes to a mental health center with severe anxiety evidenced by crying, wringing the hands, and pacing. What should be the **first** nursing intervention?

1. Stay physically close to the client.
2. Gently ask what is bothering the client.
3. Tell the client to try to relax by sitting quietly.
4. Involve the client in a nonthreatening activity.

188. A nurse considers that in a conversion disorder pseudoneurologic symptoms such as paralysis or blindness:

1. are unconscious methods for getting attention.
2. will subside if the client is helped to focus on getting healthy.
3. are generally necessary for the client to cope with a stressful situation.
4. will usually resolve when the client learns to cope with ongoing family conflicts.

189. An anxious client reports experiencing pain in the abdomen and feeling empty and hollow. A diagnostic workup reveals no physical causes of these clinical findings. What term **best** reflects what the client is experiencing?

1. Dissociation
2. Somatization
3. Stress response
4. Anxiety reaction

190. A client newly diagnosed with a conversion disorder is manifesting paralysis of a leg. The nurse can expect this client to:

1. demonstrate a spread of paralysis to other body parts.
2. require continuous psychiatric treatment to maintain independent functioning.
3. recover the use of the affected leg but, under stress, again develop similar symptoms.
4. follow an unpredictable emotional course in the future, depending on exposure to stress.

191. A nurse is caring for a client who has a diagnosis of conversion disorder with paralysis of the lower extremities. Which is the **most** therapeutic nursing intervention?

1. Encouraging the client to try to walk
2. Explaining to the client that there is nothing wrong
3. Avoiding focusing on the client's physical symptoms
4. Helping the client follow through with the physical therapy plan

192. What characteristic of anxiety is associated with a diagnosis of conversion disorder?

1. Free floating
2. Relieved by the symptom
3. Consciously felt by the client
4. Projected onto the environment

193. What characteristic uniquely associated with psychophysiologic disorders differentiates them from somatoform disorders?

1. Emotional cause
2. Feeling of illness
3. Restriction of activities

4. Underlying pathophysiology

194. A client believes that doorknobs are contaminated and refuses to touch them, except with a paper tissue. What nursing intervention is **most** therapeutic for this client?

1. Supply the client with paper tissues to help functioning until anxiety is reduced.
2. Have the client scrub the doorknobs with a strong antiseptic so that tissues are no longer needed.
3. Encourage the client to touch doorknobs by removing all available paper tissue until learning how to manage the situation.
4. Explain to the client that the idea about doorknobs being contaminated is part of the illness, so precautions are not necessary.

195. A nurse is caring for a client diagnosed with an obsessive-compulsive disorder. What is the basis for the obsessions and compulsions?

1. Unconscious control of unacceptable feelings
2. Conscious use of this method to punish themselves
3. Acceptance of voices that tell them the doorknobs are unclean
4. Fulfillment of a need to punish others by carrying out an annoying procedure

196. A nurse is developing a care plan for a client with an obsessive-compulsive behavior disorder. Which nursing intervention will **most** likely increase the client's anxiety?

1. Helping the client understand the nature of the anxiety
2. Limiting the client's ritualistic acts to three times a day
3. Involving the client in establishing the therapeutic plan
4. Providing the client with a nonjudgmental environment

197. Hospitalization or day-treatment centers are often indicated for the treatment of a client with an obsessive-compulsive disorder because these settings:

1. prevent the client from completing rituals.
2. allow the staff to exert control over the client's activities.
3. resolve the client's anxiety because decision making is minimal.
4. provide the neutral environment the client needs to work through conflicts.

198. What should a nurse include in the initial plan of care for a client with the long-standing, obsessive-compulsive behavior of hand washing?

1. Determine the purpose of the ritualistic behavior.
2. Limit the time allowed for the ritualistic behavior.
3. Suggest a symptom substitution technique to refocus the ritualistic behavior.
4. Develop a routine schedule of activities to reduce the need for the ritualistic behavior.

199. A client with a history of obsessive-compulsive behaviors has a marked decrease in symptoms and expresses a wish to obtain a part-time job. On the day of a job interview the client arrives at the mental health center displaying signs of anxiety. What is the nurse's **best** response to the client's behavior?

1. "I know you're anxious, but by forcing yourself to go to the interview, you may conquer your fear."
2. "If going to an interview makes you this anxious, it seems as though you're not ready to go back to work."
3. "It must be that you really don't want that job after all. I think you should reconsider going to the interview."
4. "Going for your interview triggered some feelings in you. Perhaps you could call a friend to drive you there."

200. What should a nurse consider when planning care for a client who is using ritualistic behavior?

1. Nurses must attempt to limit the ritualistic behavior.
2. Clients need to realize that ritualistic behavior serves no purpose.
3. Nurses should try to divert the ritual immediately after it is started.
4. Clients do not want to repeat the ritual but feel compelled to do so.

201. What is the **priority** discharge criterion for a client who is using ritualistic behaviors?

1. Verbalizes positive aspects about the self
2. Follows the rules of the therapeutic milieu
3. Intervenes to maintain increasing anxiety at a manageable level
4. Recognizes that hallucinations occur at times of extreme anxiety

202. A nurse is caring for a client who uses ritualistic behavior. What common antiobsessional medication does the nurse anticipate will be prescribed?

1. Benztropine
2. Amantadine
3. Fluvoxamine
4. DiphenhydrAMINE

203. A client is using ritualistic behaviors. Why should a nurse allow the client ample time for the performance of the ritual?

1. Denial of this activity may precipitate panic levels of anxiety.
2. Anger turned inward on the self should be allowed to be expressed.
3. Successful performance of independent activities enhances self-esteem.
4. Ample time provides an opportunity to point out the inappropriate behavior.

204. A nurse is caring for a client with an obsessive-compulsive personality disorder that involves rituals. What should the nurse conclude about the ritual?

1. Has a purpose but is useless
2. Is performed after long urging
3. Appears to be performed willingly
4. Seems illogical but is needed by the person

205. A nurse is preparing to care for a client who engages in ritualistic behavior. What should the plan of care include?

1. Redirect energy into activities to help others.
2. Teach the client that the behavior is not serving a realistic purpose.
3. Administer antianxiety medications that block out the memory of internal fears.
4. Help the client to understand that the behavior is caused by maladaptive coping to increased anxiety.

206. Which is the **best** nursing intervention during the working phase of the therapeutic relationship to meet the needs of individuals who demonstrate obsessive-compulsive behavior?

1. Restricting their movements
2. Calling attention to the behavior
3. Keeping them busy to distract them
4. Supporting rituals while setting realistic limits

207. A nurse is caring for a client with a somatoform disorder. What should the nurse anticipate that this client will do?

1. Redirect the conversation with the nurse to physical symptoms.
2. Monopolize conversations about the anxiety being experienced.
3. Write down conversations to assist in remembering information.

4. Start a conversation asking the nurse to recommend palliative care.

208. A client who is being admitted to the mental health unit with bipolar disorder is depressed, avoids eye contact, responds in a very low voice, and is tearful. What is **most** therapeutic for a nurse to say during the assessment interview?

1. "You'll find that you'll get better faster if you try to help us to help you."
2. "Hold my hand. I know you are frightened. I will not allow anyone to harm you."
3. "I'm your nurse. I'll take you to the day room as soon as I get some information."
4. "I know this is difficult, but as soon as we are finished, I'll take you to your room."

209. A depressed older client has not been eating well since admission to the hospital. The client repeatedly states, "No one cares." What is the nurse's **most** appropriate response?

1. "We all care about you; now please eat."
2. "We all care about you; you have to eat to stay alive."
3. "I care about you. What are some foods you especially like?"
4. "I care about you. Will you please eat some of this food for me?"

210. A client is admitted to the mental health unit because of a progressively increasing depression over the past month. What clinical finding does a nurse expect during the initial assessment of the client?

1. Elated affect related to reaction formation
2. Loose associations related to thought disorder
3. Physical exhaustion resulting from decreased physical activity
4. Diminished verbal expression caused by slowed thought processes

211. A nurse is planning care for a depressed client. Which approach is **most** therapeutic?

1. Allowing the client time to complete activities
2. Helping the client focus on the family support system
3. Encouraging the client to perform menial, repetitious tasks
4. Telling the client repeatedly that the staff views the client as worthwhile

212. What is **most** appropriate for a nurse to say when interviewing a newly admitted depressed client whose thoughts focus on feelings of worthlessness and failure?

1. "Tell me how you feel about yourself."
2. "Tell me what has been bothering you."
3. "Why do you feel so bad about yourself?"
4. "What can we do to help you while you are here?"

213. A client whose depression is beginning to lift remains aloof from the other clients on the mental health unit. How can a nurse help the client to participate in an activity?

1. Find solitary pursuits that the client can enjoy.
2. Speak to the client about the importance of entering into activities.
3. Ask the health care provider to speak to the client about participating.
4. Invite another client to take part in a joint activity with the nurse and the client.

214. Which activity is **most** appropriate for a nurse to introduce to a depressed client during the early part of hospitalization?

1. Board game
2. Project involving drawing
3. Small aerobic exercise group
4. Card game with three other clients

215. A withdrawn client refuses to get out of bed and becomes upset when asked to do so. What

nursing action is **most** therapeutic?

1. Require the client to get out of bed.
2. Stay with the client until the client calms down.
3. Give the client the prn antipsychotic that is prescribed.
4. Leave the client alone in bed for as long as the client wishes.

216. A client with the diagnosis of bipolar disorder, depressive episode, has been hospitalized on a psychiatric unit for 1 week. What is the **most** appropriate activity for this client?

1. Complete a jigsaw puzzle alone.
2. Play a game of cards with several other clients.
3. Talk with the nurse several times during the day.
4. Engage in a game of Ping-Pong with another client.

217. During a special meeting to discuss the unexpected suicide of a recently discharged client, a nurse overhears another client moan softly, "I'm next. Oh, my God, I'm next. They couldn't protect that person, and they can't protect me." What is the nurse's **most** therapeutic response?

1. "That person was a lot sicker than you are."
2. "You seem to be afraid you will hurt yourself."
3. "It's different. The other person was home, while you are here."
4. "There is no need to worry. We will protect you even after you are discharged."

218. A depressed client is concerned about many fears that are upsetting and frightening and expresses a feeling of having committed the "unpardonable sin." What is the nurse's **most** therapeutic response?

1. "Your family loves you very much."
2. "You do understand that you really are not a bad person."
3. "You know these feelings are in your imagination and are not true."
4. "Your thoughts are part of your illness and will change as you improve."

▶219. A client who attempted suicide by slashing the wrists is transferred from the emergency department to a mental health unit. What are the important nursing interventions when the client arrives on the unit? **Select all that apply.**

1. Obtain vital signs.
2. Assess for suicidal thoughts.
3. Institute continuous monitoring.
4. Initiate a therapeutic relationship.
5. Inspect the bandages for bleeding.

220. A nurse plans to evaluate a newly admitted depressed client's potential for suicide. What is the **best** approach to obtain this information?

1. Question the client about plans for the future.
2. Inquire whether the client is now considering suicide.
3. Discuss suicide with other clients while the client is in the group.
4. Ask family members whether the client has ever attempted suicide.

221. A client with major depression that includes psychotic features tells the nurse, "All my relatives have been killed because I have been sinful and need to be punished." What is the **primary** focus of nursing interventions?

1. Protect the client against any suicidal impulses.
2. Support the client's interest in the outside world.
3. Help the client manage the concern for family members.

4. Reassure the client that past behaviors are not being punished.

222. A client is admitted to the mental health unit after attempting suicide. When a nurse approaches, the client is tearful and silent. What is the nurse's **best** initial intervention?

1. Observe the behavior, record it, and notify the health care provider.
2. Sit quietly next to the client and wait for the client to start speaking.
3. Say, "You are crying. That means you feel badly about attempting suicide and really want to live."
4. Say, "I see you are tearful. Tell me about what is going on in your life, and we can work on helping you."

223. A nurse has been assigned to work with a depressed client on a one-to-one basis. The next morning the client refuses to get out of bed, stating, "I'm too sick to be helped, and I don't want to be bothered." What is the nurse's **best** response?

1. "You will not feel better unless you make the effort to get up and get dressed."
2. "I know you will feel better again if you could just make an attempt to help yourself."
3. "Everyone feels this way in the beginning as they confront their feelings. I'll sit down with you."
4. "I know you don't feel like getting up, but you may feel better if you do. Let me help you get started."

224. A frail, depressed client frequently paces the halls, becoming physically tired from the activity. What action should the nurse take to help reduce this activity?

1. Have the client perform simple, repetitive tasks.
2. Ask the client's health care provider to prescribe a sedative.
3. Restrain the client in a chair, thus reducing the opportunity to pace.
4. Place the client in a single room, thus limiting pacing to a smaller area.

225. A nurse sits with a depressed client twice a day, although there is little verbal communication. One afternoon, the client asks, "Do you think they'll ever let me out of here?" What is the nurse's **best** reply?

1. "We should ask your doctor."
2. "Everyone says you're doing fine."
3. "Do you think you are ready to leave?"
4. "How do you feel about leaving here?"

226. A nurse is working with a client with a major depressive episode. What is a long-term goal for this client?

1. Talk openly about the depressed feelings.
2. Identify and use new defense mechanisms.
3. Discuss the unconscious source of the anger.
4. Verbalize realistic perceptions of self and others.

227. A depressed client states, "I am no good. I'm better off dead." What is the **priority** nursing intervention?

1. Stating, "I think you're good; you should think of living."
2. Alerting the staff to schedule 24-hour observation of the client
3. Responding, "I will stay with you until you are less depressed."
4. Unobtrusively removing those articles that may be used in a suicide attempt

228. What is a therapeutic nursing action when caring for a depressed client?

1. Playing a game of chess with the client
2. Allowing the client to make personal decisions
3. Sitting down next to the client at frequent intervals

4. Providing the client with frequent periods of time for reflection

▶229. A teenager recently committed suicide, and grief counselors have been working with students. What behaviors indicate to the school nurse that a student may be considering suicide? **Select all that apply.**

1. Withdrawing from friends
2. Giving away prized possessions
3. Memorializing the dead teenager
4. Talking excessively about the event
5. Becoming involved in student activities

230. A client with a diagnosis of major depression refuses to participate in unit activities because of being “just too tired.” What is the nurse’s **best** approach?

1. Plan one rest period during each activity.
2. Explain why the staff believes the activities are therapeutic.
3. Encourage the client to express negative feelings about the activities.
4. Accept the client’s feelings about activities calmly, while setting firm limits.

231. A nurse stops by the room of a tearful, newly admitted depressed client and offers to walk with the client to the evening meal. The client looks intently at the nurse, saying nothing. What is the nurse’s **best** response?

1. “I’ll be at the desk if you need me.”
2. “You must tell me what you are feeling now.”
3. “We will walk together to dinner when you calm down.”
4. “It may be very difficult for you to be on a psychiatric unit.”

232. A client is admitted to the psychiatric hospital after many self-inflicted nonlethal injuries over the last month. Which level of suicidal behavior is reflective of the client’s behavior?

1. Threats
2. Gestures
3. Attempts
4. Ideations

233. A nurse moves into the working phase of a therapeutic relationship with a depressed client who has a history of suicide attempts. What question should the nurse ask the client when exploring alternative coping strategies?

1. “How have you managed your problems in the past?”
2. “What do you feel you have learned from this suicide attempt?”
3. “How will you manage the next time your problems start piling up?”
4. “Were there other things going on in your life that made you want to die?”

234. A nurse is assigned to care for a depressed client on a day when the client seems more withdrawn and depressed than usual. Which nursing intervention is **most** appropriate?

1. Remain visible to the client.
2. Involve the client in group activities.
3. Spend a few extra minutes with the client throughout the day.
4. Ask the client if it would help if you both sat together for a while.

235. A nurse is discharging a client from the mental health unit who has been treated for major depression. Which statement is **most** therapeutic at this time?

1. “I am going to miss you; we have become good friends.”
2. “I know you are really going to be all right when you go home.”

3. "Call the contact number you were given if you have an emergency."
 4. "This is my phone number; call me to let me know how you are doing."
236. On the second day after admission, a suicidal client asks a nurse, "Why am I being watched around the clock, and why can't I walk around the entire unit?" Which reply is **most** appropriate?
1. "Why do you think we are observing you?"
 2. "What makes you think we are observing you?"
 3. "We are concerned that you might try to harm yourself."
 4. "We are following your doctor's orders, so there must be a reason."
237. After 4 days on the inpatient psychiatric unit, a client on suicidal precautions tells the nurse, "Hey, look! I was feeling pretty depressed for a while, but I'm certainly not going to kill myself." What is the nurse's **best** response to this statement?
1. "You do seem to be feeling better."
 2. "We should talk some more about this."
 3. "We have to observe you until you are better."
 4. "I don't understand what you mean by killing yourself."
238. During a group discussion, it is learned that a group member hid suicidal urges and committed suicide several days ago. The nurse leading the group should be prepared to manage the:
1. guilt of the co-leaders that they failed to anticipate and prevent the suicide.
 2. guilt that group members feel because they could not prevent another's suicide.
 3. lack of concern over the suicide expressed by several of the members in the group.
 4. fear by some members that their own suicidal urges may go unnoticed and unprotected.
239. What treatment should a nurse anticipate will be ordered for a client with severe, persistent, intractable depression and suicidal ideation?
1. Electroconvulsive therapy
 2. Short-term psychoanalysis
 3. Nondirective psychotherapy
 4. High doses of anxiolytic drugs
240. A severely depressed client is to have electroconvulsive therapy (ECT). What should a nurse include when discussing this therapy with the client?
1. Sleep will be induced and treatment will not cause pain.
 2. Treatment is totally safe with the new methods of administration.
 3. You can ask any question you like, but it is better not to talk about it.
 4. There may be some unrecoverable short-term and long-term memory loss.
241. An extremely depressed client signed the consent for electroconvulsive therapy (ECT) but continues to express anxiety about the procedure. What is **most** important for a nurse to emphasize when discussing ECT with the client?
1. "The procedure may cause a headache."
 2. "The procedure will make you feel better."
 3. "You will not be left alone during the procedure."
 4. "You will have periods of amnesia after the procedure."
242. A nurse is assisting with the administration of electroconvulsive therapy (ECT) to a severely depressed client. What side effect of the therapy should the nurse anticipate?
1. Loss of appetite
 2. Postural hypotension
 3. Complete temporary loss of memory

4. Confusion immediately after the treatment

243. When a nurse sits next to a depressed client and begins to talk, the client states, "I'm stupid and useless. Talk with the other people who are more important." Which response is **most** therapeutic?

1. "Everyone is important."
2. "Do you feel that you are not important?"
3. "Why do you feel you are not important?"
4. "I want to talk with you because you are important to me."

244. A client is admitted to a mental health facility for depression. What action should a nurse take to help the client develop a positive self-regard?

1. Set limits on the client's negative behaviors.
2. Involve the client in activities that promote success.
3. Demonstrate approval of the client's efforts at every opportunity.
4. Encourage the client to participate in activities with other clients.

245. A depressed client tells a nurse, "I want to die." Which is the nurse's **most** therapeutic response?

1. "You would rather not live."
2. "You are not alone in feeling this way."
3. "When was the last time you felt this way?"
4. "Do you believe that there is life after death?"

246. A client exhibiting manic behavior is admitted to the psychiatric hospital. In which room should the nurse manager place the client?

1. One that has basic simple furnishings
2. One with another client who is very quiet
3. A room that will provide a variety of stimuli
4. A room with another client exhibiting similar behavior

247. During the orientation tour for three new staff members, a young, hyperactive manic client greets them by saying, "Welcome to the funny farm. I'm Jo-Jo, the head yo-yo." Which meaning can the nurse assign to the client's statement?

1. Trying to fill the "life-of-the-party" role
2. Looking for attention from the new staff
3. Unable to distinguish fantasy from reality
4. Anxious over the arrival of new staff members

248. What is the **best** nursing intervention when the language of a client in the manic phase of a bipolar disorder becomes vulgar and profane?

1. State, "We do not like that kind of talk around here."
2. Ignore it, since the client is using it to gain attention.
3. Recognize that the behavior is part of the illness, but set limits on it.
4. State, "We will talk to you when you can speak in an acceptable way."

249. A client with bipolar disorder, manic episode, has a superior, authoritative manner and constantly instructs other clients about how to dress, what to eat, and where to sit. The nurse should intervene because these behaviors eventually will cause the other clients to feel:

1. angry.
2. dependent.
3. inadequate.
4. ambivalent.

250. A client with the diagnosis of bipolar disorder, manic episode, is extremely active, talks

constantly, and tends to badger the other clients, some of whom are now becoming agitated. What is the **best** strategy for a nurse to use with this client?

1. Humor
2. Sympathy
3. Distraction
4. Confrontation

251. What therapeutic nursing intervention may redirect a hyperactive, manic client?

1. Suggesting that the client write a short story
2. Having the client initiate group social activities on the unit
3. Asking the client to guide other clients as they clean their rooms
4. Encouraging the client to tear pictures out of magazines for a scrapbook

252. A nurse is caring for a hyperactive, manic client who exhibits flight of ideas and is not eating. What may be the reason why the client is not eating?

1. Feels undeserving of the food
2. Is too busy to take the time to eat
3. Wishes to avoid others in the dining room
4. Believes that there is no need for food at this time

►253. A client who is in a manic phase of bipolar disorder threatens staff and clients on an acute psychiatric unit. Place the following interventions in **priority** order from the **least** restrictive to the **most** restrictive.

1. _____ Seclusion
2. _____ Restraints
3. _____ Limit setting
4. _____ Diversional activities
5. _____ Medication administration

254. A psychologist has been a client on a mental health unit for 3 days. The client has questioned the authority of the treatment team, advised other clients that their treatment plans are wrong, and has been disruptive in group therapy. What is the nurse's **most** appropriate intervention?

1. Tell the other clients to disregard what the client is saying.
2. Ignore the client's disruptive behavior and wait until it subsides.
3. Restrict the client's contact with other clients until the disruptive behavior ceases.
4. Accept that the client is unable to control this behavior, and set appropriate limits.

255. How should the nursing staff provide for the nutritional needs of a client experiencing periods of extreme mania and hyperactivity?

1. Accept that the client will eat if hungry.
2. Allow the client to prepare meals to eat when desired.
3. Offer high-calorie snacks frequently that the client can hold.
4. Leave food in the client's room that can be eaten when desired.

256. A client is admitted to a psychiatric hospital after a month of unusual behavior that included eating and sleeping very little, talking and singing constantly, and going on frequent shopping sprees. In the hospital, the client is demanding, bossy, and sarcastic. Which disorder does the nurse associate with these behaviors?

1. Bipolar disorder, manic phase
2. Antisocial personality disorder
3. Obsessive-compulsive disorder

4. Chronic undifferentiated schizophrenia

257. What is essential for the nurse to do when approaching a client during a period of overactivity?

1. Use a firm but caring and consistent approach.
2. Anticipate and physically control the hyperactivity.
3. Allow the client to choose the activities in which to participate.
4. Let the client know the staff will not tolerate destructive behavior.

258. What should the nurse include when developing a plan of care for a client in the manic phase of bipolar disorder?

1. Focus the client's interest in reality.
2. Encourage the client to talk as much as needed.
3. Redirect the client's excess energy to constructive channels.
4. Persuade the client to complete any task that has been started.

▶259. The nurse assesses a client with the diagnosis of bipolar disorder, manic episode. Which clinical findings support this diagnosis? **Select all that apply.**

1. Passivity
2. Dysphoria
3. Anhedonia
4. Grandiosity
5. Talkativeness
6. Distractibility

260. A depressed client often sleeps past the expected time of awakening and spends excessive time resting and sleeping. Which nursing intervention is appropriate for this client?

1. Restrict the client's access to the bedroom.
2. Offer the client a series of relaxation tapes.
3. Reschedule the client's bedtime to an earlier hour.
4. Suggest that the client exercise before going to bed.

Nursing Care of Clients with Disorders Related to Alterations in Behavior

261. A client who is in a four-bed room since admission becomes extremely anxious and is having difficulty sleeping. What is the nurse's **best** response?

1. "You seem unable to sleep at night."
2. "I'm going to move you to a private room."
3. "I'll get you the sedative that was prescribed."
4. "You'll be able to fall asleep when you're tired."

262. During an assessment interview the client relates experiencing overwhelming, irresistible attacks of sleep. Which sleep disorder does the nurse conclude the client is experiencing?

1. Insomnia
2. Narcolepsy
3. Sleep terror
4. Sleep apnea

▶263. A client tells a nurse, "I have been having trouble sleeping and feel wide awake as soon as I get into bed." Which strategies should the nurse teach the client that will promote sleep? **Select all that apply.**

1. Eat a heavy snack near bedtime.
2. Read in bed before shutting out the light.
3. Leave the bedroom if you are unable to sleep.
4. Drink a cup of warm tea with milk at bedtime.
5. Exercise in the afternoon rather than in the evening.
6. Count backward from 100 to 0 when your mind is racing.

▶264. A nurse is assessing a client with a diagnosis of primary insomnia. Which findings from the client's history may be the cause of this disorder? **Select all that apply.**

1. Chronic stress
2. Severe anxiety
3. Generalized pain
4. Excessive caffeine
5. Chronic depression
6. Environmental noise

265. An adolescent is admitted to the psychiatric service in stable physical condition with the diagnosis of anorexia nervosa. The adolescent has lost 20 pounds in 6 weeks and is very thin but is excessively concerned about being overweight. What is the **most** important initial nursing intervention?

1. Compliment the physical appearance of the adolescent.
2. Explore the reasons why the adolescent does not want to eat.
3. Explain the value of adequate nutrition to the adolescent.
4. Attempt to establish a trusting relationship with the adolescent.

266. What is an appropriate behavior modification goal for a client with anorexia nervosa?

1. Eat every meal for a week.
2. Gain 1 pound of weight a week.
3. Attend group therapy every day.

4. Talk about food for 1 hour a day.

267. Evaluation of clients with anorexia nervosa requires reassessment of behaviors after admission. Which finding indicates that the therapy is beginning to become effective?

1. Food is hidden in pockets of clothing
2. Statement that the hospitalization has been helpful
3. Weight gain of six pounds since admission 3 weeks ago
4. Remains in the dining room eating for 1 hour after others have left

268. A cachectic adolescent with the diagnoses of anorexia nervosa, dehydration, and electrolyte imbalances is admitted to a mental health facility. The adolescent has been obsessed with weight, has exercised for hours every day, has taken enemas and laxatives several times a week, and has engaged in self-induced vomiting. Which is a **priority** when a nurse plans care for this client?

1. Identifying personal strengths
2. Controlling impulsive behaviors
3. Correcting electrolyte imbalances
4. Developing a contract for treatment goals

269. A nurse is working with clients with a variety of eating disorders. Which characteristic unique to bulimia nervosa differentiates this disorder from anorexia nervosa?

1. Is obese and attempting to lose weight
2. Has a distorted body image and sees the body as fat
3. Has behaviors and an appearance that appear appropriate
4. Is struggling with a conflict of dependence versus independence

270. What characteristic of the environment is **most** therapeutic for clients with the diagnosis of bulimia nervosa?

1. Controlling
2. Empathetic
3. Focused on food
4. Based on realistic limits

▶271. A college student is brought to the mental health clinic by the parents. The diagnosis is borderline personality disorder. Which factors in the client's history support this diagnosis? **Select all that apply.**

1. Impulsiveness
2. Lability of mood
3. Ritualistic behavior
4. Psychomotor retardation
5. Self-destructive behavior

272. A hospitalized client who was diagnosed with a borderline personality disorder consistently breaks the unit's rules. How will confronting the client about this behavior help the client?

1. Controls anger
2. Reduces anxiety
3. Sets realistic goals
4. Becomes more self-aware

273. A client with a personality disorder tells a nurse, "I want to tell you something, but you must promise to keep it a secret." Which response could lead to splitting among the staff?

1. "I am part of a team that shares important information about clients."
2. "Your comments will be kept confidential because I am your advocate."

3. "I cannot promise to keep what you say confidential from the rest of the staff."
 4. "Trust me to do what is in your best interests with the information, which includes discussing it with the team."
274. A nurse is working in the orientation phase of a therapeutic relationship with a client who has borderline personality disorder. What will be **most** difficult for the client at this stage of the relationship?
1. Controlling anxiety
 2. Terminating the session on time
 3. Accepting the psychiatric diagnosis
 4. Setting mutual goals for the relationship
275. The clients on a mental health unit go on a supervised day trip to a baseball game. When returning to the bus, a client with a narcissistic personality disorder insists on leaving the group to get an autograph from a player. What is the **most** appropriate response by the nurse?
1. Hold the client by the arm to prevent leaving the group.
 2. Instruct the client with a loud voice to get in the bus so the group can go home.
 3. Inform the client in a matter-of-fact tone that everyone must remain with the group.
 4. Tell the client that the baseball player will not be permitted to give anyone an autograph.
276. An adult is diagnosed with schizotypal personality disorder. How should a nurse describe the client's behavior?
1. Rigid and controlling
 2. Submissive and immature
 3. Arrogant and attention seeking
 4. Introverted and emotionally withdrawn
277. A nurse begins a relationship with a client with the diagnosis of schizotypal personality disorder. What is the **best** initial nursing action?
1. Set limits on manipulative behavior.
 2. Encourage participation in group therapy.
 3. Respect the client's need for social isolation.
 4. Recognize that seductive behavior is expected.
278. A client has the diagnosis of histrionic personality disorder. Which behavior should the nurse expect when assessing this client?
1. Boastful and egotistical
 2. Rigid and perfectionistic
 3. Extroverted and dramatic
 4. Aggressive and manipulative
279. A client with a borderline personality disorder receives the wrong meal tray for lunch and angrily states, "The next time I see the dietician, I am going to throw this tray at her!" What is the nurse's **most** appropriate response?
1. Suggest that the client calm down and explain that sometimes trays get mixed up.
 2. Inform the client that the behavior is inappropriate and send the client out of the dining room.
 3. Tell the client it is frustrating not to get the correct tray, but throwing the tray at the dietician is unacceptable behavior.
 4. Inform the client that throwing the tray at the dietician will make matters worse and may result in being placed in seclusion.
280. Which nursing intervention is **most** important for a client who has the diagnosis of antisocial

personality disorder?

1. Teach and role-model assertiveness.
2. Use a gentle and reassuring approach.
3. Provide clear boundaries and consequences.
4. Present an empathetic and democratic approach.

281. A nurse is caring for a client with antisocial personality disorder. What client characteristic should the nurse consider when formulating a plan of care?

1. Suffers from extreme anxiety
2. Rapidly learns by experience if punished
3. Usually is unable to postpone gratification
4. Has a great sense of responsibility toward others

282. The nursing staff is discussing the **best** way to develop a relationship with a new client who has antisocial personality disorder. What characteristic of clients with antisocial personality should the nurses consider when planning care?

1. Engages in many rituals
2. Feels independent from others
3. Exhibits lack of empathy for others
4. Possesses limited communication skills

283. A client with a diagnosis of antisocial personality disorder is being discharged from the hospital. The client asks the nurse, "Can I have your phone number so that I can call you for a date." What is the nurse's **best** response?

1. "We are not permitted to date clients."
2. "It is against my professional ethics to date clients."
3. "Our relationship is professional; therefore, I will not see you socially."
4. "I'm glad you like me; however, I cannot give out my phone number."

284. A nurse identifies that a client is pretending to be ill. What does this behavior usually indicate?

1. Psychosis
2. Malingering
3. Out of contact with reality
4. Use of conversion defenses

285. A nurse is orienting a new client to the unit when another client rushes down the hallway and asks the nurse to sit down to talk. The client requesting the nurse's attention is manipulative and uses acting-out behaviors when demands are unmet. How should the nurse intervene?

1. Suggest that the client requesting attention speak with another staff member.
2. Leave the new client, saying, "I'll talk with the other client until things calm down."
3. Introduce the two clients and suggest that the client join them on a tour of the facility.
4. Tell the interrupting client, "I'll be back to talk with you after I orient this new client."

286. A client is diagnosed with an adjustment disorder with mixed anxiety and depression. What should the nurse anticipate as the client's **primary** problem?

1. Low self-esteem
2. Deficient memory
3. Intolerance to activity
4. Disturbed personal identity

287. What should a nurse identify as the **most** important factor in rehabilitation of a client addicted to alcohol?

1. Motivational readiness
2. Availability of community resources
3. Accepting attitude of the client's family
4. Qualitative level of the client's physical state

288. A client with a history of alcoholism is diagnosed with Wernicke encephalopathy associated with Korsakoff syndrome. What does the nurse anticipate will be prescribed?

1. Traditional phenothiazine
2. Judicious use of antipsychotics
3. Intramuscular injections of thiamine
4. Oral administration of chlorpromazine

289. A client with an alcohol dependence problem asks whether the nurse can see the bugs that are crawling on the bed. What is the nurse's initial reply?

1. "No, I don't see any bugs."
2. "I will get rid of them for you."
3. "I will stay here until you are calmer."
4. "Those bugs are a part of your sickness."

290. A recovering alcoholic joins Alcoholics Anonymous (AA) to help maintain sobriety. What type of group is AA?

1. Social group
2. Self-help group
3. Resocialization group
4. Psychotherapeutic group

291. Clients addicted to alcohol often use the defense mechanism of denial. What is the reason why this defense is so often used?

1. Reduces their feelings of guilt
2. Creates the appearance of independence
3. Helps them live up to others' expectations
4. Makes them look better in the eyes of others

292. What should a nurse conclude that a client is doing when making up stories to fill in blank spaces of memory?

1. Lying
2. Denying
3. Rationalizing
4. Confabulating

293. A nurse is discussing plans with a client who has decided to withdraw from alcohol. What should the nurse recommend as one of the **most** effective treatments for alcoholism?

1. Individual or group psychotherapy
2. Admission to an alcoholic unit in a hospital
3. Daily administration of disulfiram (Antabuse)
4. Active membership in Alcoholics Anonymous

294. A nurse uses the CAGE Screening Test for Alcoholism to determine the potential an individual has for a drinking problem. Which is one of the four questions included in this test?

1. "Do you feel you are a normal drinker?"
2. "Have you ever felt bad or guilty about your drinking?"
3. "Are you always able to stop drinking when you want to?"

4. "How often did you have a drink containing alcohol in the past year?"

►295. A client in a detoxification unit has an alcohol withdrawal seizure. Diazepam (Valium) 7.5 mg intramuscularly (IM) stat is prescribed. Valium is available 5 mg/mL. How many mL should the nurse administer? **Record your answer using one decimal place.**

Answer: _____ mL

296. A client undergoing alcohol detoxification asks about attending Alcoholics Anonymous (AA) meetings after discharge. What is the nurse's **best** initial reply?

1. "You'll find you'll need their support."
2. "What feelings do you have about going to those meetings?"
3. "They will help you to learn how to cope with your problem."
4. "Don't you think it's better to wait until you are sure you are ready?"

297. While a client is attending an Alcoholics Anonymous (AA) meeting, a nurse talks with the client's spouse about the purpose of AA. What is the priority goal of this self-help group?

1. Change destructive behavior.
2. Develop functional relationships.
3. Identify how they present themselves to others.
4. Understand their patterns of interacting within the group.

298. A client who has just begun attending Alcoholics Anonymous (AA) asks a nurse how important it is to attend meetings regularly. What is the nurse's **best** response?

1. "It's really important if you want to get well."
2. "It's your decision about whether or not you want to attend."
3. "Do you think that attending these meetings may not be helpful?"
4. "Do you feel that it's not worth the effort to keep on attending meetings?"

299. A client with a long history of alcohol dependence spends 28 days in an alcohol rehabilitation unit. What type of referral does the nurse anticipate will be included in the discharge plan?

1. Halfway house
2. Family therapist
3. Psychoanalytic therapy group
4. Community-based self-help group

►300. A client is admitted to the hospital for acute pancreatitis. The nurse obtains the client's vital signs, performs a physical assessment, and reviews the client's health history. What is the **priority** action by the nurse?

Client Chart

Vital Signs on Admission

T-97.9° F

P-88 beats per minute

R-16 breaths per minute, normal depth

BP-136/88

Health History

Type 2 diabetes diagnosed one year ago

Smokes 1 pack daily for 40 years

States the consumption of 5 alcoholic beverages per day for 30 years

Divorced for 4 months

Laboratory results indicate anemia and leukocytopenia

Physical Assessment

T-99.9° F

P-118 beats per minute

R-24 breaths per minute, shallow

BP-148/96

Restlessness and agitation

1. Reduce environmental stimuli.
 2. Place the client on constant observation.
 3. Assess for alcohol withdrawal symptoms.
 4. Continue to monitor the client's vital signs.
301. What behavior by a client with a long history of alcohol abuse is an indication that the client may be ready for treatment?
1. Drinking only socially
 2. Not drinking for a week
 3. Hospitalization for detoxification
 4. Verbalizing an honest desire for help
302. A nurse is interviewing a client newly admitted to an outpatient program after withdrawal from alcohol. What behavior best indicates that the client has accepted that drinking is a problem?
1. Participates in scheduled counseling sessions
 2. Attends Alcoholics Anonymous meetings daily
 3. Volunteers to be a sponsor for another alcoholic
 4. Apologizes to family members for causing distress
303. A client who is a polysubstance abuser is mandated to seek drug and alcohol counseling. What is an appropriate **initial** outcome criterion for this client?

1. "Verbalizes that a substance abuse problem exists."
 2. "Discusses the effect of drug use on self and others."
 3. "Explores the use of substances and problematic behaviors."
 4. "Expresses negative feelings about the present life situation."
304. A nurse is caring for a client who is addicted to opioids and who had a major surgery. The client is receiving methadone. What is the purpose of this medication?
1. Allows symptom-free termination of opioid addiction
 2. Converts opioid use from an illicit to a legally controlled drug
 3. Provides postoperative pain control without causing opioid dependence
 4. Counteracts the depressive effects of long-term opioid use on thoracic muscles
305. A client who is addicted to opioids had emergency surgery. During the postoperative period the health care provider decreases the previously prescribed methadone dose. For what clinical manifestations should a nurse monitor the client?
1. Constipation and lack of interest in surroundings
 2. Agitation and attempts to escape from the hospital
 3. Skin dryness and scratching under the incisional dressing
 4. Lethargy and refusal to participate in therapeutic exercises
306. A client has been receiving oxycodone (OxyContin) for moderate pain associated with multiple injuries sustained in a motor vehicle collision. The client has returned three times for refills of the prescription. What behavior, in addition to the client's slurred speech, leads the nurse to suspect opioid intoxication?
1. Mood lability
 2. Hypervigilance
 3. Constricted pupils
 4. Increased respirations
307. A client is responding within an hour of receiving naloxone to combat respiratory depression from an overdose of heroin. Why should a nurse continue to closely monitor this client's status?
1. The drug may cause peripheral neuropathy.
 2. Naloxone and heroin when combined can cause cardiac depression.
 3. Symptoms of the heroin overdose may return after the naloxone is metabolized.
 4. Hyperexcitability and amnesia may cause the client to thrash about and become abusive.
308. What is the **primary** nursing concern when caring for a client who is grossly impaired by stimulants?
1. Drowsiness
 2. Seizure activity
 3. Fluid imbalance
 4. Suicidal ideation
- ▶309. A client is brought to the emergency department by friends because of increasingly bizarre behavior. Which signs does a nurse identify that indicate the client was using cocaine? **Select all that apply.**
1. Euphoria
 2. Agitation
 3. Panic attacks
 4. Slurred speech
 5. Hypervigilance

6. Impaired judgment

310. A client is admitted to the drug detoxification unit for cocaine withdrawal. What is the nurse's **primary** concern while working with clients withdrawing from cocaine?

1. Risk for self-injury
2. Potential for seizure
3. Danger of dehydration
4. Probability of injuring others

311. Shortly after admission an adolescent falls to the floor and has tonic-clonic movements. There is no verbal response, but a nurse observes that the client is still chewing gum. What should the nurse do next?

1. Remove the chewing gum.
2. Document the observation.
3. Send another client for help.
4. Insert a tongue blade between the teeth.

312. A child has been hospitalized repeatedly for illnesses with unknown etiologies. Finally, the health care provider makes the diagnosis of Munchausen syndrome by proxy. What is the nurse's **most** therapeutic approach with the involved parent?

1. Confrontation
2. Open communication
3. Health teaching about child rearing
4. Validation of the child's physical status

Nursing Care of Clients with Sexual and Gender Identity Disorders

313. Which is a frequent finding in clients with paraphiliac sexual disorders?

1. Other covert or overt emotional problems
2. Gonadal and pituitary hormone deficiencies
3. Overassociation with society's fringe groups
4. Inadequate development of the sexual organs

314. An adult client charged with molesting a child is admitted for psychiatric evaluation. When a nurse invites the client to come to dinner, the client refuses and states, "I don't want anyone to see me. Leave me alone." What is the nurse's **best** response?

1. "Certainly. I respect your wishes."
2. "You sound upset; let's talk about it."
3. "It will be easier to face other people right away."
4. "Only the staff members know why you are here."

315. A child tells the school nurse, "My father has been getting into bed with me at night and touching me." What should the nurse do next?

1. Ask the child to describe the touching.
2. Tell the teacher to report any inappropriate behavior.
3. Contact the father to come to the school immediately.
4. Report the child's conversation to child protective services.

▶316. A male client with the diagnosis of gender identity disorder has been dressing and functioning in society as a woman for 2 years and has decided to have sex reassignment surgery. He tells a nurse that all his life he has considered himself to be female. Place the following nursing interventions in order of priority.

1. _____ Treat the client with respect.
2. _____ Investigate own feelings about sexuality.
3. _____ Encourage the client to explore his feelings.
4. _____ Accept the decision to have sex reassignment surgery.
5. _____ Explore ways that the decision can be shared with significant others.

▶317. Sildenafil (Viagra) is prescribed for a man with erectile dysfunction. A nurse teaches the client about which common side effects of this drug? **Select all that apply.**

1. Flushing
2. Headache
3. Dyspepsia
4. Constipation
5. Hypertension

318. A male client with the diagnosis of pedophilia is admitted to the psychiatric hospital because of repeated episodes of exhibitionism. In the recreation room the client exposes himself to a nurse and begins to masturbate. How should the nurse respond?

1. Turn away from the client and ignore the behavior.
2. Tell the client that the behavior is unacceptable and to stop.
3. Remove the client from the recreation room and escort him to his own room.
4. Recognize that the behavior is part of his illness and obtain a prescription for a libido-lowering

medication.

319. During a routine yearly physical an older adult says to a nurse, “I have not had sex lately because I can no longer get an erection!” What should be the nurse’s **initial** response?

1. “Let’s discuss this concern a little more.”
2. “Be sure to tell your doctor about this problem.”
3. “There is medication available for erectile dysfunction.”
4. “This is an expected physiologic response to getting older.”

320. What statement during a yearly physical examination indicates to a nurse that a male client may have a sexual arousal disorder?

1. “I have no interest in sex.”
2. “It doesn’t get hard during sex anymore.”
3. “I climax almost before we even get started.”
4. “It takes forever before I finally have an orgasm.”

321. A 25-year-old woman with the diagnosis of bipolar disorder, manic episode, is admitted to the psychiatric unit. A nurse on the unit reviews the admission information provided by the client’s husband and assesses the client. Based on the information in the chart at the right, what is an appropriate nursing intervention?

1. Assigning the client to a private room
2. Suggesting playing cards with several other clients
3. Encouraging the development of insight through introspection
4. Having the client sit at the communal dining table during meals

Client Chart

Admission Information: Interview with client’s husband

“My wife is 25 years old, and we have been married for 3 years. She always had a lot of energy, but lately she is constantly on the go and is acting crazy. She hardly ever sleeps, has been giving away her clothes and buying all new sexy clothes, and rarely eats. She became furious when I took the credit card away from her. She demands sex constantly, and I found out she has been having multiple affairs. Finally, I couldn’t take it anymore, and I brought her to the hospital.”

Client Assessment

Client is talking loudly and jumps from one topic to another; exhibiting constant motor activity. Client is wearing skimpy clothing without undergarments. Client states, “I like wearing my new clothes because I get turned on when people look at me.” At times uses profanity, particularly when talking about how her husband took away her credit card. Client not exhibiting combative or physically assaultive behavior.

Vital Signs

Temperature: 99° F

Pulse: 98 beats per minute

Respirations: 22 breaths per minute

Blood Pressure: 132/88

322. A client confides to the nurse that she enjoys engaging in sex with multiple male adult sex partners simultaneously. What is the nurse’s **most** appropriate response?

1. "I recommend that you seek counseling for this problem."
 2. "Don't you think that having sex with multiple sex partners is immoral?"
 3. "These men are abusing you, and you should go to the police to report them."
 4. "What are you using for birth control and protection from sexually transmitted infections?"
323. A client is admitted to a long-term care facility and placed in a semiprivate room. After the second night on the unit the client's roommate reports that the client is masturbating at night and demands another room. What is the nurse's **most** appropriate intervention?
1. Move the roommate who made the report to another room.
 2. Provide the client who was masturbating with periods of private time.
 3. Tell the roommate that this is acceptable behavior and the client has the right to engage in it.
 4. Inform the client who is masturbating that this behavior is inappropriate and should not continue.
324. An adult confides to a clinic nurse, "I have urges and fantasies to have sexual relations with children." What is the nurse's **most** appropriate response?
1. Ask the client, "Have you ever acted on these thoughts?"
 2. Explain that these thoughts are unacceptable and intensive therapy is needed.
 3. Question the client, "Are you able to control your thoughts about sexual relations with children?"
 4. Inform the appropriate child protective services about the client and the thoughts the client has reported.
325. A 67-year-old man with type 2 diabetes sadly confides in the nurse that he has been unable to have an erection for several years. What is the **best** response by the nurse?
1. "At your age sex is not that important."
 2. "Sex isn't what it is cracked up to be."
 3. "You sound upset about not being able to have an erection."
 4. "Maybe it is time that you speak to your health care provider about this."

Answers and Rationales

Foundations of Mental Health/Psychiatric Nursing

1. **3 This is the age of Freud's phallic stage and Erikson's stage of initiative versus guilt.**
1 This age is Freud's genital stage and Erikson's stage of identity versus role confusion. 2 This age is Freud's latency stage and Erikson's stage of industry versus inferiority. 4 This age is Freud's oral stage and Erikson's stage of trust versus mistrust.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality
2. **4 Children view their own worth by the response received from their parents. This sense of worth sets the basic ego strengths and is vital to the formation of the personality.**
1 Peer groups come later in a child's development, but the parent-child relationship is still the most important. 2 Although important, it is not as important as the parent-child relationship. 3 This comes later in life, after the basic personality has been formed.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality
3. **4 When acting out against the primary source of anxiety creates even further anxiety or danger, the individual may use displacement to express feelings toward a safer person or object.**
1 This is an example of denial. 2 This reflects an inability to mature and accept responsibility. 3 This is fantasy.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms
4. **4 When the individual experiences a threat to self-esteem, anxiety increases and defense mechanisms are used to protect the self.**
1 Affective reactions are mood disorders. 2 Withdrawal patterns are deviant ways of coping with stress; if carried to an extreme, behavior can become pathologic. 3 Ritualistic behaviors are not an aspect of the developmental process.
Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms
5. **1 The client is using the cognitive distortions of overgeneralization and pessimism. Negative events are magnified and become the focus, while contrary positive experiences are minimized and ignored. By focusing on the negative, the depressive mood is reinforced.**
2, 3, 4 There are no data to support this conclusion.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Cognitive Theory
6. **3 By developing skills in one area, the individual compensates for a real or imagined deficiency, thereby maintaining a positive self-image.**
1 If the student incorporated the qualities of the college athlete, that would be introjection. 2 Sublimation is related to unacceptable impulses that may pose a threat. 4 This person is not trying to make amends for unacceptable feelings (reaction formation) but rather for a believed deficiency and an inadequate self-image.
Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms
7. **1 Fears and anxieties about themselves and their possessions are common in older adults because of a decreased self-concept and an altered body image; these changes result in a decreased ability to cope.**

- 2 Aging need not necessarily bring about losing one's ability to cooperate. 3 The attitude of older adults concerning authority or others in their environment is set; indecision about life situations may be due to insecurity. 4 This behavior is noted in the middle stage of Alzheimer disease; usually it is not observed in older adults.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 15, Formation of the Personality
8. **2 Use of denial involves failure to acknowledge the reality of a situation.**
- 1, 3 This is not demonstrated in this situation. 4 Intellectualization involves discussing the child's problem in a technical manner; this is not demonstrated in this situation.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms
9. **2 New methods of coping with situations require modifications of approach and attitudes; hence personality is always capable of change.**
- 1 Certain personality traits are established by age 2, but not the total personality. 3 The capacity for change exists throughout the life cycle. 4 Accepting this theory denies the fact that the personality is capable of change throughout life.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality
10. **4 The child is in Piaget's stage of preoperational thought, which is manifested by magical thinking; therefore, teaching should also use magical thinking.**
- 1 This statement is too technical and does not take into account the child's preoperational stage of development. This statement is appropriate for an adolescent in the formal operational stage of cognitive development. 2 This statement is too direct and does not consider the child's cognitive developmental stage of preoperational thought. This statement is appropriate for an adolescent in the formal operational stage of cognitive development. Also, the use of the word "shots" may precipitate anxiety. 3 This statement is too direct and does not consider the child's cognitive developmental stage of preoperational thought. This statement is appropriate for an adolescent in the formal operational stage of cognitive development.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 15, Formation of the Personality
11. **2 The toddler is learning autonomy, but because of the nature of development, there is still physical and emotional dependence on the parents.**
- 1 The major task during infancy is the development of trust. 3 School-age children cope with the task of industry and developing skills for working in and relating to the world. 4 Preschool-age children cope with developing a sense of initiative.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality
12. **Answer: 2, 3, 5.**
- 1 At 2 to 7 years of age children are in the preoperational stage of cognitive development. They believe that external, unrelated, concrete phenomena cause illness. 2 At 17 years of age the adolescent is in the formal operational stage of cognitive development and therefore is able to understand the seriousness of leukemia. 3 At 17 years of age the adolescent is in the formal operational stage of cognitive development and therefore understands the seriousness of the illness.

The statement also reflects an adolescent's preoccupation with peer socialization. **4** At 7 to 10 years of age children are in the concrete operational stage of cognitive development. Because of their egocentrism, they believe that they are responsible for situations, such as illnesses, and are being punished. **5** At 17 years of age the adolescent is in the formal operational stage of cognitive development and therefore is able to comprehend the seriousness of leukemia and the need for treatment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality

13. 1 An 11-year-old child generally is in Erikson's stage of industry versus inferiority, which involves the mastery of skills; the child did not master the skill of lawn mowing. Also, the child will be entering adolescence (stage of identity versus confusion) when major physical and emotional changes occur in relation to how one is perceived by the self and by others.

2 A 35-year-old adult generally is in Erikson's stage of intimacy versus isolation and thus is less concerned about proving industriousness and has moved through the stage of identity versus confusion. **3** A 55-year-old adult generally is in the stage of generativity versus stagnation and is therefore less concerned about being industrious and has moved through the stage of identity versus confusion. **4** A 70-year-old adult generally is in Erikson's stage of ego integrity versus despair and is less concerned about becoming industrious and has moved through the stage of identity versus confusion.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality

14. 3 A 7-year-old child should be more concerned with same-gender relationships. A child demonstrating a strong attraction to opposite-gender relations should be questioned further regarding the possibility of sexual abuse.

1 This statement is not unusual because 7-year-old children usually are attracted to a colorful environment. **2** This statement is not unusual because 7-year-old children will want the presence of a trusted parent when experiencing stress. **4** This statement is not unusual because 7-year-old children will want the support of a trusted person when experiencing stress.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality

15. 2 Children 2 to 7 years old have difficulty distinguishing reality from fantasy, which may increase fears.

1 Children from birth to 1 year of age focus on "in the moment" thinking; preoperative preparation most likely will not be recalled. **3** Children 12 to 16 years of age can think in the abstract and have the ability to solve complex problems; children in this stage usually do not pose difficulties in preoperative teaching. **4** Children 7 to 11 years of age have the ability to comprehend and visualize a series of events and can think about the past and present; this stage provides less of a challenge to absorb preoperative teachings.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality

16. 1 This response provides an opportunity to explore feelings.

2 This is a confrontational response that may place the parent on the defensive. **3** It is the nurse's

responsibility to assess the parent's concerns before planning further interventions. **4** This is a judgmental, nontherapeutic response that may further increase the parent's concerns.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 17, General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

17. 1 Talking in the third person reflects poor ego boundaries and a dissociation from the real self.

2 Transference is the movement of emotional energy and feelings that one has for one person to another person. **3** Displacement is the attempt to reduce anxiety by transferring the emotions associated with one object or person to another. **4** Identification is an attempt to increase self-esteem by acquiring the attributes or characteristics of an admired individual.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms

18. 1 Splitting is the compartmentalization of opposite-affect states and failure to integrate the positive and negative aspects of self or others.

2 Ambivalence is the experience of feeling opposite emotions at the same time. **3** Passive aggression is the expression of hostility toward another in an indirect, nonassertive way. **4** Reaction formation is the expression of unacceptable desires by adopting opposite behaviors in an exaggerated way.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms

19. 3 Conscience and a sense of right and wrong are expressed in the superego, which acts to counterbalance the id's desire for immediate gratification.

1 This does not reflect any part of the self. **2** This is the id seeking satisfaction. **4** A healthy ego can delay gratification and is in balance with reality.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 15, Factors Involved in Personality Development

20. 2 Repression is a coping mechanism in which unacceptable feelings are kept out of conscious awareness; later, under stress or anxiety, thoughts or feelings surface and come into one's conscious awareness.

1 Isolation is the separation of a thought from a feeling tone. **3** Regression is the use of an unconscious coping mechanism through which a person avoids anxiety by returning to an earlier, more satisfying, or comfortable time in life. **4** Introjection is the integration of the beliefs and values of another into one's own ego structure.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms

21. 4 Intellectualization occurs when a painful emotion is avoided by means of a rational explanation that removes the event from any personal significance.

1 Projection is attributing unacceptable thoughts and feelings to others. **2** Dissociation is a means of handling conflict by a temporary alteration of consciousness or identity; amnesia is an example. **3** Displacement is the discharging of a pent-up feeling, generally hostility, on an object or person perceived to be weaker than the person who aroused the feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms

- 22. 1 The sense of ego integrity comes from satisfaction with life and acceptance of what has been and what is. Despair reflects guilt or remorse over what might have been.**
- 2** During puberty adolescents attempt to find themselves and integrate values with those of society; an inability to solve conflict results in confusion and hinders mastery of future roles. **3** During early and middle adulthood the individual is concerned with the ability to produce and to care for that which is produced or created; failure during this stage leads to self-absorption or stagnation. **4** Autonomy is developed during the toddler period; this is the ability to control the body and environment; doubt can result when the child is made to feel ashamed or embarrassed.
Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Formation of the Personality
- 23. Answer: 4, 5.**
- 1** This reflects a behavioral approach. **2** This reflects a psychoanalytic approach. **3** This reflects a behavioral approach. **4** Cognitive therapy seeks to find underlying self-defeating beliefs and replace them with more reality-based positive beliefs. **5** Cognitive therapy encourages the use of cognitive restructuring (cognitive reframing) through positive self-talk and rational mindset.
Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 15, Cognitive Theory
- 24. 3 These behaviors are evidence of the client's ability to act responsibly.**
- 1, 2** Although this shows an improvement, it is not related to the critical element of behavioral therapy. **4** Verbalizations without actions do not show the improvement in behavior sought in behavioral therapy.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 15, Behavioral Theory
- 25. 4 Displacement is a defense mechanism in which one's pent-up feelings toward a threatening person are discharged on less-threatening others.**
- 1** Repression is the unintentional putting out of the mind unacceptable or troubling thoughts, desires, or experiences. **2** Transference is a mechanism by which affects or emotional tones are shifted from one individual to another; it is unrelated to child abuse. **3** Manipulation is a mechanism by which individuals attempt to manage, control, or use others to suit their own purpose or to gain an advantage; it is unrelated to child abuse.
Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms
- 26. 1 Mild anxiety motivates one to action, such as learning or making changes. Higher levels of anxiety tend to blur the individual's perceptions and interfere with functioning.**
- 2** Attention is severely reduced by panic. **3** The perceptual field is greatly reduced with severe anxiety. **4** The perceptual field is narrowed with moderate anxiety.
Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Anxiety and Coping Behaviors, Overview
- 27. 3 The client's early arrival indicates an expected degree of anxiety; the quiet waiting indicates that the client has been told what to expect.**
- 1** This indicates an inadequate explanation or the inability of the client to remember the explanation that had been given. **2, 4** This indicates a high degree of anxiety that may denote a fear of the tests because they were not adequately explained.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 15, Anxiety and Coping Behaviors, Overview

28. 4 Anxiety is a human response, causing both physical and emotional changes that everyone experiences when faced with stressful situations.

1 Anxiety is experienced to a greater or lesser degree by every person. **2** The fear may be related to a specific aspect of, rather than the total, environment. **3** Anxiety does not operate from the conscious level.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 15, Anxiety and Coping Behaviors, Overview

29. 3 The individual using sublimation attempts to fulfill desires by selecting a socially acceptable activity rather than one that is socially unacceptable.

1 This is reaction formation. **2** This is regression. **4** This is repression.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 15, Defense Mechanisms

The Practice of Mental Health/Psychiatric Nursing

30. **Answer: 2, 3, 5.**

1 Registered nurses may use counseling interventions but may not perform psychotherapy; the members of the nursing team permitted to perform psychotherapy are psychiatric/mental health clinical nurse specialists and psychiatric/mental health nurse practitioners. **2** Health promotion is within the legal scope of nursing practice. **3** Case management is within the legal scope of nursing practice. **4** Only those who are legally licensed to prescribe medications, such as psychiatric nurse practitioners, may do so. **5** Treating human responses is within the legal scope of nursing practice.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 16, The Nurse's Responsibilities in Relation to the Law

31. **2 New orders must be written each time a client requires restraints. When a client is acting out, the nurse may use restraints or a seclusion room and then obtain the necessary order.**

1, 4 PRN restraint orders are not permitted. **3** Less restrictive interventions should be used when the client begins to act out; restraints are used as a last resort.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 16, Legal Concepts Related to Mental Health/Psychiatric Nursing, Overview

32. **4 The purpose of a PAD is to allow psychiatric clients the opportunity to provide input into future treatment decisions.**

1 Having a surrogate decision maker can assist in ensuring the client's wishes are followed. A client can have both a PAD and a health care proxy. **2** The client cannot dictate what treatments will be offered or given. The health care provider and treatment team will decide on a plan of care, which the client may accept or reject. **3** If the client is a threat to self or others, involuntary admission may be required whether a PAD exists or not.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Legal Concepts Related to Mental Health/Psychiatric Nursing, Overview

33. **1 An important aspect of the role of the psychiatric nurse is primary, secondary, and tertiary interventions to promote emotional equilibrium.**

2, 3 This is only a small part of the role of the psychiatric nurse, a role usually shared with others on the health team. **4** This is only a part of the role of the psychiatric nurse, since psychiatry is concerned with people with varying degrees of mental and emotional disorders.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:**

Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, General Nursing Care of Clients with Mental Health/Psychiatric Problems

34. **4 This simply states facts without getting involved in role conflict.**

1 Being a physician is a big part of this client's self-esteem, and by this remark the nurse is threatening that self-esteem. **2** This will confuse the client's role on the unit. A client who is a physician cannot be responsible for checking vital signs. **3** Threats will make the situation worse and set the tone for future negative nurse-client interactions.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Therapeutic Nurse-Client Relationship, Overview

35. **3 The nurse's major tool in mental health nursing is the therapeutic use of self. Mental health**

nurses must learn to identify their own feelings and understand how they affect the situation.

1, 2 Although this may be difficult, an awareness of self is still the most difficult. **4** This implies that the nurse is working alone in caring for the client.

Client Need: Management of Care; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Therapeutic Nurse-Client Relationship, Overview

36. 4 This statement does not prejudge the parent; it encourages communication.

1 This response disregards the parent's feelings and cuts off further communication. **2** This statement may stop communication and does not recognize the parent's concerns. **3** This statement is premature and does not recognize the parent's concerns.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Therapeutic Nurse-Client Relationship, Overview

37. 2 This statement encourages the client to express and explore feelings; also, it is open and nonjudgmental.

1, 4 This puts the client on the defensive rather than encouraging verbalization of feelings. **3** This does not encourage further conversation, and the client will not have the opportunity to express feelings; this response focuses on the nurse rather than on the client.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Therapeutic Nurse-Client Relationship, Overview

38. 2 With transference a client assigns to someone the feelings and attitudes originally associated with an important significant other.

1 With regression a client reverts to past levels of coping to reduce anxiety. **3** With reaction formation a client displays the exact opposite behavior, attitude, or feeling to that which is demonstrated in a given situation. **4** Cognitive distortions are thought patterns that exaggerate reality or are irrational, such as black-and-white thinking or overgeneralization.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 16, Therapeutic Nurse-Client Relationship, Overview

39. 1 The nurse brings to a therapeutic relationship the understanding of self and basic principles of therapeutic communication; this is the unique aspect of the helping relationship.

2, 3, 4 This supports the psychotherapeutic management model, but it is not the most important tool used by the nurse in a therapeutic relationship.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Therapeutic Nurse-Client Relationship, Overview

40. 4 In the Latino culture, usually there is a strong family bond, and the support of the family is essential during problematic times.

1 Socioeconomic status does not play more than the usual role in deciding on appropriate health care options. **2** Latino clients tend to be present, not future, time oriented. **3** Latino clients frequently believe in fate and that outcomes are influenced by external controls (e.g., divine being, authority figures).

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, General Nursing Care of Clients with Mental Health/Psychiatric Problems

41. Answer: 3, 4.

1, 2 This statement does not indicate that the client plans to harm self or others. **3** This statement indicates a suicide threat; it is a direct expression of intent but without action. **4** The threat to harm others must be heeded; the client must be protected from self harm as well as harming others. **5** This statement reflects the client's feelings of anger and the cause, but does not indicate a threat to self or others.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 16, Legal Concepts Related to Mental Health/Psychiatric Nursing, Overview

42. 1 Self-help group members share similar experiences and can provide valuable understanding and support to each other.

2, 4 Although this may occur, it is not the primary purpose of self-help groups. **3** Self-help groups provide an opportunity for people to interact, not engage in professional psychotherapy.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Group Therapy

43. 4 This reflective statement allows the client to either validate or correct the nurse.

1 This delays addressing the problem and avoids exploring feelings. **2** This is a response that gives advice and does not allow the client to explore feelings. **3** This denies the client's statement and does not allow the exploration of feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Group Therapy

44. 3 This permits the client to see that personal feelings are not unique but are shared by others.

1 This statement makes the client worry about not feeling happy. **2** This is a nonsupportive response to a realistic fear of leaving the safe hospital and going back to where problems must be confronted. **4** How the others feel about whether the client is ready to be discharged is irrelevant.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Group Therapy

45. 2 The leader should not intervene at this point; the client addressed the statement to the group, and the group response should be fostered.

1 This response may be viewed as aggressive and may make other members fearful of contributing because they might be confronted. **3** This denies the client's feelings. **4** This response may be viewed as aggressive and may make other members fearful.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Group Therapy

46. 2 Situational crises involve an unanticipated loss, such as a divorce, that is threatening to the client.

1 Social crises involve multiple losses such as those occurring during major disasters. **3** Maturational crises occur in response to stress experienced as one struggles with developmental tasks. **4** Developmental (maturational) crises are associated with developmental tasks; divorce is not a developmental task.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 16, Crisis Intervention, Overview

- 47. 2 This provides an opportunity for the other clients to voice and share feelings and to identify and separate real from imaginary fears; an open expression of feelings allows the nurse to address clients' fears and provide reassurance.**
- 1** Ignoring the situation denies reality and may precipitate or reinforce feelings of vulnerability and fear in the other clients. **3** This denies clients' concerns, which may increase their anxiety and fear. **4** This may meet the needs of these two clients but ignores the needs of the other clients.
- Client Need:** Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Therapeutic Milieu, Overview
- 48. 4 Once the client is agitated, trying to teach any information is not effective and may increase the client's anxiety. Teaching relaxation techniques can be done when the client calms down.**
- 1** Being assertive (not aggressive) shows the client the nurse is confident in handling the situation. This may help reduce the client's anxiety. **2** Responding before agitation escalates makes interventions more likely to be successful. **3** Providing choices may help the client feel less threatened and avoids a power struggle.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Assertiveness Training
- 49. 1 Individuals with a borderline personality disorder are impulsive and have difficulty identifying and respecting boundaries in relation to others.**
- 2** Exploration of this topic in a meaningful manner can occur only after an ongoing relationship has been established. **3** Feeling victimized is a frequent theme among clients with this disorder; however, they rarely have the insight to initiate discussion of these feelings and usually show resistance when the topic is mentioned. **4** An individual with a borderline personality disorder may not be able to spend this length of time having a meaningful discussion with the nurse; usually they are too impulsive to engage in consistent work until a therapeutic relationship has been established.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care
- 50. 3 Crying is a release, but the individual should have developed effective coping mechanisms by this time. The co-worker may need help with the grieving process.**
- 1** Excessive crying 16 months after the death of a loved one is not considered an expected response. **2** People express grief in a variety of ways, not necessarily by crying. **4** This is an assumption and is not a valid conclusion.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Crisis Intervention, Nursing Care
- 51. 1 The most significant factor in either precipitating or avoiding a crisis is not the events but how the individual perceives them.**
- 2** Changes in role may occur, but again, the individual's perception of these changes is most influential. **3** This may be a factor, but perception is most important. **4** This is not a significant factor; the family may provide support and a crisis can still occur.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Crisis Intervention, Overview
- 52. 2 Crisis intervention is short-term therapy with the major goal of restoring clients to their precrisis state.**

1 This is not a goal but an action to help achieve a goal; it is not part of crisis intervention. **3** This is not a goal, but rather an intervention that may be necessary if psychologic equilibrium cannot be restored. **4** This is not always necessary for clients to be able to function effectively.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Crisis Intervention, Overview

53. Answer: 1, 4.

1 A client in crisis needs to rely on available support systems for assistance; therefore, it is vital for the nurse to identify the client's support system. **2** Nothing in the history demonstrates that psychotic thoughts are present. **3** There is nothing to support that the client has issues with self-image. This would not be a priority at this time. **4** Talking about the situation helps the individual to put the crisis in perspective. **5** This will not help the client cope with the loss and may add to the client's anxiety.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Crisis Intervention, Nursing Care

54. Answer: 1, 5.

1 The nurse should assume an active role in assessing the current situation and facilitate the interview with authority. **2** This is not appropriate; the client usually needs direction to move forward. **3** This approach might be more appropriate for long-term therapy. **4** This is an analytical approach that is not appropriate for crisis intervention. **5** During crisis intervention the nurse should be goal-directed to assist the client with coping with the crisis.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Crisis Intervention, Nursing Care

55. 4 This assessment assists the nurse to determine what the situation means to the client.

1, 2, 3 This is not the priority but should be included in a later assessment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 16, Crisis Intervention, Nursing Care

56. 2 Clients in crisis need assistance with coping; the nurse must be involved with problem solving.

1, 3, 4 Although a positive interview statement, this does not focus on the nurse's involvement with problem solving.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring, Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Crisis Intervention, Nursing Care

57. Answer: 2, 1, 5, 4, 3.

2 The sooner a client who has experienced a crisis receives professional intervention, the sooner the individual can be helped to cope effectively. **1** Clients must then be stabilized to ensure that order has been reestablished to their physical and emotional status. **5** Understanding the event helps the individual to move from shock and disbelief to the next stage of coping. **4** Using resources helps the individual to move toward resolution of the crisis. **3** Eventually the client can move toward self-reliance.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Crisis Intervention, Nursing Care

58. 1 Developmental level is essential to understanding a child's response to a crisis situation; the

variety of coping abilities usually increases as the child progresses through the stages of growth and development.

2, 4 Although this is important and eventually should be done, it is not an initial assessment. **3** This should be assessed after the child's developmental level is identified.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 16, Crisis Intervention, Nursing Care

59. 2 Before progress can be made in treating anger, clients need to take responsibility for their behavior. As long as they blame others, they will not be motivated to change.

1 Clients may express remorse but continue to blame others and not feel the need for change. **3** This is a worthwhile goal, but it is more appropriate later in therapy. It is not an initial goal. **4** These clients need to change their behavior, not teach others to change.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Anger Management, Overview

60. 3 This is an assertive statement; it clearly states what the problem is and sets limits on undesired behavior without being demeaning.

1 This is a nonassertive or passive statement that denies the individual's own needs and desires. **2** This is an aggressive statement that is demeaning and intimidating. **4** This is a passive-aggressive response that avoids direct, honest confrontation for devious manipulation.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Assertiveness Training

61. 2 Nurses who work with clients who are victims of partner abuse need to be supportive and patient. It takes time and several attempts for most victims to be able to leave abusive relationships.

1 This may or may not be true. There is not enough information to support this conclusion. **3** The staff can encourage the woman to make plans for addressing various potential events. Information about social services and telephone help lines can be beneficial. **4** The nurse should not resort to shaming women in this position because it will make them less likely to seek help.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Domestic Violence, Nursing Care

62. 4 This is important because side effects and denial of illness may cause clients to stop taking their medications; this is a common cause of relapse.

1 Although this is beneficial, this may not always be possible to achieve. **2** It is impossible to create a stress-free environment; clients need to learn better ways to cope with stress. **3** Refraining from any activity that may cause anxiety is too restrictive.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Overview

63. 2 It takes 2 to 4 weeks for the drug to reach a therapeutic blood level.

1, 4 This is too short a time for a therapeutic blood level of the drug to be achieved. **3** Improvement in depression should be demonstrated earlier than this.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antidepressants

64. 1 Occipital headaches are the beginning of a hypertensive crisis that results from excessive tyramine.

2 This is unrelated to the ingestion of tyramine. **3** These are unrelated to the ingestion of tyramine. **4** Excessive tyramine causes an increase, not a decrease, in blood pressure.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antidepressants

65. 3 Lithium alters sodium transport in nerve and muscle cells and causes a shift toward intraneuronal metabolism of catecholamines. Since the range between therapeutic and toxic levels is very small, the client's serum lithium level should be monitored closely.

1 Sodium restriction may cause electrolyte imbalance and lithium toxicity. **2** This is not necessary or useful. **4** This may or may not be necessary; it depends on what the client is receiving. Also, it requires a health care provider's order.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antimanic and Mood-Stabilizing Agents

66. 4 The lithium level should be maintained between 0.5 and 1.5 mEq/L.

1, 3 This is unsafe. **2** The lithium level is currently unsafe, but it does not need to drop to 0.5 mEq/L before being resumed.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antimanic and Mood-Stabilizing Agents

67. 4 Unintentional tremors are one of the extrapyramidal side effects of the antipsychotics and are considered common and manageable.

1 This is a severe but not a common occurrence; periodic liver function tests should be performed. **2** An excessive number of melanocytes is not a side effect of antipsychotics. **3** This is not a common side effect.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

68. 2 Flumazenil (Romazicon) is the drug of choice in the management of overdose when a benzodiazepine is the only agent ingested by a client not at risk for seizure activity. This medication competitively inhibits activity at benzodiazepine recognition sites on GABA/benzodiazepine receptor complexes.

1 Lithium is used in the treatment of mood disorders. **3** Methadone is used for narcotic addiction withdrawal. **4** Chlorpromazine is contraindicated in the presence of central nervous system depressants.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antianxiety/Anxiolytic Medications

69. 2 This is a serious side effect that may occur with abrupt withdrawal from barbiturates.

1, 3, 4 This is not associated with barbiturate withdrawal.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Sedative and Hypnotic Agents

70. 2 Clients in acute withdrawal from alcohol should be medicated based on withdrawal symptoms, not medication dosage. The use of the CIWA for alcohol scale promotes assessment and evaluation of the client experiencing withdrawal.

1 Clients withdrawing from alcohol can tolerate abnormally high doses of chlordiazepoxide (Librium) and should be medicated based on withdrawal symptoms, not medication dosage. **3** There is no reason to switch to another medication because the client can tolerate higher doses of chlordiazepoxide based on the fact that withdrawal symptoms are still being displayed. **4** This is unnecessary because the client can tolerate higher doses of Librium because withdrawal symptoms are still being displayed.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antianxiety/Anxiolytic Medications

71. Answer: 3, 5.

1 This is a type I (positive) symptom. **2** This is a type I (positive) symptom. **3** Apathy is a common type II (negative) symptom; flat affect and lack of socialization also are common. **4** This is a type I (positive) symptom. **5** Disinterest in performing daily self-care activities is a common type II (negative) symptom.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

72. 4 This medication can be given IM every 2 to 3 weeks for clients who are unreliable in taking oral medications; it allows them to live in the community while keeping the disorder under control.

1 Lithium is a mood stabilizing medication that is given to clients with bipolar disorder. This drug is not given for schizophrenia. **2** Diazepam (Valium) is an antianxiety/anticonvulsant/skeletal muscle relaxant that is not given for schizophrenia. **3** Fluvoxamine (Luvox) is a selective serotonin reuptake inhibitor (SSRI); it is administered for depression, not schizophrenia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

73. 4 The use of these drugs can raise the seizure threshold, which is counterproductive.

1 A tyramine-free diet is required with MAOI therapy, not after electroconvulsive therapy. **2** Photosensitivity is not a side effect of electroconvulsive therapy. **3** A stable sodium level is necessary with lithium, not electroconvulsive, therapy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antianxiety/Anxiolytic Medications

74. 4 The development of glaucoma is one of the side effects of imipramine (Tofranil), and the client should be taught the symptoms.

1, 2 This is true of monoamine oxidase inhibitors (MAOIs). Imipramine is not an MAOI. **3** Tolerance is not an issue with tricyclic antidepressants such as imipramine.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antidepressants

75. 2 Haloperidol (Haldol) causes photosensitivity. Severe sunburn can occur on exposure to the

sun.

1 There is no known side effect that affects night driving. **3** This would be true if the client were taking an MAO inhibitor. However, people taking psychotropic medications should avoid alcohol. **4** Aspirin is not contraindicated.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

76. 4 Valproic acid (Depakene) must reach a therapeutic level to be effective, and the serum level must be monitored for therapeutic and toxic levels of the drug.

1, 2, 3 The serum drug levels are not monitored with this medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antimanic and Mood-Stabilizing Agents

77. 3 This drug does not produce an immediate effect; nursing measures must be continued to decrease the risk for suicide.

1 This precaution is not necessary. **2** These food precautions are taken with the MAO inhibitors. **4** This is not necessary with fluoxetine (Prozac).

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antianxiety/Anxiolytic Medications

78. 3 Haloperidol (Haldol) alters the effectiveness of exogenous insulin, and the combination of haloperidol and insulin must be used with caution.

1 The occurrence of respiratory depression is more likely with a combination of antipsychotics and barbiturates. **2** This would be more likely to occur if the antipsychotic were fluoxetine (Prozac). **4** There are no data to support this statement.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

79. 3 These medications are used to control the extrapyramidal (parkinsonism-like) symptoms that often develop as a side effect of antipsychotic therapy.

1 There is no documented use of these drugs with antianxiety agents because they do not have extrapyramidal side effects. **2** Barbiturates do not have extrapyramidal side effects that respond to these drugs. **4** Antiparkinsonian drugs usually are not prescribed in conjunction with antidepressants because antidepressants do not cause parkinsonism-like symptoms.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

80. 3 Clozapine (Clozaril) may cause agranulocytosis, which can result in acquiring an infection.

1 Risk for falls is more common with typical antipsychotic medications because they may cause orthostatic hypotension and extrapyramidal side effects. **2** An inability to sit still (akathisia) is more common with typical antipsychotics because they may cause extrapyramidal side effects. **4** Dizziness upon standing (orthostatic hypotension) is more common with typical antipsychotics because they may cause extrapyramidal side effects.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16,

Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

81. 4 Clients taking chlorproMAZINE should be instructed to stay out of the sun.

Photosensitivity makes the skin more susceptible to burning.

1, 2, 3 Photosensitivity is not a side effect of this medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

82. 1 Liver damage is a well-documented toxic side effect of antipsychotics. By continuing to administer the drug, the nurse failed to use professional knowledge in the performance of responsibilities as outlined in the Nurse Practice Act.

2 Blood levels must be reduced when signs of liver damage are present. **3** Liver damage, indicated by jaundice, is a well-documented side effect. **4** The antipsychotic should be stopped, not reduced; liver damage is a well-documented toxic side effect.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

83. Answer: 1, 6.

1 Acute dystonic reactions, such as tremors, dyskinesia, and akathisia, are observable side effects of fluphenazine therapy. **2** There is a decrease, not an increase, in salivation. **3** Rambling speech is not a side effect of fluphenazine therapy. **4** Reluctance to converse is not a side effect of fluphenazine therapy. **5** Minimal use of nonverbal expression is not a side effect of fluphenazine therapy. **6** Acute dystonic reactions, including uncoordinated movement of extremities, are observable side effects of fluphenazine therapy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

84. 3 This occurs as a late and persistent extrapyramidal complication of long-term antipsychotic therapy. It is most often manifested by abnormal movements of the lips, tongue, and mouth.

1, 2, 4 This is reversible with administration of an anticholinergic (e.g., benztropine [Cogentin]) or an antihistamine (e.g., diphenhydrAMINE [Benadryl]) or by stopping the medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

85. 1 The monoamine oxidase inhibitors can cause a hypertensive crisis if food or beverages that are high in tyramine are ingested.

2 This is important for clients taking one of the phenothiazines. **3** This is not contraindicated. **4** Antihistamines are not prohibited with MAOI medications.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antidepressants

86. 1 It usually takes 1 to 4 weeks to attain a therapeutic blood level of this monoamine oxidase inhibitor (MAOI).

2, 3 This medication works within 1 to 4 weeks. **4** The client needs a longer time to see an effect from this medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antidepressants

87. 1 Mydriatic action causes dilated pupils, which can precipitate an acute attack of glaucoma, resulting in blindness.

2, 3, 4 Although this is a side effect, it is not serious and can be resolved.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antidepressants

88. 2 Ziprasidone (Geodon) is a neuroleptic, which will reduce psychosis by affecting the action of both dopamine and serotonin.

1 Citalopram (Celexa) is a selective serotonin reuptake inhibitor (SSRI) antidepressant. **3** Benztropine (Cogentin) is an anticholinergic. **4** Acetaminophen with hydrocodone (Lortab) is an analgesic/opioid.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

89. 3 Olanzapine (Zyprexa, Zydis) is an oral disintegrating tablet, which will instantly dissolve on contact with moisture.

1 This medication can be given only orally. **2** Tyramine-free diets are necessary with MAOIs, not antipsychotics. **4** This is not necessary with this medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

90. Answer: 1, 2, 5.

1, 2, 5 This response may occur because of the effect of the antipsychotic on the postsynaptic dopamine receptors in the brain. **3, 4** This is a side effect of anticholinergic, not antipsychotic, drugs.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

91. 3 This is the advised intervention when a dose is missed; interruption of the medication may precipitate signs of withdrawal such as anxiety and tachycardia.

1 This provides an excessive amount of the medication at one time. **2** This is unnecessary. **4** Skipping a dose is not advised unless taking it is too close to the next regularly scheduled dose.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

92. 1 Olanzapine (Zyprexa), a thienobenzodiazepine, can cause orthostatic hypotension.

2 Blurred, not double, vision may occur. **3** An anticholinergic effect of olanzapine is decreased salivation. **4** Olanzapine may cause nausea and other GI upsets; it should be taken with fluid or food.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

93. Answer: 2, 3, 4.

1, 5 This is not associated with neuroleptic malignant syndrome. **2, 3, 4** This occurs with neuroleptic malignant syndrome as a result of dopamine blockade in the hypothalamus.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

94. Answer: 1, 3.

1 Weight gain is a common side effect of olanzapine. **2** Olanzapine (Zyprexa) has no significant effect on blood clotting time. **3** Olanzapine, being an atypical antipsychotic, affects the negative symptoms of schizophrenia, one of which is lack of pleasure (anhedonia). **4** Olanzapine, being an atypical antipsychotic, has a decreased chance of extra pyramidal side effects. **5** Olanzapine, being an atypical antipsychotic, has a significantly reduced chance of akathisia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antipsychotic Agents

95. Answer: 1, 2.

1 Since stimulants act by increasing both adrenalin and dopamine, seizures can occur. Diazepam (Valium) can decrease the chance of seizures. **2** Since amphetamines act by increasing adrenalin, which can stimulate the heart, propranolol (Inderal), a beta blocker, will decrease this adrenergic stimulation. **3** Benztropine (Cogentin), a cholinergic blocker, is not indicated as a treatment for stimulant intoxication. **4** BuPROPion (Wellbutrin) is contraindicated because it increases dopamine and adrenalin, which will exacerbate stimulant intoxication. **5** Amitriptyline is contraindicated because it increases dopamine and adrenalin, which will exacerbate stimulant intoxication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 16, Related Pharmacology: Psychotropic Medications, Antianxiety/Anxiolytic Medications

96. 3 When paroxetine (Paxil) and galantamine (Razadyne) are taken together, they potentiate the action of each other.

1 Giving these medications concurrently will not precipitate an allergic reaction. **2** Dystonic effects are associated with antipsychotic medications. **4** Extrapyrasidal effects occur with antipsychotic medications.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 16, Anti-Alzheimer Agents

Nursing Care of Clients with Disorders Usually First Evident in Infancy, Childhood, or Adolescence

97. 1 It is the most effective method for the child to play out feelings; when feelings are allowed to surface, the child can then learn to face them by controlling, accepting, or abandoning them. 2, 3, 4 This is not child-specific and generally is more suited for adolescents, young adults, and adults.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

98. Answer: 3, 5.

1 Impairments in communication and imaginative activity result in a failure to imitate others. **2** Children with autism are indifferent to or have an aversion to affection and physical contact. **3** Impairments in social interaction are manifested by a lack of eye contact, a lack of facial responses, and a lack of responsiveness to and interest in others. **4** Impairments in social interaction and imaginative activity are manifested by failure to engage in cooperative or imaginative play with others. **5** Children with autism display obsessive ritualistic behaviors, such as rocking, spinning, dipping, swaying, walking on toes, head banging, or hand biting, because of their self-absorption and need to stimulate themselves. **6** Children with autism are unable to establish meaningful relationships with adults or children because of their lack of responsiveness to others.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

99. 3 Secondary reinforcers involve the use of social approval; behaviors such as a hug meet this requirement.

1, 2 Food is a primary reinforcer and should not be associated with behavior modification. **4** The child may not be capable of selecting an appropriate secondary reinforcer.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

100. 3 Infants and toddlers 6 to 30 months of age experience separation anxiety; it is this age group's major stressor and is most traumatic to the child and parent.

1 Adolescents are often ambivalent about whether they want their parents with them when hospitalized. Peer group separation may pose more anxiety for the adolescent. **2** The school-age child is more accustomed to periods of separation from parents. **4** Separation anxiety occurs in this age group, but it is less obvious and less serious than in the toddler.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 17, Anxiety Disorders of Infancy, Childhood, and Adolescence, Data Base

101. 2 Autism impairs bonding and communication and therefore becomes apparent early in life.

1 Autism has both delayed and deviant linguistic problems. **3** About 25% of children with autism have a seizure disorder. **4** Autism may, and often does, include mental retardation.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

102. 4 Research studies have shown that the prognosis for normal productive functioning in autistic people is guarded, particularly if there are delays in language development.

1 Accurate diagnosis and early interventions have not been shown to promote a normal productive life; however, early interventions may help individuals to maximize their abilities. **2** While temperament may affect the child's response to treatment, it does not affect prognosis to any extent. **3** This is false reassurance and is not helpful.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

103. 3 Poor interpersonal relationships, inappropriate behavior, and learning disabilities prevent these children from emotionally adapting or responding to the environment despite a possible high level of intelligence.

1 It is the lack of response to stimuli that is the clue to the possibility that the child may have autism. **2** They have an aversion to physical contact. **4** They have impaired interpersonal relationships regardless of the age of the other person.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

104. 1 By 2 years of age the child should demonstrate an interest in others, communicate verbally, and possess the ability to learn from the environment. Before these skills develop, autism is difficult to diagnose. Usually by 3 years the signs of autism become more profound.

2 Autism can be diagnosed long before this age. **3, 4** Infantile autism can occur at this age but is difficult to diagnose.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

105. 1 Children with autism usually have a pervasive impairment in reciprocal social interaction. Lack of eye contact is a typical behavior associated with autism.

2, 3, 4 This is not indicative of a child with autism.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

106. 2 Entering the child's world in a nonthreatening way helps to promote trust and eventual interaction with the nurse.

1, 3 This is unrealistic at this time; this is a long-term objective. **4** This may be necessary when the child initiates self-mutilating behaviors.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

107. 3 The priority is safety; the child must be protected from self-harm.

1 Repetitive behaviors are comforting, and unless they are harmful, their limitation is not a priority. **2** Although this is a basic need that may be attained, it is not the priority. **4** Children who need help with toileting are not necessarily incontinent; in addition, this is not the priority.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 17, Pervasive Developmental Disorders, Nursing Care

108. 4 Autistic behavior turns inward. These children do not respond to the environment but attempt to maintain emotional equilibrium by rubbing and manipulating themselves and displaying a compulsive need for behavioral repetition.

1 These children do seem to respond to music, but not necessarily loud, cheerful music. **2** Large-group (or small-group) activity has little effect on the autistic child's response. **3** Part of the autistic

pattern is the inability to interact with others in the environment, regardless of the size of the group.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Pervasive Developmental Disorders, Data Base

109. **1 A universal characteristic of these children is distractibility. They are highly reactive to any extraneous stimuli, such as noise and movement, and are unable to inhibit their responses to such stimuli.**

2 Rituals are uncommon, although they do use repetition in language or movement. **3** Delayed development of language skills is not the major problem, but children with attention deficit disorder may exhibit dyslexia (reading difficulty), dysgrammatism (speaking difficulty), dysgraphia (writing difficulty), or delayed talking. **4** Loss of abstract thought is not a universal characteristic associated with children with attention deficit disorder.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Attention Deficit Hyperactivity Disorder, Data Base

110. **3 Methylphenidate (Ritalin) appears to act by stimulating release of norepinephrine from nerve endings in the brainstem.**

1 Lorazepam (Ativan) is a benzodiazepine used to treat anxiety and insomnia. **2** Haloperidol (Haldol) is an antipsychotic medication. **4** Methocarbamol (Robaxin) is a muscle relaxant.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

Ch 17, General Nursing Care of Children with Disorders First Evident in Infancy, Childhood, or Adolescence

111. **3 Focusing on specifics is important for children who are easily distracted.**

1 Focusing on more than one item at a time might be difficult for an easily distracted child. **2** Hyperactive children respond best to concrete tasks; this is not a concrete task. **4** A child who is easily distracted has difficulty talking to a group of children regarding a particular topic.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

112. **Answer: 1, 2, 5, 6.**

1 Impulsivity, the inability to limit or control words or actions, results in spontaneous, irresponsible verbalizations or behaviors. **2** Hyperactivity occurs with both words and actions. **3** This is associated with oppositional defiant disorder and is reflective of negativistic, hostile, defiant behavior toward others. **4** This is associated with oppositional defiant disorder and is reflective of insubordinate, hostile behavior toward authority; children with attention deficit hyperactivity can be annoying, but the behavior is not deliberate. **5** Games that are fun, engaging, and interactive often maintain the focus of children with attention deficit hyperactivity disorder. **6** Inattention and distractibility result in an inability to focus long enough to complete tasks.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Attention Deficit Hyperactivity Disorder, Data Base

113. **2 The longer these children stay out, the more difficult it is to get them to return to school because more fantasies and fears develop.**

1 This will feed into the child's fear that the phobia is realistic. **3** This approach is not effective. **4** This will increase, not decrease, the child's fear.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, General

Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

114. 1 School phobia is a disorder that cannot legally be ignored for long because children must attend school. It requires intervention to alleviate the separation anxiety and/or to promote the child's increasing independence.

2, 3, 4 This clinical manifestation requires the parents to comfort, to reorient to reality, and to help the child regain self-control. Legally there are no requirements mandating treatment for this common childhood problem.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Anxiety Disorders of Infancy, Childhood, and Adolescence; Data Base

115. 1 This response acknowledges the parent's distress and encourages a verbalization of feelings.

2 This response is insensitive to the parent's feelings; it may be more appropriate later when the parent's stress has diminished. **3** Although this may be true, this response is confrontational and may close off communication. **4** This response is insensitive to the parent's feelings; it may be more appropriate later if medication is prescribed and health teaching is started.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

116. 3 This disorder interferes with the ability to perceive and respond to sensory stimuli, which causes a deficit in interpreting new sensory data. This makes learning difficult and results in learning disabilities.

1, 4 This is not necessarily true. **2** This is not true; there is no mental retardation present.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Attention Deficit Hyperactivity Disorder, Data Base

117. 2 Methylphenidate (Ritalin) is an appetite suppressant; it should be given after meals.

1, 3, 4 Methylphenidate at this time may suppress the child's appetite.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

Ch 17, General Nursing Care Related to Disorders First Evident in Infancy, Childhood, and Adolescence

118. 2 External rewards can motivate as well as increase self-esteem.

1 This is unnecessary because children with attention deficit hyperactivity disorder are alert and oriented. **3** Feelings of frustration should not be suppressed, but rather the child should learn how to cope with these feelings in an acceptable manner. **4** The use of restraints is contraindicated because they are restrictive and punitive.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, General Nursing Care of Clients with Disorders First Evident in Infancy, Childhood, or Adolescence

119. 2 Oppositional defiant disorder is a repeated pattern of negativistic, disobedient, hostile, defiant behavior toward authority figures usually exhibited before 8 years of age.

1 This is associated with attention deficit hyperactivity disorder and reflects an inability to sustain focus on a task. **3** This is associated with conduct disorder and reflects a violation of a societal norm. **4** This is associated with conduct disorder and reflects a violation of the rights of another.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 17, Unspecified Conduct Disorder/Oppositional Defiant Disorder, Data Base

120. 1 Clients with conduct disorder are at risk for physically, emotionally, or sexually harming themselves or others; safety of the client and others is the priority.

2 Although this is important, it is not the priority; these children have difficulty being insightful. **3,**

4 Although this is important, it is not the priority.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, Unspecified Conduct Disorder/Oppositional Defiant Disorder, Nursing Care

121. 2 Children who exhibit behaviors associated with conduct disorder before the age of 10, rather than during adolescence, have a higher incidence of developing antisocial personality disorder during adolescence.

1 If an oppositional defiant disorder persists for at least 6 months, it may be a precursor of a conduct disorder. **3** Pervasive developmental disorders are characterized by impairments in reciprocal social interaction and communication skills; types include autistic, Asperger, Rett, and childhood disintegrative disorders; they are not preceded by conduct disorder. **4** Attention deficit hyperactivity disorder is often dually diagnosed with oppositional defiant disorder or conduct disorder and may precede the development of Tourette syndrome.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 17, Unspecified Conduct Disorder/Oppositional Defiant Disorder, Data Base

122. Answer: 4, 2, 3, 5, 1.

4 Situations that promote inattention, hyperactivity, and impulsivity should be avoided. **2** By monitoring behavior for rising anxiety, the child can then be cued to the behavior or the environmental stimuli can be limited. **3** When cues of increasing frustration are noted, the child should be sent a predetermined word, gesture, or eye contact as a reminder to maintain control. **5** When the child is unable to initiate self-control, a simple, concrete directive may interrupt and redirect the unacceptable behavior. **1** Strategic removal, such as a time-out, should be used as a last resort because it may make the child a scapegoat.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 17, General Nursing Care Related to Disorders First Evident in Infancy, Childhood, or Adolescence

123. 3 This outcome is specific for children with a risk for violence directed at others; children with the diagnosis of conduct disorder typically present with a repetitive and persistent pattern of behavior that violates the basic rights of others or major age-appropriate societal norms or rules.

1 This is a short-term goal for children with a variety of mental disorders of childhood such as attention deficit hyperactivity disorder and oppositional defiant disorder. **2** This is a short-term goal for children who have disturbed self-esteem. **4** This is a short-term goal for children who have impaired social interaction.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 17, Unspecified Conduct Disorder/Oppositional Defiant Disorder, Data Base

Nursing Care of Clients with Disorders Related to Alterations in Cognition and Perception

124. 3 This technique tests the client's ability to recall from short-term memory.

1 This part of the exam tests the ability to calculate and pay attention. **2** This part of the exam tests visual comprehension. **4** This part of the exam tests verbal skills for aphasia.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Dementia, Nursing Care

125. 4 When an older person's brain atrophies, some unusual deposits of iron are scattered on nerve cells. Throughout the brain, areas of deeply staining amyloid, called senile plaques, can be found; these plaques are end stages in the destruction of brain tissue.

1 It is associated with a chronic deterioration, not with remissions and exacerbations. **2** This may or may not be part of the disorder. **3** This is typical of vascular dementia, not dementia of the Alzheimer type.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Dementia, Data Base

126. 1 The client must be kept from harming self or others; the client needs a calm, supportive environment that meets needs and maintains dignity.

2 Alzheimer dementia is characterized by progressive deterioration that is not preventable; however, some drugs such as donepezil (Aricept) may slow mild to moderate dementia. **3** Although addressing the needs of family members is important, the focus of care primarily is on the client. **4** This may be unrealistic and is not the priority.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

127. 4 Clients with this disorder need a simple environment. Because of brain cell destruction, they are unable to make choices.

1 A well-balanced diet is important throughout life, not just during senescence; a diet high in carbohydrates and protein may be lacking other nutrients such as fats. **2** The client may be incapable of making choices; providing alternative choices will increase anxiety. **3** Emotional needs must be met on a continuous basis, not just at fixed times.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

128. 3 These clients attempt to use defense mechanisms that have worked in the past but use them in an exaggerated manner. Because of brain cell destruction, they are unable to develop new defense mechanisms.

1 Clients with dementia will depend on old, familiar defense mechanisms. **2** The client is not capable of focusing on one defense mechanism. **4** The client is incapable of developing new defense mechanisms at this time.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Dementia, Nursing Care

129. 2 Damaged brain cells do not regenerate. Care is therefore directed toward preventing further damage and providing protection and support.

1 The deterioration of the brain cells makes plans for a reeducation program unrealistic. **3** A client with this disorder may not be able to grasp, understand, or enjoy new leisure activities. **4** It is

beyond the scope of the client's ability to function in a group therapy session.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

130. **Answer: 1, 4, 6.**

1 Delirium, a transient cognitive disorder caused by global dysfunction in cerebral metabolism, causes sparse or rapid speech that may be slurred and incoherent. **2** Clients with delirium consistently are irritable, anxious, and fearful; lability of mood is associated with dementia. **3** Short-term memory loss is associated with both delirium and dementia; eventually, long-term memory loss is associated with dementia. **4** Visual or tactile hallucinations and illusions may occur with delirium because of altered cerebral functioning; hallucinations are not prominent with dementia. **5** The onset of delirium is abrupt (hours to days) and has an organic basis; it is often precipitated by drugs such as anesthesia, analgesics, and antibiotics or by conditions such as infections, end-stage kidney disease, and substance abuse or withdrawal; the onset of dementia is slow and insidious (years). **6** Clients with delirium fluctuate from hyperalert to difficult to arouse; they may lose orientation to time and place; clients with dementia do not have fluctuating levels of consciousness, but they may be confused and disoriented.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 18, Delirium, Data Base

131. **2 An illusion is a misperception or misinterpretation of an actual external stimulus.**

1 This is a false belief that cannot be changed even by evidence; it is associated with psychoses. **3** This results from an imaginary, not real, stimulus. **4** An idea of reference is a belief that others are talking about the person.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Delirium, Data Base

132. **3 A one-to-one trusting relationship is essential to help the client become more involved and interested in interpersonal relationships.**

1 Privacy usually is not an issue for a confused client who requires increased supervision. **2** A confused individual needs to start with a one-to-one relationship before progressing to group involvement. **4** Selected activities, rather than a large variety of activities, are best.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

133. **3 Clients who are out of control are seeking control and frequently respond to simple directions stated in a firm voice.**

1 "Be quiet" is an order that is nontherapeutic; furthermore, this is demeaning to the client. **2** This will not help the client gain control and might be frightening to other clients in the day room. **4** This is done only after an attempt at calming the client has failed.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

134. **Answer: 1, 2, 4, 5.**

1 Resistance to change is a clinical finding associated with dementia; these client need structure and routines. **2** An inability to recognize familiar objects (agnosia) is a typical cognitive dysfunction associated with dementia. **3** Clients with delirium, dementia, or other cognitive disorders rarely express any concern about personal appearance. The staff must meet most of these clients' personal

needs. **4** A short attention span and little or no interest in new activities are typical of dementia. **5** The past is where these clients feel more comfortable rather than the threatening present.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Dementia, Data Base

135. 2 This is a true statement; clients become progressively worse over time.

1 Alzheimer disease usually appears in people 60 years of age and older. **3** Alzheimer disease is an organic, not a functional, disorder. **4** At this time there are no diagnostic tools other than autopsy that can provide a definite confirmation of Alzheimer disease.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Dementia, Data Base

136. Answer: 1, 2, 4.

1 Monitoring weight is an objective way to assess nutritional status. **2** Specialized equipment can facilitate the client's participation in self-care. **3** The client needs to wear clothes to help maintain a positive view of self. **4** Incorporating rest periods into the client day prevents fatigue and energizes the client for the next period of activity. **5** It is not appropriate to review budgeting and use of community resources with a client in the early dementia stage of Alzheimer disease; these activities may produce frustration, withdrawal, and/or self-absorption. **6** A client with early dementia stage of Alzheimer disease usually is unable to participate in or travel with a local senior citizens group.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

137. 4 A consistent approach and consistent communication from all members of the health team help the client who has dementia remain more reality-oriented.

1 It is the staff members who need to be consistent. **2** Clients who have this disorder do not attempt to manipulate the staff. **3** This is not needed when working with clients who have this disorder; consistency is most important.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

138. Answer: 1, 3, 4, 5.

1 The behavior of clients with dementia tends to be inappropriate, restless, and agitated. **2** Pessimism is more characteristic of depression, not dementia. The two often occur together and should be identified and treated appropriately. **3** Cognitive abilities are impaired, evidenced by a short attention span, limited ability to focus, and limited judgment and insight. **4** Cognitive abilities are impaired, evidenced by disordered reasoning; speech may be incoherent; memory, particularly short-term memory, is impaired. **5** Impaired motor activity (apraxia) and impaired coordination (ataxia) are associated with dementia.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Dementia, Data Base

139. 4 The therapeutic milieu is directed toward helping the client develop effective ways of functioning safely and independently.

1 This is one small part of the overall objectives. **2** The therapeutic milieu allows some items from home to make the client less anxious; however, the objective is not to duplicate a home situation. **3** This is a worthwhile objective but not as important as maximizing safe, independent functioning.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

140. 1 Reality orientation generally is helpful to clients exhibiting mild cognitive impairment; these clients are aware of their impairment, and orientation then reduces anxiety.

2 Behavioral confrontation is not therapeutic because it may cause frustration and increase psychomotor agitation in a client with cognitive impairment. **3** Reflective communication is a technique in which the nurse restates or repeats the client's statements; it can be used to clarify thoughts but can also lead to frustration when the approach is overdone. **4** Reminiscence group therapy is helpful with severely confused, disorganized clients because it reinforces identity, acknowledges what was significant, and often compensates for the dullness of the present.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 18, Dementia, Nursing Care

141. 1 Neurofibrillary tangles in the hippocampus cause recent memory loss (amnesia); temporoparietal deterioration causes cognitive deficiencies in speech (aphasia), purposeful movements (apraxia), and comprehension of visual, auditory, and other sensations (agnosia).

2 These characteristics are related to schizoid personality. **3** These characteristics are related to schizophrenia. **4** These characteristics are related to antisocial personality.

Client Need: Psychosocial Integrity; **Cognitive Level:** Knowledge; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 18, Dementia, Data Base

142. 3 Orientation to place refers to an individual's awareness of the objective world in its relation to the self; orientation to time, place, and person is part of the assessment of cerebral functioning.

1 This requires abstract thinking, which involves a higher integrative function than orientation to place. **2** This assesses remote memory, not orientation. **4** This assesses recent memory, not orientation.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 18, Dementia, Nursing Care

143. 4 The first step in a plan of care should be the establishment of a meaningful relationship because it is through this relationship that the client can be helped.

1 This client is not getting out of bed; rest periods are not needed. **2** The client has already reduced environmental stimuli by staying in bed. Further reduction is not needed. **3** Establishing social relationships is a long-term goal.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

144. Answer: 3, 4, 1, 2, 5.

3 The nurse should first identify the client's feelings. **4** After identifying the client's feelings, the nurse should then simply explain why the voices occur. **1** The nurse should then point out reality. **2** The nurse should attempt to distract the client from the hallucination by engaging in a one-to-one activity. Also, walking will discharge energy. **5** Eventually the client may engage in a small group activity that may distract her from the hallucination.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

145. 1 Clients can sometimes learn to push auditory hallucinations aside, particularly within the

framework of a trusting relationship; it may provide the client with a sense of power to manage the voices.

2 Once it has been established that the voices are not issuing commands to harm self or others, focusing on the content of the hallucinations is not therapeutic. **3, 4** This is irrelevant; clients believe and are frightened by hallucinations.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

146. 4 Delusions are protective and can be abandoned only when the individual feels secure and adequate. This response is the only one directed at building the client's security and reducing anxiety.

1 This is almost impossible. **2** Clients cannot be argued out of a delusion. **3** The client is unable to explain the reason for the feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Delusional (Paranoid) Disorders, Nursing Care

147. 1 This response recognizes the client's feelings and provides assurance that the staff member will be present.

2 Locking the client in a room will only increase the fear and delusion. **3** The client does not know this; if the client did, delusions would not be present. **4** The client is not ready to accept this and really believes danger is imminent.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Delusional (Paranoid) Disorders, Nursing Care

148. 1 Clients cannot be argued out of delusions, so the best approach is a simple statement of reality.

2 This is a form of entering into the client's delusions; the client may feel that only a particular part was free of poison. **3** This is trying to argue the client out of the delusion. It will not work. The client can make up a reason ("They have the antidote") to continue in the false belief. **4** Threats are always inappropriate nursing interventions.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Delusional (Paranoid) Disorders, Nursing Care

149. 4 These are positive symptoms associated with schizophrenia; positive symptoms reflect a distortion or excess of normal functions.

1, 2 These are negative symptoms associated with schizophrenia; negative symptoms reflect a lessening or absence of normal functions. **3** These symptoms are associated with bipolar disorder, manic episode.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Schizophrenic Disorders, Data Base

150. 1 The initial intervention should be to demonstrate acceptance and work toward developing trust.

2 This will increase the anxiety of a psychotic client; it is a correct action in the working phase of the nurse-client relationship. **3** This delays the initial stage of the nurse-client relationship. **4** This will increase anxiety; it is an acceptable action in the ongoing working, not initial, phase of a

therapeutic relationship.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

151. 1 This message is concise and does not require decision making; it is less likely to increase anxiety.

2 This asks the client to make a decision when a “no” answer is unacceptable. **3** Requiring the client to make a decision when acutely ill may increase anxiety; also, this permits the unacceptable answer of “never.” **4** This is somewhat accusatory; it may increase anxiety by placing responsibility on the client.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

152. 3 This response demonstrates an understanding of the client’s feelings and encourages the client to share feelings, which is an immediate need.

1 This probably will increase the client’s fears. **2** This is judgmental and demeaning to the client. **4** Although this statement points out reality, it gives a command that is unrealistic and closes the communication process.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

153. 2 Clients losing control feel frightened and threatened. They need external controls and a reduction in external stimuli.

1 This is helpful for pent-up aggressive behavior but not for agitation associated with delusions. **3** The client is unable, at this time, to sit in one place; the client’s agitation is building. **4** The client may get completely out of control if allowed to continue pacing.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

154. 1 A firm approach prevents anxiety transference and provides structure and control for a client who is out of control.

2 A passive approach for a client who may be out of control does not provide structure, which may increase the client’s anxiety. **3** Although the nurse should always base a therapeutic response on empathy, an obviously empathetic response may indicate to the client that the behavior is acceptable. **4** A confrontational approach in this situation may escalate the client’s agitation and precipitate further acting out.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

155. 2 The client’s behavior is escalating and unsafe. The client should be removed from the room and taken to a place where there is decreased environmental stimulation and less chance for the client to act out against others.

1 This response accepts the physical abuse, which should never be done. **3** The behavior and the client should never be ignored; the client needs limits set on behavior immediately. **4** When a client is acting out, the nurse must intervene to stop the behavior. Discussing the client’s feelings can come later when the client is exhibiting more control.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

156. 2 Clients acutely ill with schizophrenia frequently do not trust others; feeling trapped may be frightening, causing them to lash out.

1 There is no indication that voices are speaking to the client in this instance. **3** Clients acutely ill with schizophrenia usually are more concerned with what is happening to them and are not able to be concerned about others. **4** Although this may be true, it is not the primary motivation for this behavior.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Schizophrenic Disorders, Data Base

157. 2 This response focuses on a feeling that the client may be experiencing and provides an opportunity to validate the nurse's statement.

1 This response demands that the client stay in an uncomfortable situation without offering any support. **3** This response fails to recognize the part anxiety plays in changing behavior. **4** This response seems like an attack on the client; also, although it offers an explanation for the behavior, it fails to convey an understanding that changing behavior is anxiety-producing.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

158. 3 This accepts the client but rejects the behavior. The nurse should set limits on this behavior when it is not performed in a private area.

1 This is unrealistic and violates the client's rights. **2** This is a punishment rather than a setting of limits. **4** The client may be too anxious at this time to understand a conversation about acceptable and unacceptable behavior. The nurse has a responsibility to the other clients to limit the behavior.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

159. 1 An interpersonal relationship based on trust must be established before clients can be helped.

2 This is an important part of the treatment and care, but it is of lesser importance than a trusting relationship. **3** Socialization comes at a later time in therapy. **4** There is nothing to indicate a need to remove the client from the home.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

160. 1 The nurse, demonstrating knowledge and understanding, accepts the client's perceptions even though they are hallucinatory.

2 This may increase the client's guilt and fear. **3** This may increase the client's fear. **4** This presents reality but negates the client's feelings and asks for an unrealistic response.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

161. 4 This response interjects reality and focuses on the client's behavior.

1 This response elicits a yes or no answer and does not foster communication. **2** This is a directive

response that will be perceived as threatening to a disturbed client experiencing hallucinations. **3** Although this interjects reality, it is not the most therapeutic response because it does not address the client's feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

162. 1 The client needs limits to be set. This response sets limits and rejects the behavior but accepts the client.

2 This does not help raise the client to a functioning level. **3** This serves no useful purpose; inappropriate behavior should be addressed when first noted. **4** This is a punishing action; it shows no support or acceptance of the client.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring, **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

163. 4 Command hallucinations are dangerous because they may influence the client to engage in behavior dangerous to self or others.

1 Although profane language may be a cause for concern, it is not as dangerous as command hallucinations. **2** Although excessive touching of others may be a cause for concern, it is not as dangerous as command hallucinations. **3** Although withdrawn behavior may be a cause for concern, it is not as dangerous as command hallucinations.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

164. 1 This lets the client know that the nurse is available. It also demonstrates an acceptance of the client.

2 This is an avoidance technique; it shows a lack of acceptance of the client as a person. **3** Another client's perception of the incident may or may not be valid. **4** Although it is important to document the incident on the client's record, it does not take precedence over letting the client know the nurse is available if needed.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

165. 3 The client is voiding on the floor not to express hostility but because of confusion. Taking the client to the toilet frequently limits voiding in inappropriate places.

1 This is a form of punishment for something the client cannot control. **2** This is not realistic; it will have no effect on the problem and may lead to physiologic problems. **4** If the client were doing this to express hostility, this intervention might be effective, but not when the client is unable to control the behavior.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

166. 2 This response reflects on the client's feelings rather than focusing on the verbalization.

1 This response focuses on the statement rather than on the feeling behind it. **3** This response dismisses the client and the client's feelings. **4** This response puts the client on the defensive and asks for verification that the nurse is indeed a good person; it fails to focus on the feeling behind the statement.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

167. 3 Encouraging the client to focus on the self will facilitate communication and foster self-perception.

1 This denies the client's feelings and provides false reassurance. **2** This denies the client's experience. **4** This denies the client's feelings and provides false reassurance.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

168. 1 Assisting clients with grooming keeps them in contact with reality and allows them to realize that staff members care enough to help.

2 This is not as important as grooming at this time. **3** A one-to-one relationship is best initially. **4** The client may withdraw even more.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

169. 1 Nursing care involves a steady attempt to draw the client into some response. This can best be accomplished by focusing on nonthreatening subjects that do not demand a specific response.

2 The client is not ready yet to discuss feelings; the first step is to focus on nonthreatening subjects. **3** Questions like these do not encourage communication. **4** By doing this, the nurse is showing acceptance of the client but is doing nothing to encourage communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

170. 1 Keeping the withdrawn client oriented to reality prevents further withdrawal into a private world.

2 A gradual involvement in selected activities is best. **3** This is futile at this time. **4** The client is unable to tell anyone why this is so.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

171. 2 By observing the client the nurse is better able to understand the client's behavior, which can be an indication of feelings.

1 It is only one of the many aspects that are part of confirming a diagnosis; this is true in the care of all clients, not just the withdrawn individual. **3** Observation alone is insufficient to make this judgment; however, it allows the staff to individualize the plan of care to suit the client's needs. **4** It is more important to have insight into what the person may be feeling rather than the degree of depression.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 18, Schizophrenic Disorders, Nursing Care

Nursing Care of Clients with Disorders Related to Anxiety and Alterations in Mood

172. 2 With akathisia the client exhibits a constant state of movement; this is characterized by restlessness and difficulty sitting still, including constant jiggling of the arms and/or legs.

1 The distortion of voluntary movements, such as tics, spasms, or myoclonus, is known as dyskinesia. **3** This is a form of catatonia known as waxy flexibility. **4** This is known as echopraxia.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 19, Generalized Anxiety Disorder, Data Base

173. 4 Recognition of anxiety or symptoms of increasing anxiety is an indication that the client is improving.

1, 3 This does not indicate improvement or recognition of feelings; the client may be doing what others expect. **2** Avoidance of anxiety is not a good indication of improvement; there is no guarantee that anxiety can always be avoided.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 19, Generalized Anxiety Disorder, Nursing Care

174. 2 The client's current behavior is the best indicator of the client's current level of functioning; all behavior has meaning.

1, 3, 4 This is important and should be assessed, but it is not the best indicator of the client's current level of functioning.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 19, Generalized Anxiety Disorder, Nursing Care

175. 1 The client can no longer control or tolerate overwhelming feelings and is seeking help.

2 The client has not indicated plans for self-harm. **3** This behavior is not typical of a narcissistic personality. **4** This behavior does not indicate a demanding personality.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 19, Panic Disorder, Data Base

176. 3 The nurse who is anxious should leave the situation after providing for continuity of care; the client will be aware of the nurse's anxiety, and the nurse's presence will be nonproductive and nontherapeutic.

1, 2 This meets the nurse's need; this response may make the client feel guilty that something was said that upset the nurse. The client will be aware of the nurse's anxiety, which will increase the client's own anxiety. **4** The client will probably sense the nurse's anxiety through nonverbal channels, if not through verbal responses.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Anxiety Disorders

177. 3 With phobias, the individual transfers anxiety to a safer inanimate object or situation. Therefore, the anxiety and resulting feelings will be precipitated only when in direct contact with the object or situation.

1 Phobias are severe anxiety reactions and are not attention-seeking actions. **2** It is not thinking about the feared object that causes anxiety; it is the possibility of having to come into contact with it. **4** It is the presence of the phobic object or situation that triggers the anxiety, not the unfamiliarity of the environment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Phobic Disorders, Data Base

178. **2 The most successful therapy for clients with phobias involves behavior modification techniques using desensitization.**

1 Insight into the origin of the phobia usually is not successful in helping clients overcome phobias. **3** This may increase understanding of the phobia but may not help the client to cope with the fear; there is no psychotic thought process associated with phobias. **4** Psychoanalysis may increase understanding of the phobia but may not help the client cope successfully with the overwhelming fear.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Phobic Disorders, Data Base

179. **Answer: 3 tablets. Use the “Desire over Have” formula of ratio and proportion to solve this problem.**

$$\begin{array}{r} \text{Desire } 1.5 \text{ mg} \\ \hline \text{Have } 0.5 \text{ mg} \end{array} = \frac{x \text{ tablet}}{1 \text{ tablet}}$$
$$0.5 x = 1.5 \text{ tabs}$$
$$x = 1.5 \div 0.5$$
$$x = 3 \text{ tablets}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

180. **2 Recurrence of attacks is a common concern.**

1 This statement redirects the focus to the nurse, which is not therapeutic. **3** Although this initially focuses on feelings, it then cuts off communication. **4** The focus should be on the client, not what the family believes.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Panic Disorder, Data Base

181. **Answer: 2, 4, 5.**

1 Feelings of guilt may emerge later when the individual moves from focusing on the self to an increased interaction with others. **2** Shock and disbelief are the initial responses to a traumatic experience; a situational crisis usually is unexpected, and its impact causes disequilibrium. **3** Concern for others emerges later after the individual is able to set aside or resolve own needs. **4** A crisis causes disequilibrium, and the individual experiences confusion, disorganization, and difficulty making decisions. **5** When a person is unable to cope, helplessness and regression often emerge; a crisis occurs when there is a painful, frightening event that is so overwhelming an individual's usual coping mechanisms are inadequate.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Posttraumatic Stress Disorder, Data Base

182. **3 The client will tend to avoid emotional attachment to significant others because this is a**

common way to protect the self from the experience of potential future losses. The priority at this time is to have family members develop an understanding of what is happening to the client.

1 Although it is important to keep the client safe and secure when in the home, the family should not restrict the client to the home environment. **2** Although issues concerning the client's problems need to be resolved, this is not the priority. **4** Although this discussion may be necessary, it is not the priority.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Anxiety Disorders

183. 4 This increases the individual's ability to cope with stress; different defenses can be used in various situations.

1 The client already has identified the problem. **2** This may or may not be helpful. **3** People should not ignore situations that impact them.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Anxiety Disorders

184. Answer: 1, 3, 4, 5.

1 Excessive anxiety and worry about a number of events, topics, or activities for a 6-month duration are associated with a generalized anxiety disorder. **2** Acting-out anxiety with antisocial behavior is most commonly found in individuals with personality rather than anxiety disorders. **3** Regression is an attempt during periods of stress to return to behavior that has been satisfying and is appropriate at an earlier stage of development. **4** This is an example of a conversion disorder, which decreases anxiety. **5** This is typical of a phobic disorder, which decreases anxiety.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Generalized Anxiety Disorders, Data Base

185. 4 The fight-or-flight responses of the sympathetic nervous system are stimulated, causing an increase in blood glucose through glycogenolysis and gluconeogenesis.

1 The pupils dilate, not constrict, to facilitate the entry of visual stimuli. **2** The bronchioles dilate, not constrict, to facilitate gas exchange. **3** The blood pressure increases, not decreases, to shunt blood to vital centers.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Generalized Anxiety Disorder, Data Base

186. 3 Learning a variety of coping mechanisms helps reduce anxiety in stressful situations.

1 A person must learn to cope with unpleasant events; they cannot be avoided. **2** Prolonged exposure may increase anxiety to possibly uncontrollable levels. **4** Fearful situations can never be viewed as pleasurable.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Anxiety Disorders

187. 1 By staying physically close, the nurse conveys the message that someone cares enough to be there and that the client is a person worthy of care.

2 The client is incapable of telling anyone what the problem is. **3** Sitting still will increase the tension the client is experiencing. **4** This is not an initial nursing intervention.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Panic Disorder, Nursing Care

188. 3 The client is experiencing a psychological conflict that is manifested by a change in body function. Paralysis or blindness justifies the inability to move in any direction.

1 It is an unconscious method of solving a conflict. **2** It is necessary for the client to focus on the problem causing the disorder, not on the cure. **4** It is more important that the client learn how to manage personal feelings before addressing family conflicts that may or may not exist.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Conversion Disorders, Data Base

189. 2 Somatization is erroneously attributing an anxious feeling to a body system or part.

1 Dissociation is separating an overwhelming event from one's consciousness. **3** The stress response results from being exposed to a threatening stimulus. **4** An anxiety reaction is the body's reaction to a stressful event.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Major Somatoform Disorders, General Nursing Care of Clients with Somatoform Disorders

190. 3 The conversion type of defense tends to be a learned behavioral response that the individual will use when experiencing excessive stress.

1 This is not a likely occurrence. **2** Psychiatric treatment may be needed at different times throughout life but usually not on a continuous basis. **4** Based on studies of this disorder, its course is somewhat predictable; it usually returns when the client is under severe stress.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Conversion Disorders, Data Base

191. 3 The physical symptoms are not the client's major problem and therefore should not be the focus for care. This is a psychologic problem, and the focus should be in this domain.

1 This is focusing on the physical symptom of the conflict; the client is not ready to give up the symptom. **2** The disorder operates on an unconscious level but is very real to the client; this response denies feelings. **4** Psychotherapy is needed at this time, not physical therapy.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Conversion Disorders, Nursing Care

192. 2 The client's anxiety results from being unable to choose psychologically between two conflicting actions. The conversion to a physical disability removes the choice and therefore reduces the anxiety.

1 The anxiety is not free-floating or diffuse but rather localized and converted to a physical disability. **3** The conversion of the anxiety to a physical disability occurs on an unconscious level; the original anxiety no longer exists, and the client generally is not anxious about the physical disability. **4** The anxiety is internalized into a physical symptom, not projected onto the environment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Conversion Disorder, Data Base

193. 4 The psychophysiologic response (e.g., hyperfunction or hypofunction) creates actual tissue change. Somatoform disorders are unrelated to organic changes.

1 There is an emotional component in both instances. **2** There is a feeling of illness in both instances. **3** There may be a restriction of activities in both instances.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Conversion Disorders, Data Base

194. 1 The client is using this compulsive behavior to control anxiety and needs to continue with

it until the anxiety is reduced and more acceptable methods are developed to handle it.

2, 4 This will not change the client's behavior; the client cannot stop the compulsive act because it reduces anxiety. **3** This will greatly increase anxiety; compulsive behavior is a defense that cannot be interrupted until new defenses are learned.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

195. 1 By carrying out the compulsive ritual the client unconsciously tries to control anxiety by avoiding acting on unacceptable feelings and impulses.

2 This mechanism does not operate on a conscious level. **3** Hallucinations are not part of this disorder. **4** They feel no need to punish others.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Data Base

196. 2 This sets an unrealistic limit that will increase anxiety by removing a defense the client needs.

1 This is done in therapy as the client's condition improves. Insight is slowly developed to minimize anxiety. **3** This will increase self-esteem and self-control, not increase anxiety. **4** This will reduce, not increase, anxiety, because the client will feel free to express feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

197. 4 These clients can work through their underlying conflicts more easily or productively when demands are reduced and the routine is simple.

1 Preventing these clients from carrying out rituals can precipitate panic reactions. **2** The intent of therapy should be to help the client gain control, not to enable others to do the controlling. **3** Since anxiety stems from unconscious conflicts, a controlled environment alone is not enough to effect resolution.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

198. 4 Knowledge of a schedule allows the client to prepare for transitions; hurrying can increase anxiety and the performance of the ritual. Routines will also decrease anxiety and the need for the ritual.

1 This is one of the objectives to be accomplished later during the client's hospitalization, not in the initial phase. Some clients will never be able to identify the purpose of their ritual beyond the fact that it helps decrease their anxiety. **2** This is not an initial intervention because it will increase anxiety. **3** This action is an appropriate intervention during the working phase of the nurse-client intervention, not the initial phase.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

199. 4 The symptoms are a defense against anxiety resulting from decision making, which triggers old fears; the client needs support.

1 This ultimately denies the client's overwhelming anxiety and lacks realistic support. **2** This is judgmental; the client should be encouraged to work through symptoms, not avoid risk. **3** This is judgmental; an increase in anxiety does not necessarily mean the client does not want to attain the goal.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

200. 4 The repeated thought or act defends the client against even higher, more severe levels of anxiety.

1, 3 To deny the client the ritual may precipitate panic levels of anxiety. **2** Usually these clients recognize that the ritual serves little purpose.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Data Base

201. 3 This outcome will result from teaching the client to recognize situations that provoke ritualistic behavior and from the client learning how to interrupt the pattern.

1, 2 This is not a priority; the client probably had little difficulty in this area. **4** No evidence was presented to indicate the client was hallucinating.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

202. 3 Fluvoxamine (Luvox) blocks the uptake of serotonin, which leads to a decrease in obsessive-compulsive behaviors.

1 Bzotropine (Cogentin) is an antiparkinsonian agent, not an antianxiety agent **2** Amantadine is an antiparkinsonian agent, not an antianxiety agent. **4** Diphenhydramine (Benadryl) is an antihistamine, not an antianxiety agent.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Data Base

203. 1 The repeated act defends the client against severe anxiety; interruption of the ritual will result in increased anxiety.

2 The performance of a ritual is not anger turned inward on the self; the ritual reduces anxiety. **3** Rituals are not activities that enhance self-esteem; they control anxiety. **4** Pointing out that the behavior is inappropriate will further increase anxiety. The client does not want to perform the ritual, but feels compelled to do so to keep anxiety at a controllable level

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

204. 4 The client's exact adherence to carrying out the compulsive ritual relieves anxiety, at least temporarily. Furthermore, it meets a need and is necessary to the client.

1 The compulsive act is purposeless repetition and useful only in that it temporarily decreases anxiety for the client. **2** Urging has no effect on trying to have the client start or stop the ritualistic behavior. **3** The person cannot stop the activity; it is not under voluntary control.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

205. 4 Helping clients understand that a behavior is being used to control anxiety usually makes them more amenable to psychotherapy.

1 Treatment includes activities to help the client, not others. **2** The client usually understands this already. **3** This will only mask symptoms and will not get at the root of what is bothering the client.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

206. 4 Accepting these clients and their symptomatic behavior sets the foundation for the nurse-client relationship. Setting limits provides external controls and helps lower anxiety. This intervention is appropriate during the working phase, not the initial phase, of a therapeutic

relationship.

1 Restricting movements will have no effect other than to increase anxiety. **2** This will increase their anxiety and increase their use of the behavior. **3** This is unrealistic.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Obsessive-Compulsive Disorder, Nursing Care

207. 1 Clients with a somatoform disorder are preoccupied with the symptoms that are being experienced and usually do not want to talk about their emotions or relate them to their present situation.

2 Clients with a somatoform disorder do not seek opportunities to discuss their feelings. **3** Memory problems are not associated with somatoform disorders. **4** These clients want and seek treatment, not palliative care.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, General Nursing Care of Clients with Somatoform Disorders

208. 4 This statement recognizes feelings and tells what is expected.

1 This is threatening and gives false reassurance; it puts the responsibility on the client and does not allow for expression of feelings. **2** This may lead the client to think that the environment is unsafe, which may increase insecurity and anxiety. **3** Being with other people in a strange situation will add more stress to the new and already frightening experience of hospitalization.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

209. 3 This is a direct response to the client's concern and allows some exploration of food choices.

1 Focusing on several caretakers does little to meet the client's basic security needs. **2** This does not address the client's comment that "no one cares." **4** This encourages dependency on the nurse; the message is "Do it for me, not because it is important for you."

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

210. 4 As depression increases, thought processes become slower and verbal expression decreases.

1 The affect of the depressed person usually is one of sadness, or it may be blank. **2** Loose associations are characteristic of clients with schizophrenia, not depressed clients. **3** Decreased physical activity will not produce physical exhaustion.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Major Depression, Data Base

211. 1 Routines should be kept simple, and no demands should be made that the client cannot meet. The client is depressed, and all reactions will be slow. Putting pressure on the client will increase anxiety and feelings of worthlessness.

2 The client will have to focus on personal strengths, not on family strengths. **3** This feeds into the client's feelings of unworthiness and frustration. **4** Feelings of worth must come from within the individual; the nurse must reassure the client through actions, not words.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

212. 1 Because major depression is due to the client's feelings of self-rejection, it is important for the nurse to have the client initially identify these feelings before a plan of care can be developed. Later discussion should be on other topics to prevent reinforcement of negative thoughts and feelings.

2 This is asking the client to draw a conclusion; the client may be unable to do so at this time. Also, a depression may not be related to external events but to a client's psychobiology. **3** Asking "why" does not let a client explore feelings; it usually elicits an "I don't know" response. **4** This is beyond the scope of the client's abilities at this time.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

213. 4 Bringing another client into a set situation is the most therapeutic, least-threatening approach.

1 At this point in time it is not therapeutic to allow the client to follow solitary pursuits; it will promote isolation. **2** Explanations will not necessarily change behavior. **3** This transfers the nurse's responsibility to the health care provider.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

214. 2 An art-type project that may be worked on successfully at one's own pace is appropriate for a depressed client.

1, 4 This requires too much concentration and may increase the client's feelings of despair. **3** This client is probably experiencing psychomotor retardation, and at this time this activity would not be appropriate.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

215. 2 This provides support and security without rejecting the client or placing value judgments on the behavior.

1 Eventually limits will have to be set in giving care, but staying with the client and showing acceptance are immediate nursing actions. **3** Although this will calm the client, it does not address the problem. **4** This ignores the problem; isolation implies punishment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

216. 3 Involving the client in a one-on-one conversation provides individualized, low-anxiety-producing attention and gives the message that the client is important, which supports self-esteem.

1 This may require too much concentration for a depressed client. **2** This may require too much concentration for a depressed client; also, it involves competition, which is not therapeutic at this time. **4** A depressed client does not have the energy to engage in a game of Ping-Pong; also, this is a competitive game, which is not therapeutic at this time.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

217. 2 This statement identifies the importance of feelings and provides an opening for the client to talk about them.

1 The client is not going to believe this, and it is not helping the client to express feelings. **3** The nursing goal is to help people function outside the hospital environment and not be afraid to leave the hospital. **4** This statement is unrealistic and avoids the client's cry for help.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

218. 4 This statement points out reality while accepting that the client believes the feelings and thoughts are real.

1 This is false reassurance; there are no data about the client's family. **2** The client does not know this and believes the opposite to be true. **3** This is reality, but it is not a supportive response.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

219. Answer: 1, 2, 3, 4, 5.

1, 5 This intervention is required in this situation; physiological stability must be maintained. **2, 3** Suicidal impulses take priority, and the client must be stopped from acting on them while treatment is in progress. **4** A therapeutic relationship must develop so that the client can trust the nurse to provide a safe environment and help emotional recovery.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

220. 2 Directness is the best approach at the first interview because this sets the focus and concern and lets the nurse know what the client is feeling now.

1 At this point the client is most likely unable to think past the present, much less deal with future plans. **3** This is an indirect approach, but initially the direct approach is best. **4** This is one resource for input; but regarding suicide, it is best to approach the client directly.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

221. 1 Suicidal impulses take priority, and the client must be stopped from acting on them while treatment is in progress. The client's safety is the focus of nursing interventions.

2 This has a very low order of priority. The client is focusing on the present personal situation, not the outside world. **3** This is a secondary concern. **4** Reassurance will not change the client's belief.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

222. 4 This response recognizes feelings and behavior and encourages the client to share feelings; it also promotes trust, which is essential to a therapeutic relationship.

1 While it is important to record behavior and notify the health care provider, it is not enough and does not meet the client's needs. **2** This will not meet the depressed client's needs. **3** This assumes too much and may be inaccurate.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

223. 4 This acknowledges the client's feelings, offers hope, and assists the client to a higher level of functioning.

1 This ignores the client's feelings and may not be true. **2** This denies the client's feelings, and feeling better cannot be guaranteed. **3** This minimizes the client's feelings, and the client is not interested in how others feel.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

224. 1 These clients usually can be distracted by planned involvement in repetitious, simple tasks.

2 This should be employed only if the client's restlessness cannot be controlled with other measures and the physical exhaustion creates a danger. **3** This is abusive treatment for a client with a need to pace and reinforces the client's belief that punishment is required for redemption. **4** The client may perceive this isolation as a punishment, and it will prevent the staff from observing the client.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

225. 4 The nurse's response urges the client to reflect on feelings and encourages communication.

1 This is shifting responsibility from the nurse to the health care provider; it is an evasive response. **2** This is not what the client is asking the nurse; it closes the door to further communication. **3** This response can elicit a "yes" or "no" answer; it does not encourage communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

226. 4 A major part of depression involves an inability to accept the self as it is, which leads to making demands on others to meet unrealistic needs.

1 A short-term goal is to talk about the client's depressed feelings; a long-term goal is to look at what is causing those feelings. **2** Developing new defense mechanisms is not the priority because they tend to help the client avoid reality. **3** This is not important or crucial to the client's recovery.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

227. 2 This is the most therapeutic approach to prevent suicide. A staff member also provides special attention to help the client meet dependency needs and reduce a self-defeating attitude.

1 This response negates the client's feelings and cuts off further communication. **3** This is unrealistic because the nurse cannot be with the client constantly until the depression lifts. **4** Although this should be done, the priority is 24-hour observation of the client.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

228. 3 This gives the client the nonverbal message that someone cares and views the client as

being worthy of attention and concern.

1 The concentration required for chess is too much for the client at this time. **2** The client is incapable of making decisions at this time. **4** Depressed clients often have too much thinking time.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

229. Answer: 1, 2.

1 In some people withdrawal, apathy, immobility, and irritability intensify when considering suicide. **2** This behavior indicates that the student expects no future. **3** It is typical to pay tribute to dead friends. **4** Talking about the event helps to resolve the conflict involved. **5** Becoming involved in school activities demonstrates a return to usual life patterns.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Data Base

230. 4 Fatigue and apathy are symptoms of depression and should be accepted; however, limits should be set to facilitate participation in unit activities.

1 This allows the client to manipulate the environment. **2** This will not change the client's mind about the activities. This response does not show an understanding of the client's needs. **3** This will reinforce negative feelings about participating in the activities.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

231. 4 This statement lets the client know the nurse realizes the client is having difficulty without asking direct questions or focusing on specific behavior.

1 This is an avoidance technique. **2** This response is stated more like an order than an offering of an opportunity to express feelings. **3** This is negating the client's feelings. The nurse should talk to the client without expectations that the client will "calm down."

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Major Depression, Nursing Care

232. 2 Suicidal gestures involve superficial, nonlethal injuries; the client has no intent to die as a result of the injuries.

1 Suicidal threats are a person's verbal statement of intent to commit suicide; there are threats but no action. **3** Suicidal attempts are actual implementations of severe self-injurious acts; there is an attempt to cause serious self-harm or death. **4** Suicidal ideations are a person's thoughts regarding suicide; there is no definitive intent or action expressed.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Data Base

233. 3 This question focuses the interaction toward the future and invites the client to explore alternative coping strategies.

1 This question explores past coping strategies and should have been asked as a part of the initial assessment. **2** This question attempts to explore the client's insight into present coping strategies, which should have been done before discussing the alternatives. **4** This question asks the client once more to ensure that all the precipitating stressors have been identified; this should have been done in the initial assessment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

234. 3 Spending extra time with the client demonstrates that the client is worthy of the nurse's time and that the nurse cares.

1 This does not show the acceptance and care that sitting with the client would. **2** The client may be unable, at this time, to expend energy on anything outside the self. **4** It is unlikely that the client will respond to the nurse because the client feels unworthy and depressed, or the client may just say no.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

235. 3 This statement demonstrates an understanding that the newly discharged client needs to have a support system when discharged. Clients need to feel that in a crisis there will be someone there for them.

1 The role of the nurse was not to become a good friend but to aid the client in becoming a functioning being again. **2** This statement provides false reassurance; the nurse does not know this. **4** This is unprofessional and blurs the roles of nurse and client.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

236. 3 This statement is honest and helps establish trust. Also, the client may realize that staff members care.

1 This response places the client on the defensive. **2** This is an inappropriate response to an obvious situation. **4** This is an evasive response.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

237. 2 This encourages the client to talk about feelings without the nurse setting the focus for the discussion.

1 This cuts off further communication of feelings; the client's statement may indicate a desire to act on the suicidal ideation. **3** This response does not foster communication and a discussion of feelings. **4** This will make the client wonder where the nurse had been for 4 days.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

238. 4 Ambivalence about life and death plus the introspection commonly found in clients with emotional problems can lead to increased anxiety and fear among the group members.

1 These feelings must be handled within the support and supervisory systems for the staff; the group members are the primary concern. **2** This probably will be a secondary concern of the group leader. **3** It is not a primary concern, but this should be explored later to determine the reason for such apparent indifference, which may be a mask to cover feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

239. 1 Electroconvulsive therapy, which interrupts established patterns of behavior, helps relieve symptoms and limits possible suicide attempts in clients with severe, intractable depression that

does not respond to antidepressant medication.

2 The client's depressed mood limits participation in psychotherapy; feelings precipitated by therapy may lead to suicidal acting out. **3** Psychotherapy is directed toward helping the person learn new coping mechanisms and better ways of coping with problems; the depressed client needs direction to accomplish this. **4** Antianxiety medications usually are not prescribed for clients with depression.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Data Base

240. 1 Clients fear this therapy because they think it will be painful. If they are reassured that they will be asleep and have no pain, there will be less anxiety.

2 No treatment requiring anesthesia is totally safe. **3** Clients may not realize their own fears and not know what questions to ask; this statement cuts off further communication. **4** Temporary, not permanent, loss occurs.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Data Base

241. 3 The staff's presence provides continued emotional support and helps relieve anxiety.

1 Although the client should be aware that this may occur, it is not the priority information that should be discussed with the client. Also, a mild analgesic will be prescribed if a headache occurs. **2** The treatments may not make the client feel better; this is false reassurance. **4** Not all clients experience amnesia, and the amnesia is temporary; placing emphasis on amnesia will increase fear.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

242. 4 The electrical energy passing through the cerebral cortex during electroconvulsive therapy (ECT) results in a temporary state of confusion after treatment.

1, 2, 3 This is not a usual or expected side effect.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Data Base

243. 4 This response expresses the nurse's positive thoughts about the client while letting the client know that the nurse is concerned.

1 This demonstrates the nurse's positive thoughts about all people and does not focus on the client specifically. **2** Although this response may promote verbalization of feelings, it does not communicate the nurse's positive regard for the client, which might support a more positive self-esteem. **3** The client may not be aware of what caused feelings of insignificance and may not be able to answer this question.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring;

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing Care

244. 2 Self-esteem and feelings of competence are increased when a person experiences success.

1 Although this is a necessary intervention when a depressed client attempts to commit self-harm, it will not promote feelings of self-esteem. **3** Clients recognize unwarranted praise and often interpret these responses as a form of belittlement or pity. **4** This may or may not increase self-esteem; also, the client may not have the physical or emotional energy to interact with other clients.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Nursing

Care

245. 1 This response uses paraphrasing to demonstrate to the client that it is all right to talk about these feelings; it recognizes the client's sense of hopelessness without intensifying the feeling while providing an opportunity to verbalize further.

2 Although this may be a true statement, it takes the focus away from the client. **3** This information is insignificant at this time; this question might be appropriate after the client's feelings have been validated and discussed. **4** This takes the focus off the client's feelings and places it on a philosophical level.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

246. 1 Overactive individuals are stimulated by environmental factors. A responsibility of the nurse is to simplify their surroundings as much as possible.

2 The quiet client may become the target of this client's overactivity. **3** During this phase the client needs a decrease in stimuli. **4** During this phase the client needs a decrease in stimuli; placing two overactive clients together may produce excessive stimuli.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

247. 4 The client's behavior demonstrates increased anxiety. Since it was directed toward the new staff, it was probably precipitated by their arrival.

1 The client is not filling the "life-of-the-party" role; the client is resorting to previous coping behavior in the face of extreme stress. **2** This is possible, but the remark is more indicative of increased anxiety. **3** The client is aware of what is going on and who everyone is at this time.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Data Base

248. 3 Recognizing the language as part of the illness makes it easier to tolerate, but limits must be set for the benefit of the staff and other clients. Setting limits also shows the client that the nurse cares enough to stop the behavior.

1 This statement shows little understanding or tolerance of the illness. **2** Ignoring the behavior is a form of rejection; the client is not using the behavior for attention. **4** This statement demonstrates a rejection of the client and little understanding of the illness.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

249. 1 A person with a condescending, superior attitude frequently evokes feelings of anger in others, which helps to decrease their anxiety.

2 It is unlikely that a condescending, superior attitude will produce feelings of dependency in others. **3** It is unlikely that a condescending, superior attitude will produce feelings of inadequacy in others. **4** It is unlikely that a condescending, superior attitude will produce feelings of ambivalence in others.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

250. 3 During periods of hyperactivity the client has a short attention span and can be distracted easily; this is a therapeutic intervention for all the clients.

1, 4 This approach may increase anxiety, activity, and aggressive behavior. **2** The nurse should be

empathetic, not sympathetic.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

251. 4 Physical activity will help use some of the excess energy without requiring the client to make decisions or forcing other clients to deal with the behavior.

1 The client's extreme activity limits concentration or task completion. **2** The client may disrupt the unit because of the excess activity and bossiness associated with this disorder. **3** The client needs guidance and is not able to guide others.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

252. 2 Hyperactive clients frequently will not take the time to eat because they are overinvolved with everything in their environment.

1 This is indicative of a depressive episode. **3** The client is unable to sit long enough with the other clients to eat a meal; this is not conscious avoidance. **4** The client probably gives no thought to food because of overinvolvement with the activities in the environment.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Data Base

253. Answer: 4, 3, 5, 1, 2.

4 Diversional activities should be the first intervention attempted because it does not involve any restriction on client activities and manic patients are easily distracted. **3** Limit setting should be the next intervention attempted because it is minimally restrictive. **5** Medication administration, although considered a chemical restraint, is less restrictive than restraints or seclusion. **1** Seclusion is more restrictive but less restrictive than restraints. **2** Restraints are the most restrictive intervention in psychiatric nursing.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, General Nursing Care of Clients with Mood Disorders

254. 4 Clients who are out of control need controls set for them. The staff must understand that the client is not deliberately trying to disrupt the unit.

1 This is demeaning the client in the eyes of the other clients, and it does not address the problem directly. **2** Ignoring the client will not stop the disruptive behavior; the nurse has a responsibility to the other clients. **3** This may be a last resort taken to solve the problem but should not be used until other alternatives are explored.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:**

Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

255. 3 Hyperactive clients burn up many calories, which must be replenished. Since these clients will not take the time to sit down to eat, providing them with food they can carry with them sometimes helps.

1 The client probably will not be aware of hunger and may go without food for a dangerously long time. **2** The client is not capable of preparing food at this time. **4** The client probably will not be aware of hunger and will not independently initiate eating.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 19, Manic Episode of a Bipolar

256. 1 Hyperactive behavior in individuals such as this is typical of the manic flight into reality associated with mood disorders.

2 The behaviors are more indicative of a mood disorder than a personality disorder. **3** Ritualistic, not manic, behavior is indicative of obsessive-compulsive disorder. **4** A flat affect and apathy are more indicative of a schizophrenic disorder.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Data Base

257. 1 This will help reduce the client's anxiety, thereby reducing hyperactivity.

2 It is not possible to physically control hyperactivity. **3** The client is not capable of choosing activities at this time. **4** The client may not be capable of controlling overactive behavior; setting verbal limits may not be effective.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

258. 3 The hyperactive client usually is easily distracted, so the excess energy can be redirected into constructive channels.

1 There is nothing to indicate that the client is not in touch with reality. **2** The client will talk a great deal with no encouragement. **4** The client will not be able to focus long enough on one task to finish it.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

259. Answer: 4, 5, 6.

1 Passiveness is exhibited when clients turn anger inward and show little emotion. It frequently occurs during the depressive stage of bipolar disorder. **2** Dysphoria, a depressed, sad mood, is associated with the depressive stage of bipolar disorder. **3** Anhedonia, an inability to feel pleasure, is associated with the depressive stage of bipolar disorder. **4** Grandiosity is manifested by extravagant, pompous, flamboyant beliefs about the self, which frequently occur during manic phases of bipolar disorder. **5** As mania increases, the client's rate of speech increases, and speech is delivered with urgency (pressured speech). **6** Clients experiencing a manic episode have difficulty blocking out incoming stimuli, which results in distractibility and responses to irrelevant stimuli.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 19, Manic Episode of a Bipolar Disorder, Data Base

260. 1 The goal is 6 to 8 hours of rest at night; too much time spent sleeping in the daytime will defeat the goal of adequate rest at night.

2 This intervention contributes to the client's desire for relaxation and sleep. **3** This supports the client's hypersomnia; the client already sleeps too much. **4** This will increase the metabolic rate, which is not conducive to rest.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 19, Depressive Episode of a Bipolar Disorder, Data Base

Nursing Care of Clients with Disorders Related to Alterations in Behavior

261. 2 The client is too anxious to sleep in a four-bed room and should be moved to a private room.

1 Just talking about the problem will not improve it; moving the client to a private room is a better intervention at this time. **3** This response does not address the problem at its inception. **4** This is false reassurance.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Sleep Disorders, Nursing Care

262. 2 Narcolepsy is overwhelming sleepiness that results in irresistible attacks of sleep, loss of muscle tone (cataplexy), and/or hallucinations or sleep paralysis at the beginning or end of sleep episodes; the person usually awakens from the sleep feeling refreshed.

1 Insomnia is difficulty in initiating or maintaining sleep. **3** Sleep terrors are recurrent episodes of abrupt awakening from sleep accompanied by intense fear, screaming, tachycardia, tachypnea, and diaphoresis with no detailed dream recall. **4** Sleep apnea is a breathing-related sleep disorder caused by disrupted respirations or airway obstruction; the usual sleeping pattern is disrupted numerous times throughout the night.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Sleep Disorders, Data Base

263. Answer: 3, 5, 6.

1 A heavy meal places pressure against the diaphragm that may be uncomfortable, and the body is expending energy to digest the food. A light, not heavy, snack is preferred before bedtime. **2** The bed should be used exclusively for sleep so that the expectation when getting into bed is that sleep will be the outcome. **3** Lying in bed when one is unable to sleep increases frustration and anxiety, which further impede sleep; other activities, such as reading or watching television, should not be conducted in bed. **4** Although milk may promote sleep, tea contains caffeine, which is a stimulant that should be avoided after the midafternoon; otherwise, it may interfere with sleep. **5** Exercise during the day uses energy that promotes sleep at night; exercise too close to bedtime is stimulating and may interfere with sleep. **6** Counting backward requires minimal concentration, but it is enough to interfere with thoughts that distract a person from falling asleep.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Sleep Disorders, Nursing Care

264. Answer: 1, 4, 6.

1 Acute or primary insomnia is caused by emotional or physical stress not related to the direct physiologic effects of a substance or illness. **2** Severe anxiety usually is related to a psychiatric disorder and therefore causes a secondary insomnia. **3** Generalized pain usually is related to a medical or neurologic problem and therefore causes a secondary insomnia. **4** Excessive caffeine intake can cause disruptive sleep hygiene; caffeine is a stimulant that inhibits sleep. **5** Chronic depression usually is related to a psychiatric disorder and therefore causes a secondary insomnia. **6** Environmental noise causes physical and/or emotional discomfort and therefore is related to primary insomnia.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Sleep Disorders, Data Base

265. 4 The problem is psychologic. Therefore, the nurse's initial approach should be directed toward establishing trust.

1 The client is convinced of being overweight; complimenting the adolescent will not change the adolescent's self-perception. **2** This may be a nursing intervention after trust has been established. **3** The client is not ready for this information.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, General Nursing Care of Clients with Eating Disorders

266. 2 A goal focuses on where the client should be after certain actions are taken; this client needs to gain weight.

1 This may set up a struggle between the client and the nurse; the focus of care should not be on the actual intake of food. **3** Behavior modification techniques work much better than group therapy; these clients lack insight and will focus on food, not eating. **4** These clients talk freely about food; this is not therapeutic.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 20, Anorexia Nervosa, Nursing Care

267. 3 This is objective proof that eating behaviors have improved.

1 "Stashing" of food is an eating disorder characteristic, not a sign of improvement. **2** This is subjective information and may be manipulative. **4** "Marathon meals" with little actual food ingestion is a common behavior of people with anorexia.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 20, Anorexia Nervosa, Nursing Care

268. 3 Electrolyte imbalances can precipitate dysrhythmias that can be life-threatening.

1 Although clients with the diagnosis of anorexia nervosa have low self-esteem, and identifying and supporting strengths promote the development of a positive self-regard, this is not the priority at this time. **2** These clients are perfectionists who usually do not display impulsivity. **4** This is difficult to accomplish initially because these clients often deny the illness and evade therapeutic treatment.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Anorexia Nervosa, Data Base

269. 3 These clients hide much of their bingeing and purging behaviors and, unlike clients with anorexia, may have near-ideal body weights.

1 Clients with bulimia nervosa usually are not obese. **2, 4** This is associated with clients with both anorexia and bulimia.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Bulimia Nervosa, Data Base

270. 4 Realistic guidelines reduce anxiety, increase feelings of security, and increase adherence to the therapeutic regimen.

1 A controlling environment sets up a power struggle between these clients and the nurse. **2** These clients need realistic rules and regulations that they identify as helpful, not empathy. **3** This is not therapeutic; focusing on food may result in a power struggle between these clients and the nurse.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Bulimia Nervosa, Nursing Care

271. Answer: 1, 2, 5.

1 Clients with borderline personality disorder often lead complex, chaotic lives because of the inability to control or limit impulses. **2** Extremes of emotions can be displayed over short periods of time and range from apathy and boredom to anger. **3** This is associated with obsessive-compulsive disorders. **4** This is associated with mood disorders such as depression. **5** Impulsive acts, such as reckless driving, spending money, or engaging in unsafe sex, often result in self-destructive consequences.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Personality Disorders, Data Base

272. 4 Clients must first become aware of their behavior before they can change it.

1, 2 Confrontation may increase anxiety, anger, and agitation. **3** This occurs after the client is aware of behavior and has a desire to change it.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

273. 2 To gain control, clients often try to split the staff apart, separating the nurse from the rest of the treatment team; confidentiality is not expected to be maintained among professionals caring for a client, because it is detrimental to the client's therapy.

1 This response reinforces the team approach to care. **3** This response both reinforces the team approach and avoids providing false assurance that the information will be kept secret. **4** This does not provide false assurance that the information will be kept secret.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

274. 4 Clients with borderline personality disorder frequently demonstrate a pattern of unstable interpersonal relationships, impulsiveness, affective instability, and frantic efforts to avoid abandonment; these behaviors usually create great difficulty in establishing mutual goals.

1, 2, 3 Although the client with a borderline personality disorder may have difficulty in this area, it is not the most significant issue.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Data Base

275. 3 Informing the client in a matter-of-fact tone indicates that negotiation is unacceptable.

1 Holding the client by the arm is an inappropriate use of force. The nurse should contact the police if the client continues to refuse to leave. **2** Raising the voice to a client indicates frustration and can be interpreted as threatening. **4** Using the baseball player to meet control issues indicates to the client that the nurse is unable to maintain control of the situation.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

276. 4 These clients usually display social inadequacy and lack of emotional contact with others.

1 These behaviors probably reflect an obsessive-compulsive personality disorder. **2** These behaviors probably reflect a dependent personality disorder. **3** These behaviors probably reflect a narcissistic personality disorder.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Personality Disorders, Data Base

277. 3 These clients are withdrawn, aloof, and socially distant; allowing distance and providing

support may encourage the eventual development of a therapeutic alliance.

1 Manipulative behavior is typical of clients with the diagnosis of antisocial personality disorder or borderline personality disorder. **2** Group therapy will increase this client's anxiety; cognitive or behavioral therapy is more appropriate. **4** Seductive behavior is associated with clients with the diagnosis of histrionic personality disorder.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

278. 3 Clients with histrionic personality disorder draw attention to themselves, are vain, and demonstrate emotionality and attention-seeking behavior.

1 These are typical of clients with the diagnosis of narcissistic personality disorder. **2** These are typical of clients with the diagnosis of obsessive-compulsive personality disorder. **4** These are typical of clients with the diagnosis of antisocial personality disorder.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Personality Disorders, Data Base

279. 3 Validating the client's frustration and correcting behavior are the most appropriate responses; safety is a priority.

1 This response does not validate the client's feelings. **2** Sending the client out of the room without offering support and direction is not an appropriate nursing response. **4** Threatening seclusion is an inappropriate nursing intervention.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

280. 3 These clients interact with others through manipulation, aggressiveness, and exploitation; therefore, clear limits must be set with consistently enforced consequences for crossing set boundaries.

1 These clients can be too assertive; this approach is appropriate for a client with the diagnosis of dependent personality disorder. **2** These clients need a firm, consistent approach with clear and realistic limits on inappropriate behavior; this approach should be used with clients who have the diagnosis of avoidant personality disorder. **4** The nurse should provide a neutral, nonemotional approach with clear, realistic boundaries and consequences.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

281. 3 Individuals with this personality disorder tend to be self-centered and impulsive. They lack judgment and self-control and are unable to postpone gratification.

1 Generally, the opposite is true. **2** These individuals believe that the rules do not apply to them and they do not profit from their mistakes. **4** These people are too self-centered to have a sense of responsibility to anyone.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Personality Disorders, Data Base

282. 3 Self-motivation and self-satisfaction are of paramount concern, and they have little or no concern for others.

1 Clients with an obsessive-compulsive disorder, not an antisocial personality disorder, engage in rituals. **2** These people are extremely dependent on others. They count on others to extricate them from their problems. **4** These people usually are charming on the surface and can easily "con" people into doing what they want.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Personality Disorders, Data Base

283. 3 This response sets clear limits on their relationship and maintains a professional rather than a social role.

1 This response shifts responsibility from the issue at hand to the institution. **2** This response avoids the real issue and shifts responsibility to the ethical code. **4** This response does not clarify the nature of the relationship as professional.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

284. 2 When the individual consciously pretends to have an illness with no physical basis, it is called malingering.

1 People who are psychotic experience delusions, hallucinations, and disorganized thoughts, speech, or behavior. **3** A person out of contact with reality is unable to pretend to be ill. **4** The use of conversion defenses is not a conscious act.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Factitious Disorders, Data Base

285. 4 This sets realistic limits on behavior without rejecting the client.

1 This will constitute a rejection of the client rather than the behavior. **2** This will encourage further manipulation by the client. **3** The other client is entitled to a special time with the nurse; this is inconsistent limit-setting on the part of the nurse.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Personality Disorders, Nursing Care

286. 1 When a client has an adjustment disorder, anxiety may be related to a disturbance in self-esteem, and depression may be related to impaired social interaction.

2 Problems with memory are not specifically related to an adjustment disorder. **3** Activity intolerance, which is related to oxygenation problems, is not associated with adjustment disorders. **4** A client with an adjustment disorder does not experience a disturbance in personal identity.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Adjustment Disorders, Data Base

287. 1 Intrinsic motivation, stimulated from within the learner, is essential if rehabilitation is to be successful. Often clients are most emotionally ready for help when they have "hit bottom." Only then are they motivationally ready to face reality and put forth the necessary energy and effort to change behavior.

2, 4 This is an important factor but not the most important one. **3** This is an important factor and a helpful one, but not the most important one.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

288. 3 Thiamine is a coenzyme necessary for the production of energy from glucose. If thiamine is not present in adequate amounts, nerve activity is diminished and damage or degeneration of myelin sheaths occurs.

1 A traditional phenothiazine is a neuroleptic antipsychotic that should not be prescribed because it is hepatotoxic. **2** Antipsychotics are avoided; the use of these has a higher risk for toxic side effects in older or debilitated persons. **4** Chlorpromazine, a neuroleptic, will not be used because it is severely toxic to the liver.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse, Data Base

289. 1 This presents reality and answers the client's question.

2 This is entering into the misperception of reality. **3, 4** This intervention provides comfort and may reduce anxiety, but it should follow the priority intervention of pointing out reality.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse and Dependency, Nursing Care

290. 2 Alcoholics Anonymous is a self-help group of individuals who meet together to attain and maintain sobriety.

1 A social group centers on building interpersonal relationships through participation in mutual activities. **3** A resocialization group centers on increasing social skills that may be diminished or lacking. **4** A psychotherapeutic group treats mental and emotional disorders by psychologic techniques and always has a member of the health care profession as its group leader.

Client Need: Psychosocial Integrity; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

291. 1 These clients often use denial as a defense against feelings of guilt; this will reduce anxiety and protect the self.

2 Denial may make a client seem more stable to others, not independent. **3** Denial deals more with a client's own expectations. **4** This may be part of the reason, but the bigger motivating factor is to decrease guilt feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

292. 4 The individual is unaware of gaps in memory and therefore uses stories in an attempt to deny or cover up the gaps.

1 Lying is a deliberate attempt to deceive rather than a face-saving device for loss of memory. **2** Denying is blocking out of conscious awareness rather than a cover-up for loss of memory. **3** Rationalizing is used to explain and justify the behavior rather than to cover up the loss of memory.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

293. 4 Members find empathy, patience, and understanding in the group. They are able to have their dependence needs met while helping others who are even more dependent.

1 This is helpful, but it does not have the success rate of AA. **2** This is important for the detoxification stage, not for overall therapy. **3** This may be helpful for some clients, but it does not have the success rate of AA.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

294. 2 The CAGE screening test for alcoholism contains four questions, corresponding to the letters CAGE: C—Have you ever felt you ought to Cut down on your drinking? A—Have people Annoyed you by criticizing your drinking? G—Have you ever felt bad or Guilty about your drinking? E—Have you ever had a drink first thing in the morning (as an "Eye-opener") to steady your nerves or get rid of a hangover?

1, 3 This question is 1 of the 26 questions on the Michigan Alcohol Screening Test (MAST). **4** This

question is 1 of the 10 questions on the Alcohol Use Disorders Identification Test (AUDIT).

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Alcohol Abuse and Dependency, Nursing Care

295. **Answer: 1.5 mL. Solve for x by using the “Desire over Have” formula of ratio and proportion.**

$$\frac{\text{Desire}}{\text{Have}} \frac{7.5 \text{ mg}}{5 \text{ mg}} = \frac{x \text{ mL}}{1 \text{ mL}}$$

$$5 x = 7.5$$

$$x = 7.5 \div 5$$

$$x = 1.5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

296. **2 This focuses on the client’s feelings rather than the organization itself. The organization is effective only when the client is able to discuss feelings openly.**

1 This may or may not be true. **3** This is false reassurance; AA may help clients develop insight but may not be able to help them cope with their problems. **4** This response does not focus on the client’s feelings and may be discouraging.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse and Dependency, Nursing Care

297. **1 The purpose of a self-help group is for individuals to develop their strengths and new, constructive patterns of coping.**

2, 3, 4 This is just one of the purposes of group therapy.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

298. **3 This statement reflects the underlying theme in the client’s statement and nonjudgmentally encourages the client to verbalize further.**

1 This is a judgmental response that may cut off further communication. **2** Although this is a true statement, it does not promote further communication, nor does it promote continued attendance. **4** This is an inaccurate conclusion based on incomplete information; also, it is judgmental and may cut off further communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse and Dependency, Nursing Care

299. **4 Referral to a community-based self-help group is an essential component of the discharge plan to provide ongoing support.**

1 The client probably does not need a halfway house. **2, 3** Although some forms of therapy may be

helpful, the most successful intervention for alcohol abuse is Alcoholics Anonymous.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

300. 3 Alcohol, a depressant, will result in rebound agitation with elevated vital signs when there is acute abstinence. A further assessment is indicated, and then the health care provider should be notified of the client's status.

1 Although this may be done eventually, reducing environmental stimuli is an insufficient initial intervention. **2** Although this may be done eventually, constant observation is an insufficient initial intervention. **4** Although this may be done eventually, monitoring the client is an insufficient initial intervention in light of the client's elevated vital signs and changing status.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Alcohol Abuse and Dependency, Data Base

301. 4 When clients with alcohol problems voice a desire for help, it usually signifies they are ready for treatment because they are admitting they have a problem.

1 Adherence to an alcohol treatment program requires abstinence. **2** This is too short a time to signal readiness for treatment. **3** Hospitalization alone is not an indication that the client is really ready for treatment because many factors can influence admission.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Alcohol Abuse and Dependency, Nursing Care

302. 2 Attendance at AA meetings on a daily basis usually indicates an acceptance of the problem and a desire for help.

1 Attendance at counseling sessions is helpful but is not specific to the problem of alcoholism. **3** Clients with alcohol problems should not sponsor other clients until a long period of sobriety is maintained. **4** Clients with alcohol problems may say they are sorry many times but still not take responsibility for their drinking problem.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 20, Alcohol Abuse and Dependency, Nursing Care

303. 1 The client must first acknowledge that a substance abuse problem exists and is creating chaos; verbalizing that a problem exists indicates that the client is not in denial and is demonstrating the first step toward a readiness to change.

2 Once a problem is identified, then the numerous ways that drug use has controlled the client's life can be explored. **3** Once a problem is identified, then the client can explore the use of substances and the resulting lifestyle problems. **4** Once a problem is identified, then the nurse can assist the client to express and process negative feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 20, Drug Abuse, Nursing Care

304. 2 Methadone can be legally dispensed; the strength of this drug is controlled and remains constant from dose to dose, which is uncertain with illicit drugs.

1 Methadone is used in the medically supervised withdrawal period to treat physical dependence on opiates; it substitutes a legal for an illegal drug. Methadone may be administered long term to replace illegal opioid use. If methadone treatment is abruptly stopped, there will be withdrawal symptoms. **3** Methadone is a synthetic opioid and can cause dependence; it is used in the treatment of heroin addiction but may be prescribed for people who have chronic pain syndromes. It is not used for acute postoperative pain. **4** Methadone is not known to have this action.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Nursing Process: Planning/Implementation; **Reference:** Ch 20, Drug Abuse, Data Base

305. 2 When methadone is reduced, a craving for opioids may occur, anxiety will increase, agitation will occur, and the client may try to leave the hospital to secure drugs.

1, 3 These are not related to methadone reduction. **4** These may occur with methadone overdose.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 20, Drug Abuse, Nursing Care

306. 3 Constricted pupils is a physical response to opioid intoxication; the pupils will dilate with opioid overdose.

1 Opioids cause apathy or a depressed, sad mood (dysphoria); lability of mood is associated with the use of anabolic-androgenic steroids. **2** Opioids cause drowsiness and psychomotor retardation; alertness is associated with the use of stimulants such as caffeine and amphetamines. **4** Opioids depress the respiratory center of the brain, causing slow, shallow respirations; increases in temperature, pulse, respirations, and blood pressure are associated with cocaine use.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Drug Abuse, Data Base

307. 3 When naloxone is metabolized and its effects are diminished, the respiratory distress caused by the original drug overdose returns.

1, 4 There are no reports of these effects. **2** A combination of these drugs does not cause cardiac depression.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 20, Drug Abuse, Data Base

308. 2 Stimulants increase the excitatory neurotransmitters (e.g., adrenaline and dopamine), which will lower the seizure threshold.

1 A person who is under heavy influence of stimulants will be unable to rest and sleep because of stimulation of the sympathetic nervous system. **3** Although dehydration can occur, it is not the priority concern. **4** Suicidality is of greatest concern during stimulant withdrawal, not when grossly impaired by stimulants.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Drug Abuse, Data Base

309. Answer: 1, 2, 5, 6.

1 Cocaine is an alkaloid stimulant; euphoria or affective blunting is associated with cocaine intoxication. **2** Cocaine is an alkaloid stimulant; agitation or anger is associated with cocaine intoxication. **3** Panic attacks are associated with hallucinogens. **4** Slurred speech is associated with opioids. **5** Cocaine is an alkaloid stimulant; hypervigilance is associated with cocaine intoxication. **6** Cocaine is an alkaloid stimulant; impaired judgment and impaired social functioning are associated with cocaine intoxication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Drug Abuse, Data Base

310. 1 The greatest risk in cocaine withdrawal is risk for self-injury.

2 The risk for seizure is increased while under the influence of cocaine, not during withdrawal. **3** Although dehydration can occur during cocaine use and withdrawal, it is not the priority concern. **4** People in cocaine withdrawal, although irritable, are more apt to hurt themselves than others.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Drug Abuse, Nursing Care

311. 2 If seizures were physiologically based, the client would not be able to continue to chew gum. This “attack” should be reported as a behavioral response, with the characteristics associated with the situation noted.

1 The chewing gum is not a danger when the client is not having a true seizure. **3** This is not necessary. **4** This is unsafe; it is not used in a true seizure.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 20, Factitious Disorders, Data Base

312. 2 Maintaining open communication is important for any therapeutic nurse-client relationship.

1 Confrontation will put the parent on the defensive and close off communication. **3** Health teaching at this time is premature; the parent is not ready for this approach. **4** Validation of the child’s physical status focuses on the physical symptoms, which will reinforce the parent’s behavior.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 20, Factitious Disorders, Nursing Care

Nursing Care of Clients with Sexual and Gender Identity Disorders

313. 1 Clients with these sexual disorders usually have many other emotional problems that may be overt or covert in nature.

2 There is no proof of a deficiency of these hormones. **3** This has no basis in fact. **4** There is expected development of sexual organs in individuals with paraphiliac sexual disorders.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 21, Paraphilias, Data Base

314. 2 This identifies feelings and provides the client with an opportunity to talk.

1 This statement ignores feelings and does not help the client cope with the situation. **3** This may or may not be true and may be false reassurance. **4** The nurse does not know this to be a fact.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 21, Paraphilias, Nursing Care

315. 4 The nurse is legally responsible to report suspected child abuse to the appropriate child protection agency. The agency must assess the situation and intervene if necessary to protect the child.

1 Asking the child to describe the touching may cause more psychologic trauma; the nurse should listen and demonstrate concern. **2** The nurse does not need any more data to have a reasonable suspicion of child abuse. It must be reported. **3** Contacting the father may result in more abuse or in the child not reporting future abuse.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 21, Paraphilias, Nursing Care

316. Answer: 2, 1, 3, 4, 5.

2 Because “the self” is the most important factor the nurse brings to the nurse-client therapeutic relationship, the nurse must understand personal feelings about issues surrounding this client’s situation and needs; this is part of the preorientation phase of a therapeutic relationship. **1** In a therapeutic relationship the client is the focus of care, and the relationship should be based on respect. **3** In an atmosphere of respect, the client will then more likely express feelings. **4** The client considering sex reassignment surgery should explore all alternatives. However, once the decision is made, the nurse should support it. **5** After this important decision is made, the client may need assistance with how to inform significant others.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 21, Gender Identity Disorders, Nursing Care

317. Answer: 1, 2, 3.

1 Flushing is a common central nervous system response to sildenafil (Viagra). **2** Headache is a common central nervous system response to sildenafil. **3** Dyspepsia is a common gastrointestinal response to sildenafil. **4** Diarrhea, not constipation, is a common gastrointestinal response to sildenafil. **5** Hypotension, not hypertension, is a cardiovascular response to sildenafil. It should not be taken with antihypertensives and nitrates because drug interactions can precipitate cardiovascular collapse.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 21, Sexual Dysfunction, Nursing Care

318. 2 Exposing the genitals and masturbating in a public place are unacceptable behaviors. Unacceptable behavior should be pointed out to the client and the client instructed to stop. Exhibitionism usually is done for shock value rather than as a preamble to sexual assault or rape. If the client wishes to masturbate, this activity can be carried out in private.

1 Unacceptable behavior should never be ignored. The client needs limits set on this type of behavior. **3** This may eventually be done. However, the client must first be given the opportunity to change his behavior. **4** Although the nurse must recognize that this behavior is related to his illness, it is not the nurse's role to seek out or prescribe medication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 21, General Nursing Care of Clients with Sexual and Gender Identity Disorders

319. 1 This response communicates to the client that the nurse is willing and able to explore this concern. It is an open-ended statement that allows the client to control the direction of the conversation.

2 With this response the nurse abdicates responsibility to the health care provider. The nurse is capable and legally responsible to collect information and explore client feelings and concerns. **3** This response is premature; it moves immediately to a solution before adequate information has been collected. Also, the term *erectile dysfunction* is related to a medical diagnosis and its use at this time may increase client anxiety. **4** Although sexual functioning diminishes as men age, there are many factors that influence sexual functioning (e.g., physiologic problems, interpersonal conflicts, emotional stress).

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 21, General Nursing Care of Clients with Sexual and Gender Identity Disorders

320. 2 This statement is related to a sexual arousal disorder, which is a partial or complete failure to achieve a physiologic or psychologic response to sexual activity.

1 This statement may indicate a sexual desire disorder in which the individual has deficient, absent, or extreme aversion to and avoidance of sexual activity. **3, 4** This statement is related to an orgasmic disorder, which is a delay in or absence of an orgasm or premature ejaculation.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 21, Sexual Dysfunction, Data Base

321. 1 During the acute phase of mania, the focus of care should be on maintaining the safety of the client and others and decreasing the client's energy expenditure. Hypersexuality is often associated with the manic episode of bipolar disorder. Obtaining sexual pleasure by exposing the genitals (exhibitionism) is a paraphilia. A private room protects the other clients and provides privacy for the client.

2 The client is too hyperactive to engage in group activities, and hypersexual behavior may precipitate anxiety in the other clients. Also, manic clients can be overly competitive, which can disturb other clients. Activities at this time should be solitary or one-on-one with the nurse or nursing assistant. **3** Manic clients have flight of ideas (rapid racing thoughts) and are easily distracted. Introspection and the development of insight cannot occur during this phase of the illness. **4** The hyperactive client will not have the self-control to sit long enough to eat a meal. The

nurse should provide finger foods (e.g., sandwich, fruit, milkshake) and encourage the intake of food with short declarative statements that direct the client to eat (e.g., “finish your sandwich,” “eat this banana”). Also, hypersexual behavior may precipitate anxiety in the other clients.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 21, General Nursing Care of Clients with Sexual and Gender Identity Disorders

322. 4 Adults may have consensual sex as desired, but the nurse should encourage the use of birth control and protection from sexually transmitted infections.

1 The nurse is interjecting personal values by stating the client should seek counseling for this behavior. **2** The nurse is interjecting personal values by implying that the client’s behavior is immoral. **3** If the sex is consensual it is not abusive.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 21, General Nursing Care of Clients with Sexual and Gender Identity Disorders

323. 2 Masturbating is a healthy human sexual behavior. The client should be provided with private time. The client has the right to meet physical needs while not imposing the behavior on others.

1 Moving the roommate to another room could be ineffective because this may happen with the client’s future roommate. **3** This response does not address either client’s needs. **4** Masturbating is an acceptable human behavior if practiced in private.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 21, General Nursing Care of Clients with Sexual and Gender Identity Disorders

324. 1 If a client reveals a predilection for pedophilia, it is most important to assess if the client has ever acted on these thoughts because the best predictor of future behavior is past behavior.

2 No human thoughts are unacceptable; therapy is indicated if they are ego-dystonic. **3** Humans may have bizarre sexual fantasies, but it is their behavior about which they will be judged, not their thoughts. **4** This is premature; the nurse has not obtained information about whether he has acted on these thoughts.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:**

Communication/documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 21, Paraphilias, Nursing Care

325. 3 When a client reveals something, it is important for the nurse to gather more information. This response promotes further communication. Assessment is the first step of the nursing process.

1 This statement is a subjective, judgmental response by the nurse that reflects the nurse’s view of sexuality in older adults. **2** This statement interjects the nurse’s view and violates the concept of neutrality when counseling clients. **4** Having the client speak to his health care provider may be indicated eventually, but first the nurse must obtain more information.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 21, Sexual Dysfunction, Nursing Care

UNIT 4

Childbearing and Women's Health Nursing

Nursing Care to Promote Childbearing and Women's Health

Health Promotion

Female Reproductive System

Ovaries: Female Gonads

A Located behind and below fallopian tubes, anchored to uterus and broad ligaments; size and shape of large almonds

B At birth, contain several hundred thousand graafian follicles (epithelial sacs in which ova develop) embedded in connective tissue

C Between menarche and menopause, one follicle matures each month, ruptures from ovarian surface, is expelled into pelvic cavity, and enters fallopian tube

D Functions

1. Oogenesis: formation of a mature ovum in graafian follicle
2. Ovulation: expulsion of ovum from follicle into pelvic cavity
3. Release of ovarian hormones: maturing follicle produces estrogens (estradiol, estrone, and estriol); corpus luteum produces progesterone and estrogens
 - a. Estrogens: stimulate development of secondary sexual characteristics (e.g., breasts, pubic hair) and thickening of endometrium; accelerate protein anabolism; stimulate long bone calcification
 - b. Progesterone: prepares endometrium for implantation of fertilized ovum; inhibits uterine contractions during pregnancy; promotes development of alveoli of estrogen-primed breasts in preparation for lactation

Fallopian Tubes (Oviducts)

A Location: attached to upper, outer angles of uterus

B Structure: distal ends fimbriated and open into pelvic cavity; mucosal lining of tubes and peritoneal lining of pelvis in direct contact

C Function: ducts through which ova travel from ovaries to uterus; location of fertilization

Uterus

A Location: in pelvic cavity between bladder and rectum

B Structure

1. Shape and size: pear-shaped, approximate size of clenched fist
2. Divisions
 - a. Corpus (body): upper, main portion; fundus is bulging upper area of corpus; two openings from fallopian tubes, one into cervix
 - b. Cervix: narrow, lower portion; internal os adjacent to uterus; external os adjacent to vagina; isthmus (lower uterine segment) separates corpus from cervix
3. Layers of uterus
 - a. Endometrium: inner layer
 - b. Myometrium: middle, muscular, thickest layer
 - c. Perimetrium: outer layer

C Location: over bladder in pelvic cavity; cervix joins vagina; ligaments (e.g., broad ligaments, uterosacral ligaments, posterior ligament, anterior ligament, round ligaments) maintain position of

uterus

D Functions: menstruation, pregnancy, labor

Vagina

A Location: between rectum and urethra

B Structure: collapsible, musculomembranous tube, capable of distention; outlet to exterior covered by hymen (fold of mucous membrane)

C Functions

1. Receptacle for semen
2. Lower portion of birth canal
3. Excretory duct for uterine secretions and menstrual flow

Vulva (External Genitalia)

A Mons veneris: hairy, skin-covered pad of fat over symphysis pubis

B Labia majora: hairy, skin-covered folds

C Labia minora: small inner folds covered with modified skin

D Clitoris: small mound of erectile tissue, below junction of two labia minora

E Urinary meatus: opening into urethra; posterior to clitoris; anterior to vagina

F Vaginal orifice: posterior to urinary meatus; opening into vagina; hymen

G Skene glands: small mucous glands; ducts on each side of urinary meatus; prone to infection, especially gonococci

H Bartholin glands: two small glands; ducts on each side of vaginal orifice; prone to infection, especially gonococci

Breasts (Mammary Glands)

A Location: under skin, over pectoralis major

B Size: associated with deposits of adipose tissue, not amount of glandular tissue; glandular tissue approximately same in all females

C Structure

1. Internal: divided into lobes and lobules; excretory duct leads from each lobe to opening in nipple
2. External: nipples; areola (circular pigmented area surrounding nipples)

D Function: secrete milk (lactation)

1. Expulsion of placenta causes decrease in estrogens and progesterone that stimulates anterior pituitary to increase prolactin production; prolactin stimulates alveoli of breast to secrete milk
2. Suckling: controls lactation
 - a. Stimulates release of prolactin, which stimulates milk production
 - b. Stimulates posterior pituitary production of oxytocin causing release of milk from alveoli into ducts (let-down reflex), enabling removal of milk by suckling

Male Reproductive System

See [Chapter 12](#), Nursing Care of Clients with Urinary/Reproductive system Disorders, Review of Anatomy and Physiology of the Reproductive System, Structures of the Male Reproductive System

Puberty

Period of reproductive organ maturation and preparation for reproductive function

A Physical and physiologic changes

1. Females

- a. Occurrence: 9 to 15 years of age
- b. First sign: thelarche (breast budding)
- c. Later: acceleration of body growth; adrenarche (growth of pubic and axillary hair)
- d. Last: menarche (onset of menses); occurs after peak of growth spurt; ovaries produce estrogen; menstrual cycles may be anovulatory and irregular during first year

2. Males

- a. Occurrence: 10 to 14 years of age; less dramatic than females'
- b. First sign: testicular growth; scrotal changes
- c. Ejaculation: starts early in puberty (wet dreams) with few active sperm
- d. Later: penile growth; pubic, axillary, and facial hair; deepening voice; body growth spurt; spermatogenesis (second year after onset); increased sweat gland activity; periodic erections and emissions of mature sperm

B Psychologic changes

1. Maturational changes according to age
2. Developmental task: identity versus role confusion
3. Need for belonging to peer group, increasing independence

Menstrual Cycle

A Periodic vaginal bleeding related to changes in uterus and ovaries; cyclical from time of menarche to menopause

B Length of cycle: measured from onset of uterine bleeding to onset of next period of bleeding; mean cycle length is 28 days; range of 21 to 45 days

C Regulated by hormonal communication between hypothalamus and pituitary gland (hypothalamic-pituitary cycle) and ovaries and uterine endometrium

D Ovarian activity: during each cycle several follicles begin maturation process; usually one reaches full maturity, expels its ovum, which enters a fallopian tube

E Menstrual cycle phases

1. First phase (menstrual or ischemic): shedding of spongiosum endometrium with discharge through vagina
 - a. Prostaglandin level in endometrium peaks causing vasoconstriction and myometrial contractions resulting in menstruation
 - b. Low estrogen and progesterone levels stimulate release of follicle-stimulating hormone (FSH)
 - c. FSH combines with low level of luteinizing hormone (LH) stimulating ovarian estrogen production
2. Second phase (follicular [ovary] or proliferative [endometrium])
 - a. Endometrium regenerates and thickens in preparation for possible implantation
 - b. Simultaneously, single dominant follicle develops from group of maturing follicles and approaches full maturation under influence of estradiol produced by ovarian follicles
 - c. Rising blood levels of estradiol exert negative feedback on FSH production and positive

feedback on LH production

- d. Estradiol's feedback effects are exerted on hypothalamic production of FSH-releasing hormone and LH-releasing hormone, which control hypophyseal production of FSH and LH
- e. Resulting surge in LH level causes ovulation
- f. Ovulation usually occurs 14 days before menstruation; ovum remains viable for 24 to 36 hours

3. Third phase (luteal [ovary] and secretory [endometrium])

- a. Begins after ovulation; relatively finite time period of about 12 to 14 days
- b. Continuing LH production forms temporary endocrine gland (corpus luteum) from ruptured follicle
- c. Granulosa and thecal cells of follicle enlarge, divide into and occupy cavity of follicle, and produce progesterone and estrogen
- d. Progesterone stimulates already proliferated endometrium to become glandular with a high glycogen-secreting potential (preparation for implantation)
- e. Without fertilization corpus luteum becomes nonfunctional 10 to 12 days after ovulation; progesterone and estrogen blood levels drop
- f. Negative feedback effect of estrogen on FSH ceases; first phase of menstrual cycle begins

F Clinical applications

1. Family planning

- a. Contraceptive agents prevent pregnancy by inhibiting gonadotropin (FSH and LH) production, affecting both pituitary and hypothalamic centers
 - (1) Progestational agent suppresses LH production
 - (2) Estrogenic agent suppresses FSH production
- b. Synthetic preparations of estrogen-like and/or progesterone-like compounds are contained in oral, transdermal, vaginal, and parenteral contraceptive agents and some intrauterine devices

2. Premenstrual syndrome (PMS)

- a. Discomfort from ovulation to menstruation
- b. Clinical findings: bloating, breast tenderness, constipation/diarrhea, acne, moodiness, fatigue, insomnia, backache, cramping
- c. Therapeutic interventions
 - (1) Dietary modifications (e.g., reduction of salt, refined carbohydrates, alcohol, caffeine)
 - (2) Stress management, exercise, rest
 - (3) Nonsteroidal inflammatory inhibiting agents (antiprostaglandin action) effective in relieving abdominal cramping associated with ischemic or menstrual phase of cycle; diuretics, progesterone, oral contraceptives also effective

3. Premenstrual dysphoric disorder

- a. Episodic depression during premenstrual phase
- b. Clinical findings: anger, irritability, depressed mood, anxiety, tension, apathy, eating problems
- c. Therapeutic interventions: similar to those for other depressions
 - (1) Hypnotherapy
 - (2) Relaxation therapy
 - (3) Dance/movement therapy
 - (4) Antidepressants

Perimenopause

A Perimenopause (climacteric): gradual cessation of ovarian function and menstrual cycles; begins between age 40 and 60, average age 51; lasts 2 to 10 years

B Menopause: cessation of menstrual periods for 12 consecutive months

C Postmenopause: time after menopause

D Physiologic changes

1. Ovaries: loss of ability to respond to gonadotropic hormones; dramatic decrease in levels of circulating estradiol and progesterone
2. FSH gonadotropin blood level: increased because ovarian production is no longer inhibited; false-positive pregnancy test may occur

E Clinical applications

1. Atrophic changes in reproductive organs or hormonal stimulation of sympathetic nervous system
 - a. Early manifestations: dyspareunia, weight gain, facial hair growth, cardiac palpitations, hot flashes, profuse diaphoresis, constipation, pruritus, faintness, headache
 - b. Long-range manifestations: osteoporosis, cardiovascular disease
 - c. Emotional/behavioral responses: irritability; anxiety about loss of reproductive function, libido, feelings of womanliness
2. Therapeutic interventions
 - a. Hormone replacement therapy (HRT): eases transition through perimenopause (e.g., controls vasomotor instability, reduces atrophic genitourinary changes), reduces risk for cardiovascular disease, and prevents osteoporosis; used judiciously and on an individual basis because of cancer-causing potential
 - b. Alternative therapy: herbal supplements, diet management, relaxation modalities, exercise
 - c. Instruction about menopausal changes
 - d. Provision of opportunity to discuss feelings

Family Planning

Contraceptive Methods

Data Base

A Oral contraceptives: inhibit ovulation; atrophic changes in endometrium prevent implantation; thickened cervical mucus inhibits sperm travel

1. Combined forms (estrogen and progesterone): inhibit hypothalamus, pituitary, and other hormone production
 - a. Monophasic: fixed doses of estrogen and progestin in each pill
 - b. Biphasic: altered amounts of estrogen and progestin; reduces total dosage of hormones each month
 - c. Triphasic: small doses of combined hormones that alter levels of estrogen and progestin throughout cycle; reduces total dosage of hormones each month
 - d. Advantages of combined oral contraceptives: 100% effective if taken consistently; coitus independent (not taken in relation to intercourse); predictable bleeding days; may alleviate PMS, endometriosis, dysmenorrhea
 - e. Examples: ethinyl estradiol/ethynodiol (Kelnor); ethinyl estradiol/norethindrone (Loestrin, Ortho-Novum)
2. Minipills: low dose progesterone; inhibit ovulation by making uterine environment hostile to sperm; must be taken same time daily because dose is low
 - a. Advantages: few side effects; can be used by lactating women, women older than age 35, those with history of headaches and mild hypertension
 - b. Example: norethindrone (Micronor)
3. Major side effects
 - a. Thrombophlebitis (increased platelets and clotting factors, intimal thickening, vein dilation)
 - b. Hypertension, breast tenderness (fluid retention)
 - c. Libido changes (hormonal effect)
 - d. Hyperglycemia (decreased carbohydrate tolerance)
 - e. Central nervous system (CNS) disturbances (hormonal effects, fluid retention)
 - f. Breakthrough bleeding (estrogen effect)
4. Contraindications: older than age 35; cigarette smoking; hypertension; thrombophlebitis; breast malignancy; vascular or heart disease
 - B Intrauterine devices (IUDs): device inserted into uterus; prevents fertilization or implantation
 - a. Copper IUD damages sperm and few reach ovum
 - b. Levonorgestrel uterine system IUD: releases levonorgestrel in uterus to maintain thick mucus that is hostile to sperm; may cause uterine irritability, bleeding, risk for infection
 - c. Inserted by health care provider
 - C Diaphragm: shallow round rubber or latex device with flexible rim; fits over cervix; prevents sperm from entering cervical os; used with spermicide; fitted by health care provider
 - D Cervical cap: rubber thimble-like device; filled with a spermicide; fits over cervix; protects for up to 48 hours after insertion; fitted by health care provider
 - E Vaginal ring: hormonal control; worn for 3 weeks with a 1-week break; prescription required; fitting not required

F Female condom: latex vaginal elongated pouch with ring at each end; one ring covers cervix, other covers labia; available over-the-counter (OTC)

G Male condom: latex sheath covers penis; prevents semen from entering cervical os; OTC

H Spermicidal creams, jellies, foam tablets, and vaginal suppositories: spermicidal generally of low pH; inserted into vaginal canal by applicator immediately before coitus; may be used in conjunction with diaphragm and condom for added protection

I Coitus interruptus: withdrawal during sexual intercourse before ejaculation; least effective method

J Fertility awareness methods (FAM): contraceptive method depends on identifying beginning and end of fertile period and periodic abstinence during fertile period; multiple fertility awareness methods may be used concurrently

a. Basal body temperature: temperature dips slightly 24 hours before ovulation, then rises sharply; stress and infection can elevate temperature, diminishing effectiveness

b. Cervical mucus ovulation-detection (Billings): based on amount and consistency of cervical mucus before, during, and after ovulation

c. Other methods: calendar rhythm; standard days, symptothermal, Two Day Algorithm

K Norplant system (implantable progestin): placement of six flexible rods of levonorgestrel under skin of upper arm; effective for 5 years; removal restores fertility; irregular periods may occur

L MedroxyPROGESTERone (Depo-Provera) intramuscular (IM) injection lasts 3 months; suppresses FSH and LH

M Emergency contraception (EC): used after unprotected intercourse (“morning after pill”); pharmacologic management with high dose of estrogen, progesterone, or testosterone; may be available OTC in some states

N Surgical sterilization

1. Male: bilateral vasectomy; vas deferens is ligated via small incision into scrotum; prevents ejaculation of sperm

2. Female: tubal ligation; interruption in continuity of fallopian tubes by surgical transection, electric cautery, or compression with soft clamp; performed via laparotomy, laparoscopy, or culdoscopy; prevents impregnation of ovum by sperm

Nursing Care of Clients Concerned with Family Planning

Assessment/Analysis

1. Health and family history
2. Beliefs and feelings about sexuality, pregnancy, contraception, and abortion
3. Understanding of family planning
4. Readiness to learn

Planning/Implementation

1. Help to expand knowledge about human sexuality
2. Teach couple available methods
3. Assist in choosing most appropriate method (e.g., barrier techniques preferred for women with diabetes mellitus or heart disease)
4. Recognize own feelings regarding contraception: provide accepting atmosphere when decision is

made

5. Teach about oral contraceptives

a. Specific medication/administration schedule

b. Procedure to follow if a dose is missed

c. Side effects (e.g., vaginal bleeding)

d. Notification of health care provider if adverse effects occur

6. Encourage complete periodic gynecologic examination for all women using any contraceptive method; should include breast and pelvic examination, Papanicolaou (Pap) test, mammography

7. Teach couples electing surgical sterilization

a. Female: sterility is immediately achieved

b. Male: sterility not achieved until semen is free of sperm; use of another birth control method required until semen is free of sperm (e.g., usually after 15 ejaculations, ejaculate examined for presence of sperm)

Evaluation/Outcomes

1. Prevents conception unless desired

2. Returns for follow-up health care

3. Institutes schedule of regular gynecologic and breast examinations

Infertility and Sterility

A Infertility: inability to conceive after consistent attempts for a 1-year period; woman has never conceived; man has never impregnated a woman

1. Primary: couple has never had a child

2. Secondary: couple has conceived but woman is unable to sustain pregnancy or conceive again

B Sterility: unable to produce offspring; may be genetic, acquired, or elective

C Male infertility and sterility

1. Coital difficulties: chordee (painful, downward-curving erection); marked obesity

2. Spermatozoal abnormalities: small ejaculatory volume; low sperm count; increased viscosity; reduced sperm motility; more than 30% abnormal sperm forms

3. Testicular abnormalities: agenesis or destruction of testes; cryptorchidism; torsion of the testes; physical impairment caused by trauma (e.g., mumps, irradiation, prolonged exposure to increased temperature)

4. Varicocele: enlarged vein in testicle

5. Abnormalities of penis or urethra: hypospadias, urethral stricture

6. Prostate and seminal vesicle abnormalities: chronic prostatitis, seminal vesiculitis

7. Abnormalities of epididymis and vas deferens: inflammation, closure

8. Severe nutritional deficiencies

9. Sexually transmitted infections

10. Other factors: radiation to testicles; excessive smoking of tobacco, marijuana; excessive alcohol intake; in utero exposure to diethylstilbestrol (DES)

11. Decreased libido and impotence; related pathologic, physiologic, and/or psychologic factors

12. Environmental factors: frequent hot tub use, exposure to Agent Orange

D Female infertility and sterility

1. Endocrine disorders: pituitary, thyroid, adrenal

2. Vaginal disorders: absence or stenosis of vagina, imperforate hymen, vaginitis, chronic infections
3. Cervical abnormalities: obstruction by cervical polyps or tumors
4. Uterine abnormalities: hypoplasia, endometriosis, neoplasms
5. Tubal disorders: obstruction usually caused by sexually transmitted infections (e.g., chlamydia, gonorrhea), perisalpingeal adhesions
6. Ovarian abnormalities: congenital (e.g., partial or total absence of or abnormal function of ovaries), infections, tumors, multiple cysts, hormonal imbalances
7. Emotional problems: severe psychoneurosis or psychosis may cause anovulatory cycles
8. Coital factors: acidic feminine hygiene preparations (including douches) that decrease vaginal pH and inactivate or destroy spermatozoa; sodium bicarbonate douches may be prescribed to raise vaginal pH
9. Chronic illnesses
10. Immunologic reactions to sperm
11. Nutritional factors: malnutrition, anorexia nervosa
12. Exposure to diethylstilbestrol (DES) in utero
13. Environmental factors: teratogenic household cleaning products

E Combined factors

1. Lack of coital success
2. Female antibodies to male sperm

F Diagnostic measures

1. Genetic testing
2. Male: history, physical examination, semen analysis
3. Female: history and physical examination; blood tests (e.g., complete blood count [CBC], sedimentation rate); serologic tests; urinalysis; thyroid hormone and thyroid-stimulating hormone (TSH) levels; x-ray films of chest; basal metabolic rate determination; postcoital (Sims-Huhner) test; ultrasonography; endometrial biopsy; hysterosalpingography; culdoscopy; urine luteinizing hormone predictor kits (measure LH in urine to predict ovulation); laparoscopy; chlamydia test

G Therapeutic interventions

1. Education about menstrual cycle and timing of intercourse
2. Surgery, depending on cause
3. Pharmacologic management to correct deficiencies, induce ovulation
4. Intrauterine insemination (IUI)
5. In vitro fertilization (IVF)
6. IVF with intracytoplasmic sperm injection for severe male infertility
7. Stress management
8. Embryo transfer
9. Surrogate motherhood
10. Adoption

H Related Pharmacology

1. Androgens (testosterone derivatives) for males
 - a. Replace deficient hormones after puberty; improve development of secondary sex characteristics
 - b. Adverse effects: adolescents may have premature epiphyseal closure, decreased skeletal development, cessation of growth
2. Estrogens for females

- a. Replace deficient hormones; maintain menses and fertility during reproductive years; control hormonal balance in menopausal or postmenopausal women
- b. Adverse effects: anorexia (depression of appetite center); nausea and vomiting (gastrointestinal irritation); tissue fluid accumulation (altered tissue hydrostatic pressure); cessation of growth

3. Conception enhancers

a. Ovulatory stimulants

- (1) ClomiPHENE (Clomid); follicle-maturing agent used during the fifth to tenth days of menstrual cycle
- (2) Purified FSH: urofollitropin (Bravelle); act on ovarian follicles
- (3) Human menopausal gonadotropin: (Repronex, Menopur); stimulates growth and maturation of ovarian follicles
- (4) Human chorionic gonadotropin (Ovidrel, Pregnyl); induces ovulation

b. Hormone replacement therapy with conjugated estrogens and medroxyPROGESTERone (Depo-Provera, Prempro)

c. Drugs for hyperplasia defects

- (1) Danazol: reduces endometrial hyperplasia (endometriosis); acts on estrogen receptors to inhibit estrogen defects
- (2) PredniSONE: reduces adrenal hyperplasia

d. Adverse effects of conception enhancers

- (1) Multiple births (causes simultaneous maturation of follicles)
- (2) Visual changes (direct toxic effect)
- (3) Dizziness, lightheadedness (CNS depression)
- (4) Hyperplasia reduction drugs: androgenic effect causing weight gain, hirsutism, decreased breast size, skin oiliness

Related Procedures

Routine Health Screening for Women

See [Table 23-1](#): Breast and Reproductive Health Screening for Women

Table 23-1

Breast and Reproductive Health Screening for Women

Screening Test	Ages 18-39	Ages 40-49	Ages 50-64	Ages 65 and older
Breast Health				
Mammogram (x-ray of breast)		Every 1-2 years Discuss with health care provider	Every 1-2 years Discuss with health care provider	Every 1-2 years Discuss with health care provider
Clinical breast exam	At least every 3 years starting during 20-29 years of age	Yearly	Yearly	Yearly
Reproductive Health				
Pap test	Every 2 years starting at 21 years of age Every 3 years for women 30 years of age and older	Every 3 years	Every 3 years	Discuss with health care provider
Pelvic Exam	Yearly beginning at 21 years of age Discuss with health care provider if younger than 21 years of age and sexually active	Yearly	Yearly	Yearly
Chlamydia test	Yearly until 25 years of age if sexually active Necessary when there is a new or multiple partners when 26 years of age or older	Necessary when there is a new or multiple partners	Necessary when there is a new or multiple partners	Necessary when there is a new or multiple partners
Sexually transmitted infection (STI) tests	Necessary for both partners for STIs, including HIV, before initiating sexual intercourse	Necessary for both partners for STIs, including HIV, before initiating sexual intercourse	Necessary for both partners for STIs, including HIV, before initiating sexual intercourse	Necessary for both partners for STIs, including HIV, before initiating sexual intercourse

Pelvic Examination

A Definition

1. Examination of female reproductive structures
 - a. Abdominal examination
 - b. Inspection and palpation of external genitalia
 - c. Observation of vagina with speculum to inspect cervix and vaginal walls; rectal examination may follow
2. Specimens for testing
 - a. Gonorrheal culture from endocervical canal
 - b. *Chlamydia trachomatis* smear from urethra and cervix
 - c. Herpes simplex 1 and 2 viral culture of smear from lesion
 - d. Cytologic examination (Papanicolaou [Pap] test) of cells from endocervical canal and cervix

B Nursing care

1. Explain examination and collection of specimens
2. Teach to avoid douching 24 hours before examination
3. Request to empty bladder before examination
4. Help relaxation by instructing to
 - a. Breathe slowly and deeply, exhaling with mouth open and lips in “O” shape
 - b. Avoid squeezing eyes closed or clenching fists
5. Bear down when speculum is introduced

6. If pregnant; assess for hypotension (e.g., pallor, dizziness), tachycardia, nausea, diaphoresis; position on side until symptoms subside and vital signs are acceptable
7. Teach about cervical cancer
 - a. Early signs: vaginal discharge, spotting between menstrual periods or after intercourse
 - b. High cure rate if identified early

Mammography

A X-ray study of soft tissue of breast; detects nonpalpable masses

B Nursing care

1. Instruct to avoid using deodorants, powders, or intake of caffeinated drinks before test
2. Maintain privacy
3. Explain that stretching and compression of breast tissue may be uncomfortable
4. Encourage yearly clinical breast examination; explain reason for ultrasonography to distinguish between cyst and tumor

Breast Biopsy

A Procedure to obtain fluid or tissue

1. Fine needle aspiration
2. Core needle biopsy
3. Needle localization biopsy

B Nursing care

1. Explain procedure
2. Allow time to express feelings
3. Instruct to assess site for bleeding or edema
4. Stress importance of continued health care supervision

Induced Abortion

Data Base

A Mifepristone and misoprostol

1. Mifepristone is administered orally up to 9 weeks after conception; bleeding begins within 4 days; may be combined with prostaglandin; noninvasive. Misoprostol may be administered vaginally 1-3 days after mifepristone is administered to enhance uterine contractions and expulsion of the uterine contents; a follow-up is made within 14 days to ensure all products of conception are expelled
2. Mifepristone is administered orally and misoprostol vaginally in 24 to 48 hours with a follow-up visit in 4 to 8 days

B Prostaglandin: administered vaginally

1. Used after 9 weeks to trigger vasoconstriction and uterine contractions that interfere with endocrine function of placenta (e.g., carboprost [Hemabate], dinoprostone [Prostin E])
2. Adverse effects: nausea, vomiting, diarrhea, pain at extrauterine sites, allergic reactions (not administered to clients with history of asthma)

C Vacuum aspiration: done under local paracervical, epidural, or general anesthesia in first 12 weeks of pregnancy; the cervix is dilated (using mechanical means) and products of conception are

suctioned through a small, hollow tube

D Dilation and curettage: performed during the first 12 to 14 weeks of pregnancy under local paracervical or general anesthesia; the cervix is mechanically dilated and uterus is scraped and cleaned by curettage

E Saline injection

1. Labor is induced when a pregnancy is 14 to 24 weeks' duration by injecting a sterile saline solution into the uterus during an amniocentesis; labor usually begins within 8 to 24 hours after instillation of saline; produces a macerated fetus

2. Adverse effect: headache caused by hypernatremia

F Hysterotomy: performed after 16 weeks of pregnancy by surgically removing the fetus and placenta abdominally

G In the third trimester, although rarely used, high doses of intravenous oxytocin may be used after an injection of salt water, potassium chloride, or urea is injected into the amniotic sac

Nursing Care of Women Undergoing Induced Abortion

Assessment/Analysis

1. History and physical examination
2. Specimens for laboratory tests
3. Rh status
4. Length of pregnancy
5. Level of anxiety
6. Understanding of procedure and postprocedure care

Planning/Implementation

1. Emotional considerations
 - a. Awareness of own feelings about induced abortion necessary to provide therapeutic care
 - b. Avoid counseling if negative feelings are strong
 - c. Encourage expression of feelings
 - d. Support client's decision about abortion objectively
2. Obtain informed consent
3. Counsel concerning contraceptive methods if requested
4. Administer RhoGAM if Rh negative and no antibodies detected
5. Teach to
 - a. Avoid tampons for 3 days to 3 weeks, depending on protocol
 - b. Avoid intercourse for 1 to 2 weeks, depending on protocol
 - c. Report fever, bleeding that requires change of peripad every 2 hours or less

Evaluation/Outcomes

1. Expels products of conception
2. Remains free from complications
3. Returns for health supervision
4. Expresses feelings
5. Indicates acceptance of nonpregnant state

Related Pharmacology

Estrogens

(See Infertility and Sterility for drugs that affect gonadal function and fertility)

A Description: Organic compounds produced by ovarian follicles in females; exert effect during proliferative phase of menstrual cycle

B Therapeutic uses

1. Regulate menstrual disorders, uterine bleeding, menopausal and postmenopausal problems
2. Hormonal therapy for men with certain cancers of reproductive/urinary system (has cancer-causing potential)
3. Prevent unwanted pregnancy: oral contraceptives

C Available in oral, parenteral (IM, IV), intravaginal, topical, transdermal, preparations, (e.g., estradiol preparations [Estrace, Estraderm], conjugated estrogens [Premarin, Cenestin])

D Major side effects

1. Thrombophlebitis (increased clot formation)
2. Nausea (irritation of gastric mucosa)
3. Breast tenderness (sodium and water retention)
4. Hyperglycemia (decreased carbohydrate tolerance)
5. Males: gynecomastia, loss of libido, testicular atrophy (hormonal imbalance related to estrogen antagonism)
6. Deficiency of one or more of B complex vitamins with prolonged therapy

E Nursing care

1. Obtain history to assess contraindications for use (e.g., cancer of reproductive organs, thromboembolic disorders, breastfeeding, pregnancy)
2. Assess for edema
3. Instruct to
 - a. Use specified procedure for application of topical or intravaginal preparations
 - b. Report unusual vaginal bleeding immediately
 - c. Avoid smoking during therapy to decrease risk for cardiovascular side effects
 - d. Eat foods rich in B complex vitamins daily; B complex vitamin supplements should be considered
4. Monitor blood glucose levels for hyperglycemia
5. Reassure male clients that feminizing side effects will subside when therapy is completed

Progestins

(See Infertility and Sterility for drugs that affect gonadal function and fertility)

A Description: female ovarian hormones that prepare uterus for implantation of fertilized ovum; essential for maintenance of pregnancy

B Therapeutic uses: treatment of endometriosis, infertility, dysmenorrhea, secondary amenorrhea, and suppression of ovulation

C Available in oral and parenteral (IM) preparations (e.g., MedroxyPROGESTERone [Provera, Depo-Provera], Megestrol [Megace], Norethindrone [Micronor], Progesterone [Prometrium])

D Major side effects

1. Profuse vaginal flow (shedding of endometrial tissue), spotting, irregular bleeding, nausea, lethargy, jaundice
2. Edema (sodium and water retention)
3. Genitourinary disturbances (renal dysfunction)
4. Visual disturbances (blood clots, neuro-ocular lesions)
5. Scleral jaundice (hepatic alterations)
6. Thrombophlebitis (increased clot formation)
7. Depression (CNS effect)
8. Deficiency of one or more B complex vitamins from prolonged use

E Nursing care

1. Obtain history to assess contraindications for use (e.g., thromboembolic disorders, reproductive cancer, hypersensitivity)
2. Assess for edema
3. Inform client and significant others regarding potential for depression
4. Instruct to eat foods rich in the B complex vitamins daily; B complex vitamin supplements should be considered

Nursing Care Related to Major Disorders Affecting Women's Health

Major Disorders Affecting Women's Health

Cancer of the Cervix

Data Base

A Etiology and pathophysiology

1. Slow, malignant change in tissue-forming neck of uterus at squamocolumnar junction
2. Risk factors
 - a. Multiple sex partners
 - b. Sexually transmitted infections
 - c. Exposure to human papillomavirus (HPV), human immunodeficiency virus (HIV), or herpes simplex virus (HSV)
 - d. Erosions of cervix, often resulting from changes in pH that can be precursors of cancer
 - e. Exposure to diethylstilbestrol (DES) in utero, which increases risk for vaginal cancer
3. High cure rate when diagnosed early
4. Tends to spread by direct invasion of surrounding tissues; metastasizes to lungs, bones, liver

B Clinical findings

1. Subjective (when invasive): back and leg pain
2. Objective
 - a. Spotting between menstrual periods and after intercourse
 - b. Vaginal discharge
 - c. Lengthening of menstrual period
 - d. Papanicolaou (Pap) cytologic finding of cellular changes consistent with precancerous or cancerous conditions

C Therapeutic interventions

1. Prevention: human papillomavirus vaccine (three doses between 11 and 12 years of age)
2. Type of surgical intervention depends on extent of lesion and client's physical status
 - a. Stage 0—carcinoma in situ, limited to epithelial layer
 - b. Stage I—confined to cervix
 - c. Stage II—extends beyond cervix but not to pelvic sidewall
 - d. Stage III—extends to pelvic sidewall and lower vagina
 - e. Stage IV—extends beyond pelvis to bladder or rectum
3. Hysterosalpingo-oophorectomy (panhysterectomy): removal of uterus, fallopian tubes, and ovaries; menstruation and ovarian function cease; in advanced lesions parametrial tissue and lymph nodes may be removed
4. Hysterectomy: removal of uterus; menstruation ceases but ovarian function continues
5. Internal or external radiation: reduce the lesion and limit metastasis; used alone or in conjunction with surgery
6. Laser therapy
7. Cryosurgery: destruction of cells by freezing
8. Conization: removal of cone-shaped area of cervix while preserving reproductive functions
9. Loop electrode excision
10. Chemotherapy (see [Chapter 3](#), Integral Aspects of Nursing Care, Neoplastic Disorders, Related Pharmacology)

Nursing Care of Clients with Cancer of the Cervix

Assessment/Analysis

1. Risk factors from history
2. Description of onset and progression of clinical findings
3. Cervical specimen for Pap smear
4. Vaginal discharge following procedure; cervical interventions will produce blood-tinged discharge for 3 to 5 days

Planning/Implementation

1. Assist client and family in coping with diagnosis of cancer
2. Allow and encourage client to express feelings and concerns about change in self image and sexual functioning
3. Support client's feminine image
4. Provide care for client receiving internal radiation (see [Chapter 3](#), Integral Aspects of Nursing Care, Neoplastic Disorders: Radiation and General Nursing Care of Clients with Neoplastic Disorders, common nursing interventions)
 - a. Instruct client to maintain supine position with head of bed flat or only slightly elevated
 - b. Inspect implant for proper position
 - c. Provide low-residue diet and antidiarrheal agents to prevent bowel movements; insert indwelling urinary catheter to prevent displacement of radioactive substance and irradiation of adjacent tissues
 - d. Explain need for isolation; explain to client and visitors that amount of time they can spend in the room will be limited to avoid overexposure to radiation; pregnant women and children should be restricted from visiting
 - e. Use principles of time, distance, and shielding to minimize staff exposure
 - f. Provide diversional activities for clients undergoing internal radiation
5. Provide care for client receiving chemotherapy (see [Chapter 3](#), Integral Aspects of Nursing Care, Neoplastic Disorders, Related Pharmacology)
6. Provide care following surgery
 - a. Maintain patency of urinary catheter inserted before surgery to decompress bladder and reduce stress on operative site
 - b. Monitor for reestablishment of bowel sounds
 - c. Maintain accurate intake and output
 - d. After removal of urinary catheter, monitor amount of output and pattern of voiding; catheterize for residual urine and whenever necessary for urinary retention if ordered
 - e. See Nursing Care under Uterine Neoplasms

Evaluation/Outcomes

1. Verbalizes feelings to family and health care providers
2. Maintains satisfying sexual expression
3. Copes with effects of treatment and potential prognosis
4. Continues health supervision

Uterine Neoplasms

Data Base

A Etiology and pathophysiology

1. Endometrial polyps
 - a. Localized overgrowths of endometrial glands and stroma that occur on cervix and in fundus of uterus; usually benign
 - b. Stimulated by estrogen
 - c. Occur more frequently in premenopausal women who are anovulatory
2. Uterine fibroids (e.g., leiomyomas, myomas, fibromas, fibromyomas)
 - a. Benign tumors of uterine muscle
 - b. Occur more frequently in African-American women and women who have not been pregnant
 - c. Stimulated by estrogen
 - d. Diminish after menopause
 - e. Rarely become malignant
3. Endometrial cancer (e.g., adenocarcinoma, adenoacanthoma, adenosquamous carcinoma)
 - a. Malignant overgrowth of uterine lining
 - b. Risk factors: hormone replacement therapy (HRT), unopposed estrogen therapy, pelvic radiation, obesity, family history
 - c. Most common malignancy of female reproductive system
 - d. Occurs more frequently with hormone imbalance, obesity, nulliparity, late menopause, dysfunctional bleeding, anovulation, uninterrupted estrogen stimulation, diabetes mellitus, early menarche
 - e. Occurs twice as often in Caucasian women than in African-American women
 - f. Spreads by direct extension or metastasis to myometrium, vagina, and paracervical tissue
 - g. Metastasizes to abdominal cavity, liver, lung, brain, bone; progression is slow and metastasis occurs late

B Clinical findings

1. Endometrial polyps
 - a. Frequently asymptomatic
 - b. Irregular bleeding between menstrual cycles (metrorrhagia)
2. Leiomyomas
 - a. Frequently asymptomatic
 - b. Excessive menstrual bleeding (menorrhagia)
 - c. Signs of pressure from enlarging mass (e.g., low abdominal discomfort, backache, visceral displacement, constipation)
 - d. Painful menstruation (dysmenorrhea)
 - e. Problems with pregnancy (e.g., preterm labor, spontaneous abortion, dystocia)
3. Endometrial cancer
 - a. Premenopausal recurrent metrorrhagia
 - b. Postmenopausal bleeding
 - c. FIGO (International Federation of Gynecology and Obstetrics) classification system of endometrial cancer extends from stage IA (tumors are limited to endometrium) to stage IVB (distant metastases to the intraabdominal area or inguinal lymph nodes)

C Therapeutic interventions

1. Depends on type and extent of lesion or tumor, stage, and client's physical status
2. Dilation and curettage (D&C) for polyps
3. Myomectomy or hysterectomy for benign neoplasms; hysterectomy results in no menstrual period; when surgery is not advisable, radiation therapy is employed
4. Total hysterectomy with bilateral salpingo-oophorectomy (panhysterectomy) for endometrial neoplasms; results in no menstrual periods and surgical menopause
5. Intracavitary radiation may be done before or after surgery, depending on stage of endometrial cancer
6. Hormonal therapy with progestins for endometrial cancer; HRT after panhysterectomy is controversial
7. Combination chemotherapy with antineoplastic drugs (e.g., cyclophosphamide [Cytosan], DOXOrubicin, cisplatin [Platinol]) for endometrial neoplasms

Nursing Care of Clients With a Hysterectomy

Assessment/Analysis

1. Gynecologic and health history
2. Description of onset and progression of clinical findings
3. Feelings regarding loss of uterus

Planning/Implementation

1. Encourage healthy lifestyle, weight reduction if overweight, and routine pelvic examinations
2. Monitor fluid and electrolyte balance
3. Maintain patency of urinary catheter; monitor amount and characteristics of urine (blood in urine may indicate incisional tear in bladder; small voidings after catheter removal may indicate retention)
4. Encourage coughing and deep breathing at frequent intervals
5. Check for bowel sounds and gas pains; insert a rectal tube or administer a return flow enema (Harris flush) (see [Chapter 8](#), Nursing Care of Clients with Gastrointestinal System Disorders, Related Procedures, Enemas) if ordered
6. Encourage frequent ambulation and elevation of extremities when sitting to prevent thrombophlebitis; apply antiembolism stockings if ordered
7. Provide emotional support; encourage ventilation of feelings
8. Teach to postpone driving for several weeks and to avoid sexual intercourse, strenuous exercise, and heavy lifting for 6 to 8 weeks
9. Provide care for client receiving chemotherapy or radiation (see Chapter 3, Integral Aspects of Nursing Care, Neoplastic Disorders: Related Pharmacology, Radiation, and General Nursing Care of Clients with Neoplastic Disorders)
10. Emphasize importance of continuing health supervision

Evaluation/Outcomes

1. Verbalizes concerns
2. Adjusts to loss of reproductive organs
3. Establishes bowel and bladder patterns
4. Continues health supervision

Cancer of the Ovary

Data Base

A Etiology and pathophysiology

1. Histologic cell types influenced by age
 - a. Malignant germ cell tumors more frequent between 20 and 40 years of age
 - b. Epithelial cell tumors more frequent in perimenopausal women
2. More common in Caucasian women than in African-American women; rare in Asian women
3. Incidence influenced by hormonal factors; environmental factors have been implicated but not proven
4. Risk factors: ovarian dysfunction, irregular menses, infertility, genetic predisposition (familial BRCA 1 or BRCA 2 mutations), endometriosis, early menopause, nulliparity
5. Rarely diagnosed early because abdominal cavity can accommodate an enlarging ovary without causing symptoms; poor prognosis because of advanced stage at initial diagnosis, which is usually stage II to IV
6. Metastasizes to peritoneum, omentum, bowel surfaces

B Clinical findings

1. Subjective: vague, lower abdominal discomfort or pain; feeling of fullness; rapid satiation; dyspepsia; nausea
2. Objective
 - a. Increasing abdominal girth (ovarian enlargement or ascites)
 - b. Anemia, vomiting, cachexia
 - c. Constipation
 - d. Change in weight
 - e. Urinary frequency, urgency
 - f. Enlarged ovary on palpation
 - g. Elevated levels of CA-125 antigen
 - h. Pleural effusion

C Therapeutic interventions

1. Depend on stage of disease
2. Surgical removal of tumor via oophorectomy, salpingo-oophorectomy, or panhysterectomy and removal of any involved structures; oophorectomy causes surgical menopause
3. Cytoreductive surgery to debulk poorly vascularized large tumors; the smaller the remaining tumor, the better the response to adjuvant therapy
4. Adjuvant therapy after tumor debulking
 - a. Chemotherapy with antineoplastic drugs (e.g., cyclophosphamide [Cytosan], cisplatin [Platinol] DOXOrubicin) for epithelial carcinoma
 - b. Paclitaxel (Taxol) for ovarian cancer unresponsive to first-line or other therapy
 - c. Intraperitoneal instillation of radioactive phosphorus (^{32}P)
 - d. External radiation therapy

Nursing Care of Clients with Ovarian Cancer

See Nursing Care under Uterine Neoplasms

See [Chapter 3](#), Integral Aspects of Nursing Care, Neoplastic Disorders: Related Pharmacology, Radiation, and General Nursing Care of Clients with Neoplastic Disorders

Vaginitis

Data Base

A Etiology and pathophysiology

1. Trichomoniasis: caused by *Trichomonas vaginalis*, a protozoa
2. Candidiasis (moniliasis): caused by *Candida albicans*, a fungus; incidence is high in clients with diabetes mellitus and those receiving antibiotic therapy because of decreased bacterial flora
3. Bacterial vaginosis: caused by overgrowth of vaginal flora
4. Atrophic vaginitis: common in postmenopausal period
5. Contributing factors: oral contraceptive use, sexually transmitted infections (e.g., gonorrhea, HIV), allergic reactions

B Clinical findings

1. Subjective: pruritus, burning, dysuria, dyspareunia (pain with intercourse)
2. Objective
 - a. Vaginal discharge
 - (1) Malodorous, thin, yellow discharge (trichomoniasis)
 - (2) White “cheesy” discharge (moniliasis)
 - (3) Grayish-white discharge; malodorous (bacterial vaginosis)
 - b. Vaginal smear may indicate *T. vaginalis*, *C. albicans*, or other microorganisms

C Therapeutic interventions

1. Antifungals for candidiasis (e.g., terconazole [Terazol], over-the-counter (OTC) antifungal creams)
2. Antiprotozoans for trichomoniasis (e.g., metronidazole [Flagyl] tablets taken orally; clotrimazole cream inserted vaginally)
3. Antimicrobials for bacterial vaginosis (e.g., clindamycin [Cleocin] cream or oral administration, metronidazole [Flagyl] cream or tablets, ceftriaxone [Rocephin])
4. Estrogen therapy for atrophic vaginitis

Nursing Care of Clients with Vaginitis

Assessment/Analysis

1. History of onset and progression of clinical findings
2. Risk factors: improper use of tampons or douches, antibiotic use, multiple sexual partners, diabetes mellitus, HIV
3. Characteristics of vaginal discharge
4. Pelvic examination and specimen for culture

Planning/Implementation

1. Advise condom use during coitus until vaginitis is resolved; sexual partner may require treatment
2. Advise that douching is not recommended unless prescribed by health care provider; teach to lie in recumbent position on bedpan and direct douche nozzle toward sacrum if douche is prescribed
3. Encourage warm sitz baths to relieve perineal discomfort (sodium bicarbonate added to water may be ordered)
4. Teach importance of wearing loose-fitting clothing and cotton underwear, and to avoid wearing

pantyhose, “thong” underpants, and tight pants; avoid using tampons

5. Instruct when receiving antibiotics or having recurrent vaginal infections to include yogurt or supplements containing *Lactobacillus acidophilus* in diet to maintain vaginal flora

Evaluation/Outcomes

1. Expresses relief from pruritus and pain
2. Discusses need for diagnostic screening and precautions with sexual partner
3. Achieves resolution of infection

Endometriosis

Data Base

A Etiology and pathophysiology

1. Growth of endometrial tissue in areas outside uterus (e.g., ovaries, ligaments, abdominal organs)
2. May be linked to retrograde menstruation or vascular and lymphatic system dissemination of endometrial tissue outside of uterus
3. Generally affects young, nulliparous women; unrelated to menopause
4. Endometrial cells stimulated by ovarian hormones; causes bleeding during regular menstrual cycle, and if located in ovary, pseudocyst or chocolate cyst may form; endometriosis is suppressed by pregnancy and lactation
5. Adhesions are common and may result in sterility and pain
6. Adenomyosis is a similar condition affecting women 40 to 50 years old in which endometrial cells invade muscles of uterus

B Clinical findings

1. Subjective
 - a. Chronic lower abdominal pain and backache beginning 2 to 7 days before menstruation, becoming progressively worse, and then diminishing as menstrual flow decreases
 - b. Dyspareunia
 - c. Pain associated with defecation
2. Objective
 - a. Abnormal uterine bleeding (e.g., metrorrhagia, menorrhagia)
 - b. Infertility

C Therapeutic interventions

1. Hormone therapy to suppress ovulation; young married women are advised not to delay pregnancy if children are desired; breastfeeding delays return of symptoms
 - a. Oral contraceptives and/or progesterone to cause tissue sloughing
 - b. Synthetic analog of gonadotropin-releasing hormone to reduce lesions (e.g., leuprolide [Lupron Depot] administered intramuscularly [IM], subcutaneously [Sub Q], or via implant; nafarelin [Synarel] may be administered intranasally)
 - c. Gonadotropin inhibitors (e.g., danazol)
2. Surgical interventions
 - a. Laparoscopic evaluation to confirm diagnosis
 - b. Resection of lesions; laser treatment
 - c. Oophorectomy, salpingectomy, or total hysterectomy if condition is severe and childbearing is

not an issue

3. Laser ablation

Nursing Care of Clients with Endometriosis

Assessment/Analysis

1. Description of onset and progression of clinical findings
2. Pelvic examination
3. Concerns about childbearing

Planning/Implementation

1. Encourage ventilation of feelings
2. Administer analgesics if prescribed
3. Review administration of prescribed hormones, contraindications, and side effects (see [Chapter 23](#), Nursing Care to Promote Childbearing and Women's Health, Related Pharmacology)
4. Discuss alternatives if pregnancy does not occur
5. Provide care following surgery (see Nursing Care Uterine Neoplasms)
6. Provide referrals to Endometriosis Society and other community-based support groups

Evaluation/Outcomes

1. Experiences relief from pain
2. Verbalizes concerns about altered body image and infertility

Toxic Shock Syndrome

Data Base

A Etiology and pathophysiology

1. Caused by *Staphylococcus aureus*, less frequently streptococcus
2. Risk factors: tampon, cervical cap, and diaphragm left in place for extended period

B Clinical findings

1. Subjective: dizziness (early), altered level of consciousness, disorientation
2. Objective: fever, rash on trunk, hypotension, vomiting, diarrhea, positive cultures, abnormal laboratory test results based on multiple organ failure

C Therapeutic interventions

1. Antibiotic therapy (e.g., penicillin, clindamycin [Cleocin])
2. Fluid replacement
3. Circulatory support (e.g., vasopressors)
4. Support for multiple organ failure (e.g., ventilator, dialysis)
5. Decontamination and débridement as needed

Nursing Care of Clients with Toxic Shock Syndrome

Nursing care is based on the degree of illness and prescribed therapeutic interventions (see Nursing Care under Pelvic Inflammatory Disease). If the client develops septic shock, see [Chapter 6](#) Shock,

Nursing Care. If the client requires mechanical ventilation, see [Chapter 7](#), Related Procedures, Mechanical Ventilation.

Pelvic Inflammatory Disease (PID)

Data Base

A Etiology and pathophysiology

1. Occurs within female pelvic cavity: can affect uterus (endometritis), fallopian tubes (salpingitis), ovaries (oophoritis), peritoneum, surrounding connective tissue, pelvic veins
2. May be acute, subacute, or chronic; bilateral or unilateral
3. Caused most often (50%) by introduction of bacteria (e.g., gonococci, chlamydia) through cervical opening
4. If untreated, can lead to adhesions, sterility, ectopic pregnancy, peritonitis
5. Risk factors: multiple sex partners, history of sexually transmitted infections, intrauterine device (IUD) insertion, douching, sexual activity during menses, nulliparity

B Clinical findings

1. Subjective: pain ranging from dull aching to severe cramping in lower abdomen, nausea, malaise, dysmenorrhea, dyspareunia
2. Objective
 - a. Elevated temperature, increased white blood cell (WBC) count
 - b. Foul-smelling, purulent vaginal discharge
 - c. Cultures of vaginal discharge reveal causative organism

C Therapeutic interventions

1. Medication to control pain and fever
2. Antibiotics depending on organism
3. Identification and notification of sexual contacts and state health departments if sexually transmitted infection is present

Nursing Care of Clients with Pelvic Inflammatory Disease

Assessment/Analysis

1. Description of onset and progression of clinical findings
2. Potential source of infection
3. Pelvic examination and specimens for culture
4. Characteristics of discharge
5. Vital signs and WBC count for baseline data

Planning/Implementation

1. Monitor temperature, WBC count, culture reports
2. Explain importance of completing prescribed antibiotic therapy; teach side effects; follow-up after treatment to assess response to therapy
3. Maintain bed rest in Fowler or semi-Fowler position to localize infection and prevent formation of abscesses within abdominal cavity
4. Observe and record amount and characteristics of vaginal discharge

5. Change perineal pads frequently using gloves
6. Teach safety measures to prevent reinfection of client or others: abstention from intercourse, avoidance of using tampons during treatment
7. Encourage verbalization of feelings about illness and/or possible complication of infertility
8. Explain importance of prenatal care if pregnancy occurs
9. Teach signs of ectopic pregnancy because of increased risk

Evaluation/Outcomes

1. Expresses relief from pain
2. Discusses need for diagnostic screening and precautions with sexual partner
3. Achieves resolution of infection
4. Verbalizes concerns
5. Verbalizes knowledge of the disease, its prevention, and its consequences

Prolapsed Uterus

Data Base

A Etiology and pathophysiology

1. Abnormal position of uterus as a result of pelvic floor weakness
 - a. First degree: uterus descends into vagina
 - b. Second degree: cervix is at or near outside vaginal orifice
 - c. Third degree: entire uterus inverts and protrudes outside vaginal orifice (procidentia)
2. Ulcerations in procidentia increase risk for cancer

B Clinical findings

1. Subjective: heaviness within pelvis, low back pain
2. Objective
 - a. Mass in lower vagina or outside orifice
 - b. Elongated cervix
 - c. Urinary retention and/or incontinence

C Therapeutic interventions

1. Vaginal pessary to maintain uterus in correct position
2. Surgical intervention
 - a. Suspension of uterus and correction of retroversion
 - b. Pelvic surgery to resuspend uterus and resupport musculature
 - c. Vaginal hysterectomy (if postmenopausal or if future pregnancy is not desired)

Nursing Care of Clients with a Prolapsed Uterus

Assessment/Analysis

1. Description of onset and progression of clinical findings
2. Pelvic examination: identify degree of prolapse, presence of cystocele or rectocele
3. Interference with urinary and bowel elimination
4. Presence of ulcerations on skin or mucous membranes

Planning/Implementation

1. Observe for ulcerations if procidentia is present; apply warm saline compresses or protective ointment as prescribed to prevent ulceration
2. Explain a pessary must be taken out and cleaned periodically if used
3. Monitor color, amount, and frequency of urination; teach pelvic floor exercises (Kegel)
4. Monitor consistency, amount, and frequency of bowel movements
5. Provide postoperative care (see Nursing Care under Cancer of the Cervix)

Evaluation/Outcomes

1. Maintains integrity of skin and mucous membranes
2. Establishes a regular pattern of bowel elimination
3. Establishes a regular pattern of urinary elimination
4. Reestablishes a satisfying sexual relationship

Cystocele and/or Rectocele

Data Base

A Etiology and pathophysiology

1. Cystocele: herniation of bladder into vagina
2. Rectocele: herniation of rectum into vagina
3. Both conditions may be present at same time and are associated with relaxation or injury of pelvic muscles during childbirth
4. Fistulas may occur
 - a. Rectovaginal: opening between rectum and vagina
 - b. Vesicovaginal: opening between bladder and vagina
 - c. Urethrovaginal: opening between urethra and vagina

B Clinical findings

1. Subjective: feeling of fullness in vagina, lower abdomen, and/or back; constant urge to urinate or defecate; dysuria
2. Objective
 - a. Soft, reducible mass evident during vaginal examination that increases when bearing down
 - b. Stress incontinence, frequency; urgency
 - c. Residual urine (60 mL or more after voiding)
 - d. Constipation or diarrhea

C Therapeutic interventions

1. Anterior colporrhaphy: corrects cystocele
2. Posterior colporrhaphy: corrects rectocele
3. Insertion of pessary for mild symptoms

Nursing Care of Clients with a Cystocele and/or Rectocele

Assessment/Analysis

1. History of prolapsed uterus
2. Description of onset and progression of clinical findings

3. Pelvic examination
4. Presence and extent of urinary retention
5. Impact of symptoms on lifestyle

Planning/Implementation

1. Teach care related to use of pessary (e.g., cleaning, removing, or having it removed periodically)
2. Encourage to perform Kegel exercises regularly to strengthen perineal muscles and use knee-chest position for a few minutes several times daily
3. Instruct to prevent constipation (e.g., high-fiber diet, fluids, exercise, stool softeners as prescribed)
4. Encourage to verbalize feelings and to ask questions
5. Provide postoperative care
 - a. Maintain patency of urinary catheter to prevent retention; when catheter is removed assess for signs of retention
 - b. Encourage voiding every 4 hours to prevent strain on suture line from distended bladder; perform residual urine measurements as ordered (no more than 150 mL should accumulate)
 - c. Cleanse perineum with warm soap and water and flush with warm water using a peri-bottle after each bowel movement and voiding; cleanse away from vagina and toward anus; sitz baths may be used
 - d. Apply anesthetic spray or ice packs if ordered to relieve discomfort
 - e. Administer prescribed stool softeners to limit straining at stool and pressure on suture line
 - f. Encourage intake of liquids on first postoperative day and regular diet on second day

Evaluation/Outcomes

1. Establishes a regular pattern of bowel elimination
2. Remains free from episodes of urinary incontinence

Benign Breast Disease

Data Base

A Etiology and pathophysiology

1. Fibrocystic breast condition: fluid-filled cysts and/or areas of thickening; may feel soft or hard on palpation; pain is common; linked to hormonal imbalance and caffeine consumption
2. Fibroadenomas: encapsulated, nontender tumors; increase in size during pregnancy and decrease with age; most common benign breast condition during reproductive years
3. Papillomas: intraductal lesions within terminal duct; may cause bloody or serous nipple discharge; occur in women between 40 and 55 years; multiple growths may be cancerous
4. Ductal ectasia: inflammatory response caused by blockage of ducts in subareolar area; duct is palpable and tender; greenish brown nipple discharge; occurs in perimenopausal or postmenopausal women; not generally associated with cancer
5. Lipomas: soft, fatty tumors that are mobile and nontender

B Clinical findings

1. Subjective: painful, tender breasts (mastalgia)
2. Objective
 - a. Palpable lesions that may be hard or soft, painful or nontender, fixed or mobile

b. Nipple discharge may be bloody with papilloma, or greenish brown with ductal ectasia

3. Sonography and/or mammography to identify location and shape of lesion

4. Biopsy to determine pathology of lesion

C Therapeutic interventions

1. Interventions depend on extent of disorder

2. Aspiration of cysts for cytology studies; biopsies with suspicious findings

3. Diagnostic imaging studies and breast self-examination on a regular basis

4. Dietary modification to decrease intake of caffeine and fat

Nursing Care of Clients with Benign Breast Disease

Assessment/Analysis

1. Breast-oriented history (e.g., menstrual history, previous imaging study results, biopsies, cyst aspirations, hormone therapy, breast cancer)

2. Breast examination

Planning/Implementation

1. Instruct regarding importance of regular breast self-examination, yearly clinical breast examination, sonography/mammography studies

2. Explain importance of dietary restrictions of caffeine and fat

3. Explore concerns regarding fear of findings; do not minimize concerns

Evaluation/Outcomes

1. Discusses feelings and concerns with health team members

2. Expresses decreased pain in breasts

3. Continues planned follow-up with yearly clinical breast examination and diagnostic imaging studies

Cancer of the Breast

Data Base

A Etiology and pathophysiology

1. Hard, nontender, fixed nodule; most often adenocarcinomas originating in ducts and lobes

2. Incidence: increasing age, estrogen replacement therapy for more than 10 years, increased number of menstrual cycles (menarche before age 12, menopause after age 55), nulliparity or parity after age 35, postmenopausal obesity, presence of *BRCA* gene mutations; history of benign breast disease, unrelated cancer, first-degree relative with breast cancer

3. Sites of metastasis: bone, bone marrow, soft tissue, lungs, liver, brain

4. Nodal involvement most important prognostic factor

5. Tumors may be estrogen- or progesterone-receptor positive

B Clinical findings

1. Subjective: painless in early stages; malaise in later stages

2. Objective

a. Palpable, irregularly shaped, fixed mass; most often in upper, outer quadrant

- b. Breast changes
 - (1) Asymmetry of breasts
 - (2) Nipple inversion and discharge
 - (3) Skin: dimpling and change of color over lesion; orange peel (peau d'orange) appearance in late stages
- c. Enlarged axillary lymph nodes
- d. Diagnostic tests
 - (1) Mammography: baseline between ages 35 and 40; every 1-2 years after age 40 based on risk factors
 - (2) Sonography (for dense breast tissue); thermography; transillumination (for early detection); magnetic resonance imaging (MRI)
 - (3) Biopsy for cytologic evaluation (see [Chapter 23](#), Nursing Care to Promote Childbearing and Women's Health, Related Procedures)
 - (4) Estrogen receptor assay: positive result indicates need for alteration of hormonal environment by surgical or chemical means
 - (5) Tumor markers: CA-15-3 and CA-125; carcinoembryonic antigen (CEA) in serum, plasma, or cerebrospinal fluid; indicative of progression of cancer, particularly of breast, ovaries, gastrointestinal tract

C Therapeutic interventions

1. Intervention depends on extent of primary tumor, regional lymph node involvement, extent of distant metastases (TNM classification); physical status
2. Surgical intervention
 - a. Sentinel node biopsy or lymphectomy to determine status of regional lymph node involvement, risk for metastasis
 - b. Partial mastectomy (lumpectomy, wide excision, segmental resection, or quadrantectomy): removal of lump and surrounding breast tissue
 - c. Simple mastectomy: removal of breast
 - d. Modified radical mastectomy: similar to radical mastectomy but pectoral muscles not removed
 - e. Radical mastectomy: removal of breast, pectoral muscles, pectoral fascia, nodes (pectoral, subclavicular, apical, axillary); rarely performed
 - f. Breast reconstruction (tissue expanders, saline implants, muscle flaps)
 - g. Oophorectomy, adrenalectomy, and/or hypophysectomy to control metastases by altering endocrine environment
3. Radiation therapy through external beam or interstitial implant using iridium 192 (¹⁹²Ir) (see [Chapter 3](#), Integral Aspects of Nursing Care, Neoplastic Disorders: Radiation and General Nursing Care of Clients with Neoplastic Disorders)
4. Chemotherapy
 - a. Alkylating agent: cyclophosphamide (Cytosan)
 - b. Antimetabolites: fluorouracil, methotrexate
 - c. Antitumor antibiotic: DOXOrubicin
 - d. Taxanes: paclitaxel, docetaxel (Taxotere); interfere with cellular microtubule function
 - e. Hormonal therapy: anastrozole (Arimidex), letrozole (Femara), tamoxifen, toremifene (Fareston), fulvestrant (Faslodex); reduces DNA and estrogen response
 - f. Corticosteroid: predniSONE

5. Biologic therapy: trastuzumab (Herceptin)
6. Bone marrow/stem cell transplantation

Nursing Care of Clients with Cancer of the Breast

Assessment/Analysis

1. Personal/family history of breast cancer
2. Ages at menarche, menopause, birth of first child
3. Regularity of breast self-examinations, clinical breast examinations, mammograms
4. Characteristics of lesion, skin surface, lymph nodes
5. Fears concerning consequences of cancer diagnosis, sexuality, finding another mass
6. Coping skills; use of support system

Planning/Implementation

1. Teach monthly breast self-examination
 - a. Perform 7 days after start of menstruation or same time every month if postmenopausal
 - b. Inspect while standing with hands at sides, overhead, and then on hips for asymmetry, retraction of nipple, dimpling of skin, color change
 - c. Palpate axillary and supraclavicular nodes
 - d. Palpate breast tissue using a systematic pattern (e.g., circles, vertical lines, wedges) when standing and lying down with arm abducted ([Figure 24-1: Breast self-examination](#))

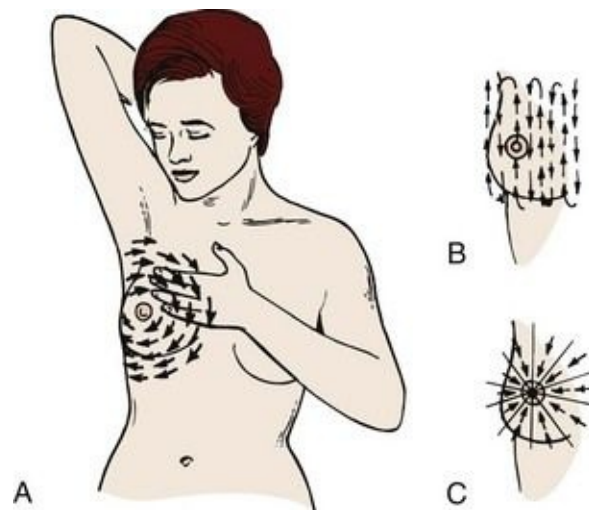


FIGURE 24-1 Breast self-examination. **A**, Circles. **B**, vertical lines. **C**, wedges. (From Lowdermilk DL, Perry SE: *Maternity and women's health care*, ed 9, St. Louis, 2007, Mosby.)

- e. Squeeze nipple of each breast to check for discharge
2. Provide emotional support
 - a. Assist to cope with diagnosis, altered body image
 - b. Encourage ventilation of feelings
 - c. Listen to and accept feelings
3. Care after mastectomy
 - a. Observe for hemorrhage: check all areas of dressing, underneath client, drainage unit, vital signs

- b. Maintain functioning of portable wound drainage system: ensure patency of tube, empty before half full, avoid tension at insertion site (drainage should not exceed 200 mL in 8 hours)
- c. Encourage coughing, deep breathing, use of incentive spirometer
- d. Assist with ambulation until adjusted to altered balance; encourage correct posture
- e. Prevent or reduce lymphedema: elevate and support lower arm above elbow with elbow above shoulder; inflatable or elastic sleeve may be ordered
- f. Protect affected arm (e.g., instruct to avoid carrying heavy articles, having blood drawn, injections, blood pressure readings)
- g. Encourage exercising affected arm (e.g., squeezing a ball, brushing hair, wall hand-climbing, turning rope); begin gradually as ordered, usually day after surgery
- h. Instruct about types of prostheses and where to obtain them; cotton covered by gauze may be used to fill bra until ready for professional fitter
- i. Explore feelings about breast reconstruction surgery
- j. Refer to programs (e.g., Reach for Recovery) for physical and emotional readjustment
- 4. Encourage intake of low fat foods and foods rich in immune-stimulating substances (e.g., vitamins A, C, and E, and mineral selenium)
- 5. Provide care related to chemotherapy and radiation (see [Chapter 3](#), Integral Aspects of Nursing Care, Neoplastic Disorders, General Nursing Care of Clients with Neoplastic Disorders)

Evaluation/Outcomes

- 1. Expresses acceptance of body image
- 2. Identifies precautions necessary to prevent injury to arm on affected side
- 3. Maintains strength and mobility of arm on affected side
- 4. Discusses feelings with health care providers, family, sexual partner
- 5. Demonstrates and continues to perform monthly breast self-examination

Osteoporosis

Data Base

A Etiology and pathophysiology

- 1. Systemic skeletal disorder
 - a. Microarchitectural deterioration of bone tissue; loss of bone mineralization, diminished bone mass
 - b. Resulting bone fragility predisposes to pathologic fractures; most commonly affects vertebrae, pelvis, head of femur
- 2. Risk factors: heredity (60% to 80%); low body weight (less than 127 lb); prolonged premenopausal amenorrhea; early menopause; sedentary lifestyle; prolonged immobility; inadequate intake of dietary calcium; low serum vitamin D levels; smoking; alcohol use; long-term steroid therapy

B Clinical findings

- 1. Subjective: back pain that increases with activity and decreases with rest; difficulty maintaining balance
- 2. Objective
 - a. Decreased height resulting from compression of vertebrae; kyphosis
 - b. Bone mass measurements (e.g., x-ray examinations, dual-energy densitometry)

[absorptiometry])

c. Pathologic fractures

C Therapeutic interventions

1. Planned program of weight-bearing exercise to increase calcium deposition in bone
2. Hormone replacement therapy (HRT) with estrogen to decrease bone reabsorption; HRT is controversial because of relationship to increased evidence of breast cancer and cardiovascular disorders
3. Bisphosphate therapy: inhibit osteoclasts and reduce bone resorption; alendronate (Fosamax), risedronate (Actonel)
4. Human recombinant parathyroid hormone: to stimulate new bone growth; (e.g., teriparatide (Forteo))
5. High-protein, high-calcium diet; calcium and vitamin D supplements
6. Spine support (e.g., corset, Philadelphia collar, Taylor brace)
7. Treatment of modifiable risk factors

Nursing Care of Clients with Osteoporosis

Assessment/Analysis

1. Factors contributing to development of osteoporosis
2. Dietary pattern, use of OTC medications
3. History of loss of balance, falls, pain, fractures

Planning/Implementation

1. Encourage active weight-bearing and range-of-motion exercises
2. Teach effective body mechanics
3. Encourage use of assistive devices (e.g., walker, cane) to promote stability
4. Encourage diet that supplies substances needed for mineralization of bone (e.g., vitamins A, C, and D; calcium; magnesium; phosphorus); discuss calcium and vitamin D supplements
5. Advise to limit intake of sodium, caffeine, and alcohol because they increase calcium excretion
6. Encourage use of orthotic devices if ordered

Evaluation/Outcomes

1. Reports reduction in pain
2. Complies with dietary and drug regimens
3. Participates in weight-bearing exercises
4. Maintains physical mobility
5. Remains free from injury



CHAPTER 25

Nursing Care of Women during Uncomplicated Pregnancy, Labor, Childbirth, and the Postpartum Period

Prenatal Period

Data Base

Development of the Embryo/Fetus

A Formation of gametes: ovum and spermatozoon are formed by meiosis; each have one set of 23 chromosomes; other body cells have two sets (46 chromosomes, 23 pairs)

B Chromosomes: carry sets of matching genes (alleles); one may be dominant, the other recessive, or have blending expressions

C Sex determination in humans

1. Females have two X chromosomes; males have one X and one Y chromosome
2. Ovum has one X chromosome; sperm have either an X or a Y chromosome
3. X-bearing sperm that fertilizes an ovum results in a female; Y-bearing sperm that fertilizes an ovum results in a male

D Genes

1. Sex-linked genes: carried on X chromosome are always expressed in the male, even if recessive (e.g., hemophilia, color blindness)
2. Multiple genes: may combine to produce cumulative effects (e.g., degree of pigmentation, height)
3. Multiple alleles: influence human traits (e.g., blood types, eye color)

E Chromosomal alterations

1. Additional sex chromosomes produce individuals with genetic abnormalities (e.g., Turner syndrome; Klinefelter syndrome)
2. Translocation of chromosomes (e.g., trisomy 21 [Down syndrome])
3. Mutations
 - a. Changes in DNA; chromosomal changes
 - b. Risk factors: ultraviolet radiation, x-rays, radioactive radiation, chemical substances

F Fertilization

1. Occurs about 24 hours after ovulation when sperm enters ovum
2. Zygote forms; chromosome number restored to two sets (46 chromosomes)

G Cleavage: rapid mitotic division of zygote produces morula that divides to form blastocyst

H Implantation: blastocyst implants in uterine wall 7 to 8 days after fertilization

I Placenta

1. Dual origin: maternal and embryonic
2. Structures
 - a. Chorion: becomes major part of placenta; forms chorionic villi (fingerlike projections growing into uterine endometrium)
 - b. Amnion sac: surrounds embryo; contains amniotic fluid at 46 to 48 days gestation
3. Functions
 - a. Site for interchange of food, gases, and wastes between mother and embryo/fetus
 - b. Produces estrogens, progesterone, adrenocorticotrophic hormone [ACTH], human chorionic gonadotropin [hCG], and human placental lactogen [hPL])
 - c. Protective barrier against harmful effects of some drugs and microorganisms

J Umbilical cord

1. Location: in central portion of placenta; attached to fetus

2. Structures and functions

- a. One vein transports maternal nourishment from placenta to fetus; two arteries transport fetal wastes to placenta
- b. Wharton jelly: protective covering surrounding cord

K Embryonic development

1. Conceptus: embryo during first 2 months; fetus thereafter
2. First 8 weeks: organogenesis (rapid growth and development of organs); interference can cause irreparable fetal damage; preconception counseling includes avoidance of alcohol, tobacco, illegal, and over-the-counter drugs
3. At 14 days: heart begins to beat; brain, early spinal cord, and muscle segments present
4. At 30 days: embryo $\frac{1}{4}$ to $\frac{1}{2}$ inch (0.6 to 1.2 cm) in length, definite form, umbilical cord becomes visible
5. At 31 to 36 days: both arms and legs have digits but may be webbed; 46 to 48 days: cartilage in upper arms replaced by first bone cells
6. End of 8 weeks: organ systems and external structures are recognizable

L Fetal development

1. At 9 weeks: genitalia begin to differentiate; fully differentiated by 12 weeks
2. At 12 weeks: moves, swallows, respiratory movements present; weighs 28 g (1 oz); fetal heart audible with Doppler (fetal heart rate (FHR) 110 to 160 beats/min); chorionic villi sampling at 10 to 12 weeks
3. At 16 to 20 weeks: fetal movements felt by mother (quickening); weighs 170 g (6 oz); 20 to 25 cm (8 to 10 inches) in length; 200 mL of amniotic fluid enables amniocentesis at 14 to 16 weeks; vernix and lanugo cover and protect fetus
4. At 20 to 24 weeks: hair growth on head, eyelashes, and brow; skeleton hardens; eyelids closed; weighs 0.45 kg (1 lb); 30.5 cm (12 inches) in length; respiratory movements become more regular
5. At 24 to 28 weeks: eyelids open; amniotic fluid increases; weighs 0.5 kg ($1\frac{1}{4}$ lb); alveolar cells of lungs produce pulmonary surfactants that minimize surface tension
6. At 28 to 32 weeks: brown fat begins to deposit; weighs 0.5 to 0.7 kg (1 to $1\frac{1}{2}$ lb)
7. At 32 to 36 weeks: stores protein for extrauterine life; gains 1.8 kg (4 lb)
8. At 36 to 40 weeks: lanugo disappears; vernix present, particularly in creases; nails extend; visible mammary glands; testes palpable in scrotum; weighs 3 to 3.6 kg (6 lb 10 oz to 7 lb 15 oz) but varies; full-term birth is 38 to 40 weeks
9. Fetal circulation: contains mixed blood with low oxygenation; 30% to 70% oxygen saturation
 - a. Foramen ovale: opening between right and left atria, bypasses fetal lungs
 - b. Ductus arteriosus: connection between pulmonary trunk and aorta, bypasses fetal lungs
 - c. Ductus venosus: connection between umbilical vein and ascending vena cava, bypasses fetal liver

Physical, Physiologic, and Emotional Changes during Pregnancy

A Affirmation and confirmation of pregnancy

1. Presumptive signs: subjective (may be indicative of illness); amenorrhea; fatigue; nausea and vomiting; breast changes; urinary frequency; darkening of pigmentation on face, breasts, and abdomen; quickening (feeling of movement at about 16 to 20 weeks)
2. Probable signs: objective but not definite confirmation

- a. Uterine changes: uterine enlargement; Hegar sign (lower uterine segment softens), Goodell sign (cervix softens)
 - b. Vaginal change: Chadwick sign (color becomes purplish)
 - c. Fetal outline; ballottement
 - d. Pregnancy tests: urine and blood detects human chorionic gonadotropin (hCG)
 - e. Preparatory contractions (formerly called Braxton Hicks)
3. Positive signs: confirmation
- a. Fetal heartbeat: heard with fetoscope, Doppler
 - b. Fetal outline and movement: felt by examiner
 - c. Ultrasonography: visualization of fetus and movement of fetal heart
4. Identification of singleton or multiple gestation (early determination vital because multiple gestation contributes to perinatal morbidity and mortality)
5. Estimating date of birth (EDB) and duration of pregnancy
- a. Nägele rule: count back 3 months from first day of last menstrual period and add 7 days and 1 year
 - b. Fundal height: measurement from symphysis pubis to top of fundus; fundus rises about 1 cm per week up to 30 weeks; 20 weeks at umbilicus (McDonald rule), 36 weeks at xiphoid process
 - c. Ultrasonography: up to 11 weeks gestational age established by crown to rump measurement (must have full bladder to move uterus into abdominal cavity for visualization; instructed to drink quart of fluid before test); 11 weeks head measurements (biparietal diameter is 9.8 cm or more at term)

B Emotional changes

- 1. Ambivalence about pregnancy, parenting, impact on family
- 2. Mood swings
- 3. Sexual desire may increase or decrease
- 4. First trimester: acceptance of biologic fact of pregnancy; acquires knowledge regarding physical, physiologic, and emotional changes of pregnancy
- 5. Second trimester: acceptance of growing fetus as distinct from self
- 6. Third trimester: preparation for birth; anxiety related to birth, newborn's health, additional responsibilities

C Endocrine

- 1. Hormones secreted by placenta
 - a. Human chorionic gonadotropin (hCG): confirms pregnancy; maintains pregnancy; continues secretion of progesterone and estrogen from corpus luteum during first trimester; causes morning sickness; peaks at end of first trimester, then drops; high levels associated with hydatidiform mole
 - b. Estrogen: secreted during last two trimesters; promotes vasodilation; softens cervix; helps prepare breasts for lactation; causes sodium and water retention; increased estriol levels in maternal saliva may indicate preterm labor
 - c. Progesterone: inhibits uterine contractions; promotes smooth muscle relaxation, causing decreased GI motility and increased bladder capacity; promotes sodium loss
 - d. Human placental lactogen (hPL) or human chorionic somatomammotropin (hCS): diabetogenic (diminished insulin efficiency); decreases maternal utilization of glucose, providing more glucose for fetal growth; affects lipid and protein metabolism; helps prepare breasts for lactation

2. Thyroid: increased secretion may mimic mild hyperthyroidism
3. Parathyroids: increased secretion affects calcium metabolism
4. Adrenal cortex
 - a. Cortisol: promotes carbohydrate, protein, and fat metabolism; activates gluconeogenesis to produce glucose for more energy
 - b. Aldosterone: production increases; rennin and angiotensin II levels rise; protects against excessive sodium loss
5. Pituitary
 - a. Anterior: enlarges; ovulatory hormones are suppressed; prolactin secreted to help prepare breasts for lactation
 - b. Posterior: releases oxytocin, which stimulates uterine contractions that initiate labor; after birth, contracts uterus and stimulates milk ejection reflex
6. Pancreas: increases insulin production early in pregnancy

D Reproductive

1. Ovaries: ovulation inhibited by high levels of circulating estrogen and progesterone secreted by corpus luteum
2. Uterus: circulatory, hormonal, and other changes related to fetal growth; amenorrhea resulting from continuation of corpus luteum; enlarges from 70 g to 1000 g; rises from pelvis to abdomen after first trimester; Hegar sign; Goodell sign
3. Vagina: leukorrhea from uterus; Chadwick sign; acidity increases
4. Breasts: fullness, tingling, soreness, darkened areolae, and nipples

E Gastrointestinal

1. Nausea and vomiting (morning sickness) during first trimester; related to human chorionic gonadotropic (hCG) hormone
2. Excessive salivation (ptyalism)
3. Gingivitis; caused by hyperemia and softening of gums; hyperacidity of oral secretions; increased vitamin C intake and regular oral hygiene relieve problem
4. Gallbladder; emptying time decreases; may precipitate gallstone formation
5. Development of food cravings; unusual cravings for clay, starch, dirt (pica); may be harmful
6. Heartburn (pyrosis): caused by delayed emptying time of stomach, reflux of gastric acid contents into esophagus, gastric irritants (e.g., coffee, tea, chocolate)
7. Hiatus hernia: risk in older, obese women or if carrying multiple fetuses
8. Constipation: caused by decreased GI motility, low fluid intake, low fiber intake, pressure of enlarged uterus on internal organs; straining on defecation may contribute to development of hemorrhoids

F Urinary

1. Frequency: caused by weight of uterus on bladder in early and late pregnancy
2. Increased bladder capacity: smooth muscle relaxation reduces bladder tone, increases capacity to 1500 mL
3. Dilation of renal pelvises and ureters: caused by pressure of enlarging uterus; right ureter displaced more than left
4. Flow rate: decreased, leading to retention, stasis, risk for infection
5. Lowered renal threshold: caused by glycosuria; occasional mild proteinuria

G Circulatory

1. Blood volume: increased to meet needs of woman and fetus

2. Physiologic anemia: caused by hemodilution; blood volume increases 45% to 50% with ratio of 75% plasma and 25% RBCs; imbalance between plasma and RBCs reduces hematocrit and hemoglobin; anemia diagnosed when hemoglobin is less than 11 g/dL
3. Cardiac output: increases 30% to 50%, peaking at 28 to 32 weeks
4. Heart rate: increases 10 to 15 beats/min in latter half of pregnancy; palpitations in early months from sympathetic nervous stimulation, in later months from increased thoracic pressure caused by enlarged uterus
5. Blood pressure
 - a. Slight decrease in second trimester
 - b. Supine hypotension (vena caval syndrome): weight of enlarged uterus compresses vena cava; blood return to heart decreases; cardiac output decreases causing lightheadedness, faintness, and palpitations ([Figure 25-1: Supine hypotension](#))

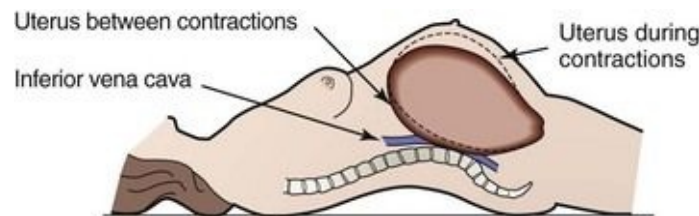


FIGURE 25-1 Supine hypotension. (From Lowdermilk DL, Perry SE, Cashion MC: *Maternity nursing*, ed 8, St. Louis, 2011, Mosby.)

6. Blood components: increased WBCs (from $5000/\text{mm}^3$ to $12,000/\text{mm}^3$), fibrinogen, and other clotting factors increase
 7. Pelvic hyperemia and pressure of uterus on pelvic blood vessels: can cause varicose veins of legs, vulva, and perianal area
 8. Peripheral edema in last 6 weeks: caused by venous stasis
 9. Thrombophlebitis: heparin or low-molecular-weight heparin (enoxaparin [Lovenox]) may be administered because they do not cross placental barrier; bed rest with leg elevation prescribed
- H Respiratory

1. Oxygen consumption: increases by about 15% between 16th and 40th weeks; slight increase in vital capacity; thoracic cavity expands up to 40%, tidal volume increases causing the thoracic cavity to expand by 40%
2. Hyperventilation: caused by need to blow off increased carbon dioxide transferred from fetus
3. Nasal congestion and epistaxis: response to increased estrogen levels
4. Third trimester: pressure of enlarged uterus on diaphragm and lungs may cause dyspnea; subsides with lightening at about 38 weeks

I Integumentary

1. Diaphoresis: caused by excretion of wastes through skin
2. Skin changes: increased melanin causes darkening of areolae, dark patches on face (melasma, formerly chloasma), linea nigra on abdomen; striae on abdomen and legs caused by skin stretching as pregnancy advances; erythematous changes on palms and face in some women

J Skeletal

1. Ligaments and joints: soften, especially symphysis pubis and sacroiliac joint; caused by increased hormonal action of estrogens and relaxin
2. Leg cramps: caused by imbalance of calcium (hypocalcemia), pressure of gravid uterus on nerves

supplying lower extremities, decrease in dietary calcium

K Nutritional needs during pregnancy

1. Increased calories: meets increased basal metabolic needs (300 additional calories during second and third trimesters); spares protein for growth, promotes weight gain to support pregnancy
2. Weight gain
 - a. Gain of 14.4 to 16 kg (25 to 35 lb); about 4 lb every month after initial 3- to 4-lb gain in first trimester
 - b. Underweight gain more, overweight gain less; if carrying multiple fetuses gain more than recommended for one fetus
 - c. Body mass index: helps to individualize appropriate weight gain
3. Increased nutrients
 - a. Protein: provided for fetal growth demands
 - b. Vitamins: especially folic acid to prevent anemia, neural tube defects
 - c. Minerals: supplemental iron to prevent anemia
 - d. Calcium: from milk and cheese to promote fetal bone and tooth development, prevent maternal bone loss
4. Fluids: 6 to 8 glasses/ day
5. Daily minimum food intake
 - a. Based on a balanced diet; include minerals (e.g., iron, calcium, phosphorus, iodine, zinc, sodium); iodized salt provides sodium and iodine; sodium restriction is potentially dangerous because it limits interstitial fluid reserve needed if maternal blood volume decreases
 - b. Servings of specific nutrients
 - (1) Four dairy products: provide calcium, protein, vitamins A and D, riboflavin
 - (2) Three (2 oz) servings of protein
 - (3) Six or more servings of bread and cereal
 - (4) Five servings of fruits or vegetables containing vitamin C
 - (5) One serving of leafy, dark-green or deep-yellow vegetables
 - (6) One serving of yellow fruit or vegetables; two servings of other vegetables or fruits
6. Food restrictions
 - a. Shrimp, salmon, pollack, catfish, canned light tuna; no more than one to two servings a week
 - b. Albacore white tuna; no more than 6 ounces in one week
 - c. Privately caught fish: check with local health department before eating
7. Foods to avoid
 - a. Raw fish, especially shellfish; soft-scrambled eggs; foods made with raw or lightly cooked eggs
 - b. Unpasteurized juices and milk
 - c. Foods made from soft cheeses (e.g., brie, feta, Camembert, Roquefort, queso blanco, queso fresco, Panela)
 - d. Raw sprouts, especially alfalfa sprouts
 - e. Herbal supplements and teas
 - f. Fish high in mercury (e.g., shark, swordfish, king mackerel, tilefish)
 - g. Raw or undercooked meat, poultry, seafood, hot dogs
 - h. Deli meats (e.g., ham, bologna): can cause food poisoning; must be reheated before eating

L Pregnant adolescent nutritional needs

1. Weight gain: pregnancy and developmental growth are added together

2. Iron needs: increased to support enlarging muscle mass, increasing blood volume

3. Calcium intake: increased to 400 mg; requires 1- to 2-g calcium diet

M Nutrition and related nursing care

1. Assess nutritional status

a. Physical, cultural, economic, and psychologic needs

b. Preconception; obesity or underweight; age and parity; individual needs; biologic interactions among mother, fetus, and placenta

c. Parturition: weight gain (e.g., quality of gain, gain related to fetal size); severe caloric restriction and weight reduction contraindicated (increased risk to mother and fetus, especially during organogenesis)

2. GI discomforts

a. Nausea and vomiting: instruct to eat dry crackers in morning; limit fluids with meals; eat small, frequent meals; restrict fat; eat high-carbohydrate diet; eat protein snacks at bedtime

b. Constipation: instruct to increase fluids and fiber; maintain appropriate activity level

Nursing Care during the Prenatal Period

Assessment/Analysis

1. Initial visit

a. Date of last menstrual period

b. Personal, gynecologic, family medical history; obstetric history using GTPAL system

(1) Gravida: number of conceptions

(2) Term births: number of births between 37 and 40 weeks' gestation

(3) Preterm births: number of births between 20 and 36 weeks' gestation

(4) Abortions: number of spontaneous or induced terminations of pregnancy before 20 weeks' gestation

(5) Living children: number of children alive at time of assessment

c. Physical examination including baseline vital signs, weight

d. Pelvic examination: vaginal, rectal

e. Current nutritional status; dietary history

f. Laboratory tests (some tests performed at subsequent visits)

(1) Complete blood count; hemoglobin and hematocrit; blood type to determine ABO incompatibility; Rh factor (if indicated, antibody titer test and/or indirect Coombs test) to determine potential hemolytic condition)

(2) Tuberculosis; Tay-Sachs, particularly for Jewish women; sickle cell, particularly for African-American women

(3) Pap test for cancer; wet prep for bacterial vaginosis (linked to preterm labor)

(4) Serologic test for syphilis, repeated at 32 weeks; cervical smears for gonorrhea and chlamydia

(5) Rubella titer: titer of 1:8 considered immune

(6) Cytomegalovirus, hepatitis B, HIV, parvovirus, toxoplasmosis, varicella-zoster virus

(7) Herpes culture: first visit, at 36 weeks, if woman or partner has history of genital herpes

(8) Alpha-fetoprotein (AFP): at 14 to 16 weeks; screening test to determine neural tube defects, Down syndrome, other congenital anomalies

- (9) Routine sonogram: at 18 to 20 weeks; confirms gestational age; assesses placenta, fetus, amniotic fluid
- (10) Chorionic villi sampling or amniocentesis: determines chromosomal or other abnormalities for women at risk (35 years or older)
- (11) Serum glucose level: at 26 to 28 weeks for gestational diabetes
- (12) Group B streptococcus culture: after 36 weeks

g. Understanding of pregnancy and related care

h. Evidence of domestic violence (e.g., partner answers questions for woman, injuries to breast/abdomen, multiple health care visits)

2. At all visits: vital signs; weight; urinalysis for ketones, albumin, and glucose; abdominal palpation; auscultation of fetal heart, fetal activity; height and size of fundus; facial or digital edema; presence of domestic violence

Planning/Implementation

1. Teach expectant mother or parents

a. Anatomy and physiology of pregnancy, labor, and birth

b. Physiologic changes and related discomforts occurring during pregnancy (e.g., nausea, vomiting, backaches, varicosities, hemorrhoids, constipation, leg pain)

c. Changes in nutritional needs and how to meet them; consider cultural and personal preferences

d. To avoid alcohol, tobacco, contact with secondhand smoke (causes maternal and fetal vasoconstriction resulting in intrauterine growth restriction),

e. To check with health care provider before taking over-the-counter (OTC), prescription drugs, herbs; (e.g., nonsteroidal antiinflammatory drugs (NSAIDs) considered harmless may be teratogenic to fetus)

f. Importance of adequate fluid intake, moderate exercise to promote circulation and prevent stasis

g. Importance of continuing breast self-examination throughout pregnancy

h. To notify health care provider when membranes rupture and/or regular contractions are 5 to 10 minutes apart

2. Teach expectant mother and/or parents to monitor for and report complications

a. Visual disturbances; edema of face, fingers, or feet; persistent, severe headaches; epigastric pain; seizures (preeclampsia)

b. Persistent, severe vomiting (e.g., hyperemesis gravidarum)

c. Signs of infection (e.g., burning on urination)

d. Unusual vaginal discharge, including blood (e.g., placenta previa)

e. Abdominal pain (e.g., abruptio placentae)

f. Absence of or decrease in fetal movements after initial presence (nonreassuring fetal sign)

g. Signs and symptoms of preterm labor (e.g., rupture of membranes)

3. Respond to questions (e.g., bathing, douching, work, sex, exercise)

4. Help expectant parents discuss and explore feelings related to childbearing and childrearing

5. Identify expectant parents' support systems

6. Prepare expectant father or significant other for coaching and supportive role during pregnancy, labor, and birth

7. Prepare expectant mother for physical work of labor through relaxation and breathing exercises for various phases of labor

8. Discuss various breathing techniques (e.g., slow-paced, modified-paced, pattern-paced,)

9. Refer to preparatory classes, if appropriate
10. Encourage monthly and final weekly visits
11. Explore findings that indicate domestic violence; follow up to prevent damage to mother and fetus

Evaluation/Outcomes

1. Expectant mother
 - a. Keeps weight gain within recommended limits
 - b. Abstains from alcohol, drugs, and tobacco
 - c. Adjusts to physiologic changes associated with pregnancy
 - d. Identifies signs of complications
 - e. Attends childbirth classes with partner/coach
2. Fetus
 - a. Survives intrauterine period
 - b. Maintains growth and development within acceptable parameters

Intrapartum Period (Labor and Birth)

Data Base

A Labor: involuntary physiologic process whereby contents of gravid uterus are expelled through birth canal into external environment

B Anatomy of bony pelvis

1. Classification of pelvis: gynecoid (female pelvis), android (male pelvis), anthropoid (similar to male pelvis), platypelloid (flat pelvis)
2. True pelvis: bony inner pelvis through which fetus must pass (true conjugate, cannot be measured directly); accurate measurement determined with computerized tomography, ultrasonography

C Attitude: relationship of fetal parts to each other

D Lie: relationship of long axis of fetus to long axis of mother

E Presentation: body part of fetus that engages in true pelvis

1. Cephalic (head): vertex, brow, or face
2. Breech: frank, complete, single or double footling
3. Shoulder: fetus cannot travel through birth canal

F Position: relationship of presenting parts to four quadrants of mother's pelvis (left [L] or right [R]; anterior [A] or posterior [P]; occiput [O]; mentum or face [M]; sacrum [S])

1. Vertex: occiput, LOA, LOP, ROA, ROP
2. Face: mentum (chin), LMA, LMP, RMA, RMP
3. Breech: sacrum, LSA, LSP, RSA, RSP

G Station: relationship of presenting part to imaginary line between ischial spines

1. Floating: presenting part movable above pelvic inlet
2. Engaged: biparietal plane has passed pelvic inlet
3. Station 0: presenting part at level of the ischial spines; levels above spines -1, -2, -3; levels below spines +1, +2, +3 ([Figure 25-2: Stations of presenting part](#))

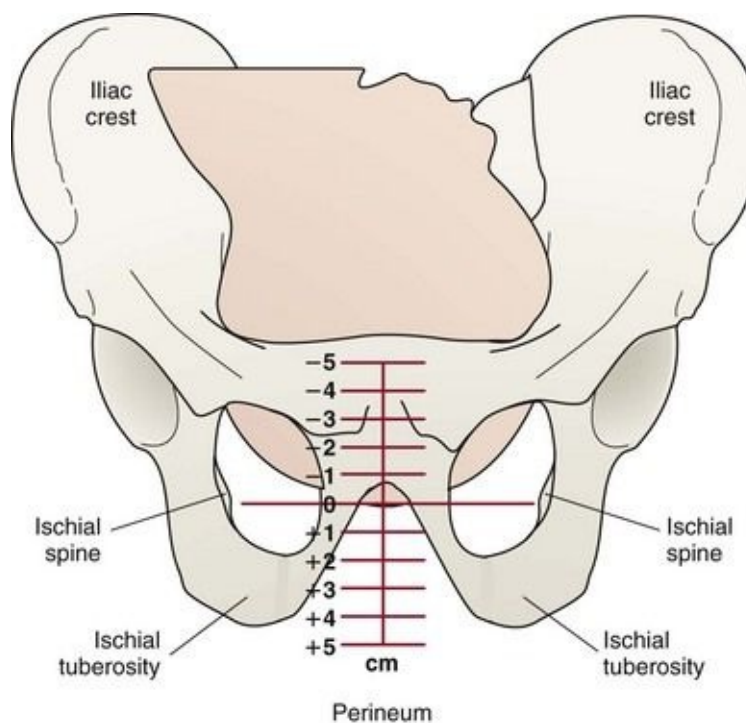


FIGURE 25-2 Stations of presenting part. (From Lowdermilk DL, Perry SE, Cashion MC: *Maternity nursing*, ed 8, St. Louis, 2011, Mosby.)

H Amniotic fluid: enclosed in amniotic sac

1. Spontaneous rupture of membranes (SROM or SRM): usually in mid- or late labor; can occur before contractions begin (premature rupture of membranes [PROM])
2. Artificial rupture of membranes (amniotomy, AROM, or ARM): expedites labor by increasing dilation and effacement; done when presenting part is engaged
3. Confirmation of amniotic fluid
 - a. Nitrazine paper: positive when pH is greater than 7.0; paper changes color; result compared to color code on Nitrazine roll
 - b. Fern test: dried amniotic fluid on slide examined with microscope reveals frond-like pattern
4. Assessment of amniotic fluid
 - a. Color: strawlike and clear; may contain small particles of vernix caseosa; greenish color indicates meconium staining (nonreassuring fetal sign)
 - b. Odor: musky-smelling but not offensive; foul-smelling indicates infection (chorioamnionitis)
 - c. Amount: approximately 1000 mL at term; 1500 to 2000 mL (hydramnios, polyhydramnios); scant amount (oligohydramnios); congenital anomalies associated with scant or excessive (e.g., esophageal atresia) fluid
5. Amniotic fluid index (AFI): extent of amniotic fluid in all four quadrants surrounding maternal umbilicus; expected range is 7 to 18 cm; less than 5 to 6 cm is oligohydramnios; greater than 19 to 22 cm is hydramnios

I Clinical findings before labor

1. Physiologic
 - a. Lightening: fetus drops into pelvis
 - b. Preparatory contractions (Braxton Hicks): irregular mild contractions in preparation for true labor; when walking contractions subside
 - c. Increased vaginal secretions
 - d. Softening of cervix (ripening)
 - e. Bloody show: mucous plug expelled; accompanied by small blood loss; can occur before or

during labor

2. Psychologic: mother shows signs of nesting (increased activity) caused by sudden rise in energy level (spurt of energy)

J Clinical findings of true labor

1. Regular uterine contractions that increase in frequency, strength, and duration and do not disappear when lying down or walking
2. Effacement (shortening or thinning of cervix) dilation of cervix

K Stages of labor and maternal changes

1. First stage: from onset of true labor to complete effacement and dilation of cervix
 - a. Latent phase: mild, short contractions, cervix dilated 0 to 3 cm; client excited that labor has started, some apprehension; follows directions readily; walking assists labor process
 - b. Active phase: moderate to strong contractions about 5 minutes apart, cervix dilates from 4 to 7 cm, bloody show, membranes may rupture; slow, deep-breathing techniques help with relaxation; increasing difficulty in following directions; analgesic may be needed for discomfort; need for supportive measures (e.g., encouragement, praise, reassurance, back pressure or back rubs); client/significant other seek information regarding progress of labor
 - c. Transition phase: strong contractions 1 to 2 minutes apart (lasting 45 to 60 seconds or more with little rest in between); cervix dilates from 7 to 10 cm with increased bloody show; becomes irritable, restless, agitated, emotional, belches, has leg tremors, perspires, develops pale white ring around mouth (circumoral pallor), flushed face, sudden nausea, may vomit; feels need to have bowel movement because of pressure on anus; may be unable to communicate or follow directions; requires focused emotional support
2. Second stage: begins with full dilation of cervix and ends with birth
 - a. Latent phase: may last up to 1 hour with decrease in strength and frequency of contractions and without urge to push
 - b. Active phase: urge to push; contractions stronger with increased frequency
 - c. Transition phase: begins with fetal head on perineum; perineum bulges when pushing with contractions; client makes grunting sounds; behavior changes from irritability to involvement with birth process; sleep and relaxation between contractions; leg cramps are common
 - d. Mechanisms of second stage labor: rotation and descent of fetus in vertex presentation through pelvis
 - (1) Engagement, descent with flexion: at onset of second stage, head descends and chin flexes on chest
 - (2) Internal rotation: as labor contractions and uterine forces move fetus downward, head internally rotates to pass through ischial spines
 - (3) Extension: occiput emerges under symphysis pubis and head is born by extension
 - (4) External rotation: rotation of shoulders to an anterior/posterior position
 - (5) Expulsion: remainder of fetus's body is born
3. Third stage: begins after birth through expulsion of placenta
 - a. Placental separation (5 to 30 minutes) heralded by globular shape of uterus, lengthening of umbilical cord, and gush of blood
 - b. May have alteration in perineal structure either from episiotomy (prophylactic incision into perineum to allow for birth of head) or from lacerations caused by expulsion of presenting part
4. Fourth stage: follows expulsion of placenta to 2 hours after birth

- a. Fundus firm in midline, at or slightly above the umbilicus
- b. Bloody vaginal discharge (lochia rubra)
- c. Fatigue, thirst, chills, nausea; excitement and intermittent dozing

Related Pharmacology

Oxytocics

A Description

1. Stimulate uterus to contract
2. Induce labor; infused slowly
3. Augment contractions that have already begun
4. Induce contraction of lacteal glands, which promotes let-down reflex for breastfeeding
5. Exert vasopressor and antidiuretic effects
6. Enhance postpartum uterine contraction; infused rapidly
7. Available in IM, IV, oral, and nasal preparations

B Example: oxytocin (Pitocin, Syntocinon)

C Adverse side effects

1. Maternal
 - a. Hypertension (contracts smooth muscles of blood vessels)
 - b. Dysrhythmias; tachycardia (vasoconstriction)
 - c. Hypertonic uterus; uterine rupture
 - d. Water intoxication (antidiuretic effect) may precipitate seizures and coma
2. Fetal: caused by tetanic uterine contractions
 - a. Anoxia; asphyxia (vasoconstriction)
 - b. Dysrhythmias (premature ventricular complexes [PVCs], bradycardia)
 - c. Hyperbilirubinemia (hepatic dysfunction)

D Nursing care associated with oxytocics

1. Monitor vital signs every 30 to 60 minutes and with each dose increase
2. Have oxygen and emergency resuscitative equipment available
3. Maintain continuous fetal monitoring; assess uterine contractions and tone, and FHR every 15 minutes
4. Use infusion-control device for IV administration; always given by secondary line (IV piggy back [IVPB])
5. Discontinue infusion for prolonged uterine contractions, inadequate uterine resting tone, or nonreassuring fetal response to contractions.

Prostaglandins

A Description

1. Stimulate uterine contractions
2. Help to ripen or soften cervix
3. Enhance postpartum uterine contraction
4. Available in oral, rectal, or vaginal preparations

B Examples: misoprostol (Cytotec), dinoprostone (Cervidil), carboprost (Hemabate)

C Major adverse side effects: maternal

1. Hypertonic uterus, uterine rupture
2. Nausea, vomiting, diarrhea, vasoconstriction; more common with carboprost (should never be administered IV)

D Nursing care associated with prostaglandins

1. Monitor continuously, particularly uterine contractions
2. Have oxygen and resuscitative equipment available

Opioid Analgesics and Anesthetics

A Description

1. Relieve discomfort of active labor and birth
2. Administered via IV, IM, epidural, or intrathecal routes
3. Administration timed to allow metabolism and excretion of drug before birth to avoid respiratory depression in the newborn

B Examples: hydromorphone (Dilaudid), fentanyl (Sublimaze), sufentanil citrate (Sufenta), butorphanol (Stadol), nalbuphine (Nubain)

C Regional administration

1. Epidural: during labor, during cesarean birth, and postcesarean when abdomen is being closed
2. Spinal: during cesarean birth; inserted in subarachnoid space; given in a single dose; may wear off before procedure is complete; epidural route more common
3. Combination intrathecal
4. Pudendal: during second stage of labor
5. Local infiltration: during repair of episiotomy

D Nursing care of clients receiving analgesic/anesthetic agents

1. Keep naloxone (Narcan) available to counteract respiratory depression if it occurs
2. Observe client and newborn for respiratory depression; monitor mother for hypotension
3. Epidural: monitor client for hypotension; if hypotension occurs, position on left side, increase IV infusion, administer oxygen, assess FHR
4. Pudendal: explain that it eliminates discomfort during an episiotomy and its repair; assess for vaginal wall or perineal hematoma
5. Spinal: monitor for headache that increases with head elevation; usually in first 24 to 72 hours; keep client supine

Nursing Care during the Intrapartum Period

Assessment/Analysis

1. Fetal heart rate and pattern
2. Age, weight, height, vital signs, allergies
3. Obstetric history; expected date of birth; intent to breastfeed or formula feed; prenatal care
4. Medical history
5. Time and type of last meal
6. Time of onset of contractions (beginning of one contraction to beginning of next contraction) and their frequency, duration, and intensity
7. Presence of bloody show; status of amniotic membrane
8. Leopold maneuvers to determine fetal presentation, position, and station ([Figure 25-3](#): Leopold

maneuvers)

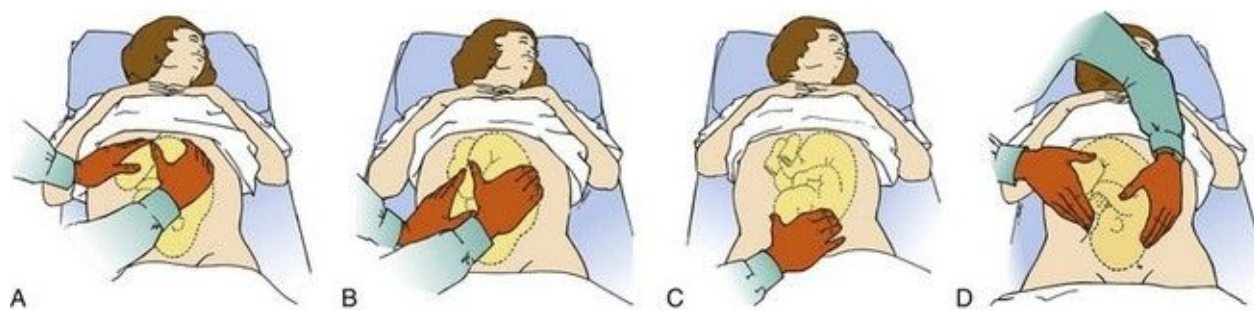


FIGURE 25-3 Leopold maneuvers. (From Lowdermilk DL, Perry SE, Cashion MC: *Maternity nursing*, ed 8, St. Louis, 2011, Mosby.)

- a. A—Identifies fetal lie (longitudinal or transverse) and presentation (cephalic or breech)
 - b. B—Identifies fetal presentation
 - c. C—If head is presenting and not engaged, determines attitude of head (flexed or extended)
 - d. D—If cephalic prominence is on same side as back, indicates that presenting head is extended and face is presenting
9. Factors that influence labor
 - a. Power: contraction's expulsive effect
 - b. Passenger: fetus's size, position, and presentation
 - c. Passageway: maternal pelvis and soft tissue
 - d. Position of client: side-lying, walking, sitting, semirecumbent, on hands and knees, supine
 - e. Psyche: emotional energy and anxiety level
 10. Emotional response to labor; presence of support persons

Planning/Implementation

First Stage

1. Orient to unit
2. Time and assess contractions (e.g., palpation, electronic monitor)
3. Assess fetal heart rate (e.g., auscultation, Doppler, electronic monitor)
 - a. Identify area of maximum intensity of fetal heart tones (Figure 25-4: Areas of maximum intensity of fetal heart tones [FHTs] for different fetal positions)

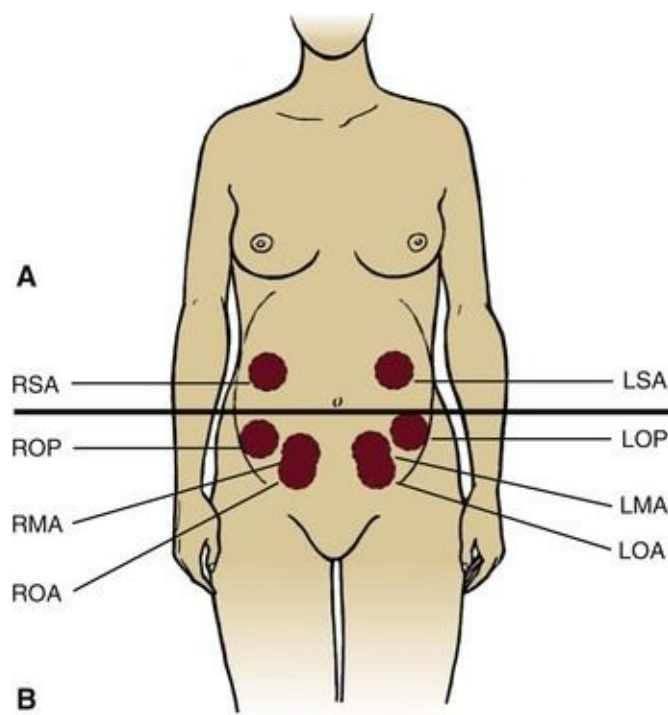


FIGURE 25-4 Areas of maximum intensity of fetal heart tones (FHTs) for different fetal positions. **A**, Presentation is usually breech if FHTs are heard above the umbilicus. **B**, Presentation is usually vertex if FHTs are heard below the umbilicus. *RSA*, Right sacrum anterior; *ROP*, right occipitoposterior; *RMA*, right mentum anterior; *ROA*, right occipitoanterior; *LSA*, left sacrum anterior; *LOP*, left occipitoposterior; *LMA*, left mentum anterior; *LOA*, left occipitoanterior. (From Lowdermilk DL, Perry SE: *Maternity and women's health care*, ed 9, St. Louis, 2007, Mosby.)

- b. Attach external or internal (spiral scale electrode inserted clockwise and removed counterclockwise) fetal monitor
 - c. Encourage to limit movement to prevent interference with accurate tracings
 - d. Monitor during a contraction for rate, rhythm, increases, and decreases and for 30 seconds after end of each contraction to identify increases or decreases in fetal response to contractions
4. Interpret electronic fetal/maternal monitoring results (Figure 25-5: Display of fetal heart rate and uterine activity on monitor paper)

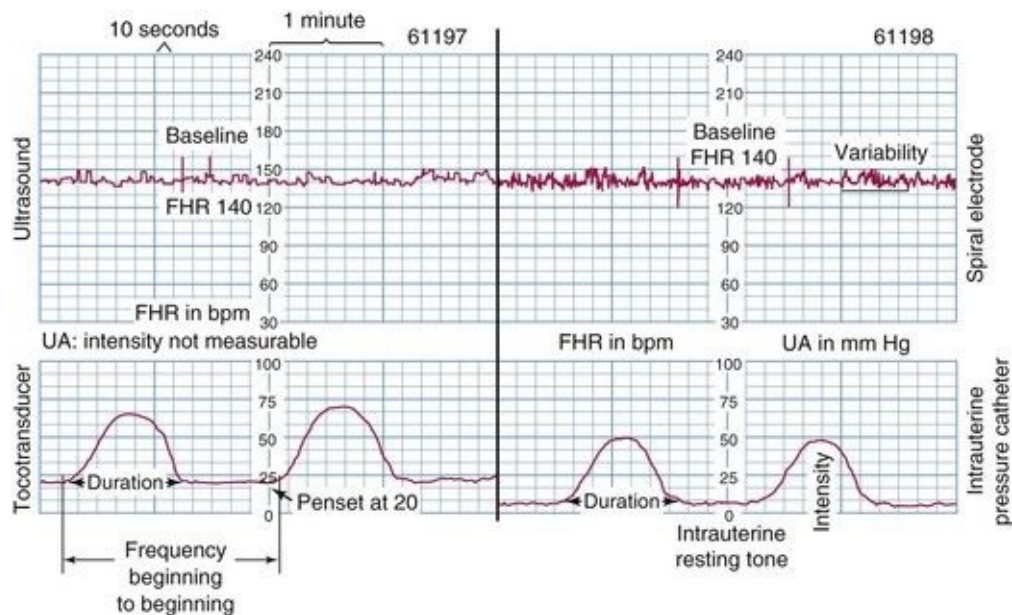


FIGURE 25-5 Display of fetal heart rate and uterine activity on monitor paper. (From Tucker SM, Miller LA, Miller DA: *Mosby's pocket guide to fetal monitoring*, ed 6, St. Louis, 2009, Mosby.)

a. Baseline fetal heart rate

- (1) Average rate during a 10-minute segment excluding periodic or episodic changes, periods of marked variability, and segments of baseline that differ by more than 25 beats/min
- (2) Expected range at term is 110 to 160 beats/min

b. Tachycardia

- (1) Baseline FHR more than 160 beats/min for 10 minutes or longer; may be early sign of fetal hypoxemia, especially when associated with late decelerations and minimal or absent variability
- (2) Can result from maternal or fetal infection, maternal hyperthyroidism, fetal anemia, or in response to drugs (e.g., atropine, hydrOXYzine [Vistaril], terbutaline [Brethine]), or illicit drugs (e.g., methamphetamines, cocaine)
- (3) Interventions: decrease maternal fever; administer oxygen by face mask

c. Bradycardia

- (1) Baseline FHR less than 110 beats/min for 10 minutes or longer; may be later sign of fetal hypoxia
- (2) Can result from placental transfer of drugs (e.g., anesthetics), prolonged compression of umbilical cord, maternal hypothermia or hypotension
- (3) Interventions: observe for prolapsed cord, reposition on side, administer oxygen by face mask, stimulate fetal scalp

d. Variability

- (1) Irregular fluctuations in baseline FHR of two or more cycles per minute
- (2) Temporary decrease in variability when fetus is in a sleep state; sleep states usually do not last longer than 30 minutes
- (3) Ranges of variability based on visualization of amplitude of FHR in peak-to-trough segment in beats/min
 - (a) Absent or undetected variability (nonreassuring fetal sign)
 - (b) Minimal variability (greater than undetected but not more than 5 beats/min)

(c) Moderate variability (6 to 25 beats/min)

(d) Marked variability (greater than 25 beats/min)

(4) Diminished variability: may result from fetal hypoxemia, acidosis, drugs that depress CNS (e.g., opioids, barbiturates, tranquilizers, general anesthetics)

(5) Interventions for diminished variability: monitor for other nonreassuring FHR patterns; administer oxygen by face mask; provide external or scalp stimulation; assist with placement of internal fetal monitor; prepare for birth

(6) Interventions for increased variability (marked variability): monitor for other nonreassuring FHR patterns

e. Accelerations

(1) Abrupt increase in FHR above baseline to 15 beats/min or more lasting 15 or more seconds, with return to baseline less than 2 minutes from beginning of the acceleration

(2) Occurrence during fetal movements indicates fetal well-being

f. Decelerations: types classified by their relation to onset, duration shape, and end of a contraction; can be benign or nonreassuring

(1) Early decelerations (see [Figure 25-6](#))

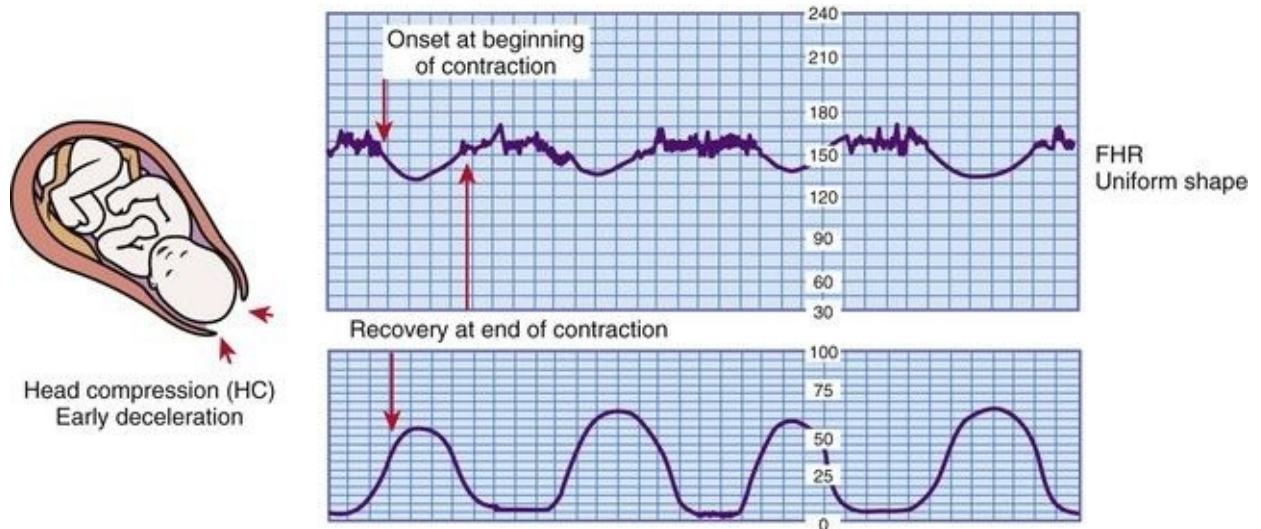


FIGURE 25-6 Early decelerations. (From Tucker SM, Miller LA, Miller DA: *Mosby's pocket guide to fetal monitoring*, ed 6, St. Louis, 2009, Mosby.)

(a) Decrease in FHR that begins before peak of a contraction with lowest point occurring at peak of contraction; FHR returns to baseline when uterine contraction ends

(b) Common in first stage of labor when cervix is dilated 4 to 7 cm; occasionally in second stage with pushing

(c) Response to head compression; benign

(d) Intervention: not necessary

(2) Late decelerations (see [Figure 25-7](#))

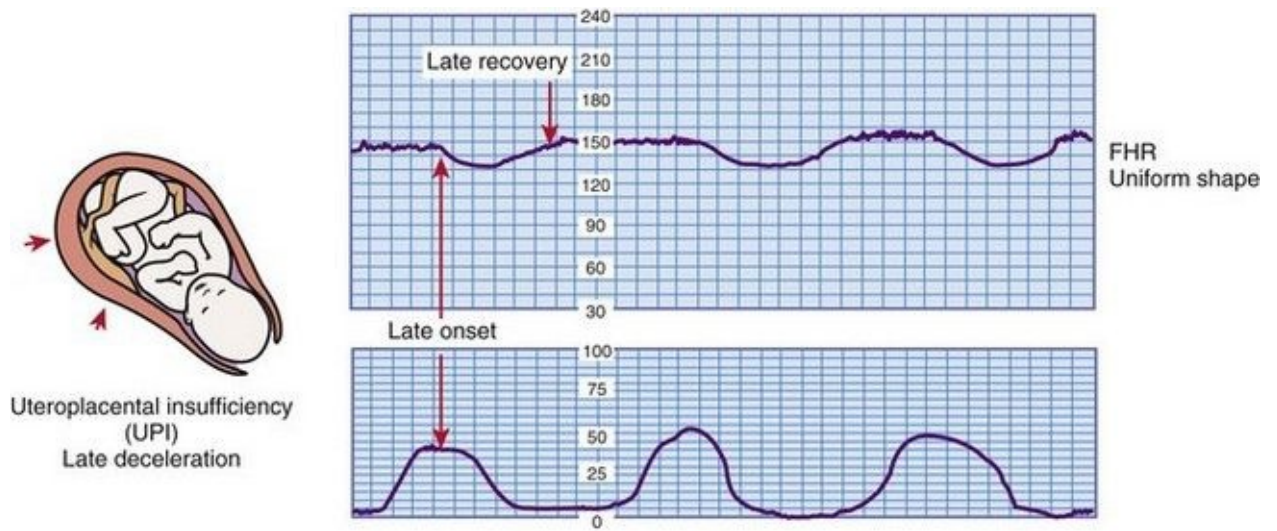


FIGURE 25-7 Late decelerations. (From Tucker SM, Miller LA, Miller DA: *Mosby's pocket guide to fetal monitoring*, ed 6, St. Louis, 2009, Mosby.)

- (a) Decrease in FHR that begins after contraction has started, with lowest point of deceleration occurring after peak of contraction; FHR returns to baseline after contraction ends
 - (b) May occur at any time during labor
 - (c) Indicates fetal hypoxemia due to uteroplacental insufficiency; may be benign (e.g., maternal supine hypotension syndrome) or caused by preexisting maternal disorders, complications of pregnancy; ominous if persistent, repetitive, and accompanied by decreased variability and tachycardia
 - (d) Interventions: identify cause (e.g., palpate uterus to assess for hyperstimulation, discontinue oxytocin if infusing), correct maternal hypotension (e.g., elevate legs, turn on side), increase IV flow rate, administer oxygen via face mask, perform fetal scalp/acoustic stimulation, assist with placement of internal fetal monitor, prepare for and assist with birth
- (3) Variable decelerations (see [Figure 25-8](#))

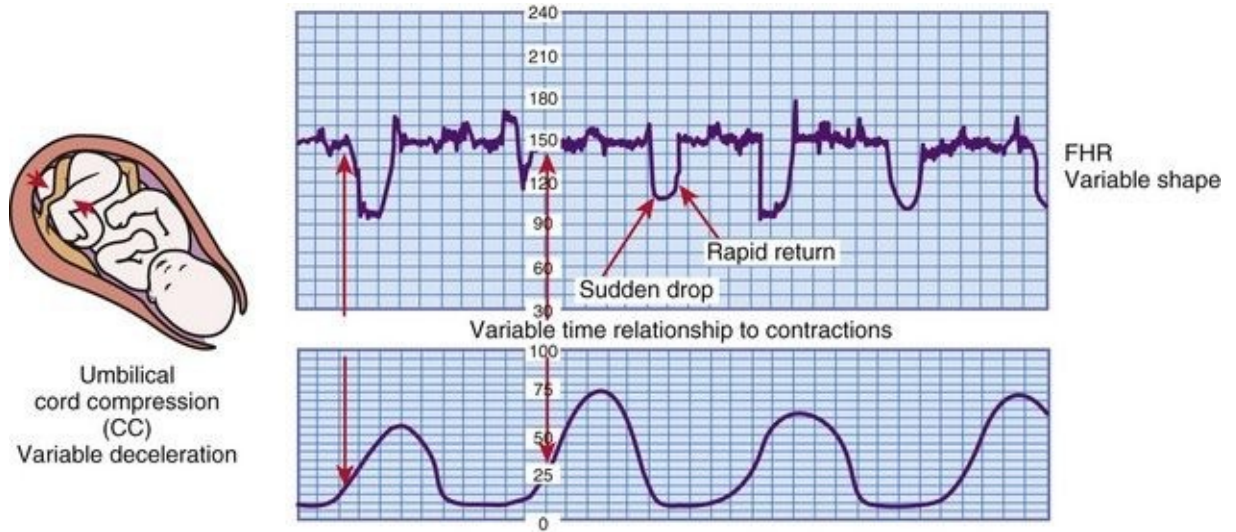


FIGURE 25-8 Variable decelerations. (From Tucker SM, Miller LA, Miller DA: *Mosby's pocket guide to fetal monitoring*, ed 6, St. Louis, 2009, Mosby.)

- (a) Abrupt onset to lowest point in less than 30 sec; decrease in FHR below baseline
- (b) Decrease of 15 beats/min or more lasting at least 15 seconds; returns to baseline less than 2 minutes from onset; rapid descent and ascent; may have brief acceleration before and/or after deceleration (“shoulders”)
- (c) Occur any time during uterine contraction phase
- (d) Related to umbilical cord compression, decreased amount of amniotic fluid
- (e) Interventions during first stage: change maternal position (e.g., side to side, knee chest); administer oxygen via face mask; discontinue oxytocin if infusing; administer amnioinfusion with warmed saline if oligohydramnios is present
- (f) Interventions during second stage: discourage pushing with contractions to allow fetal recovery; assist with vaginal or cesarean birth if decelerations are due to prolonged cord compression (e.g., tight nuchal cord, short cord, knot in cord, prolapsed cord)

5. Document findings: first stage/latent phase—every 30 to 60 minutes; first stage/active phase—every 15 to 30 minutes; second stage—every 5 to 15 minutes; more frequently if there are nonreassuring signs
6. Assist with or perform vaginal examination
7. Test urine for protein and glucose
8. Assess bladder and bowel function
9. Obtain blood for CBC and crossmatch
10. Prevent supine hypotension by positioning on side to keep gravid uterus from compressing vena cava
11. Provide emotional support to client and labor coach; use measures to promote comfort and rest
 - a. Explain procedures and equipment
 - b. Encourage relaxation techniques, positions, pressure points and other techniques learned in childbirth classes
 - c. Assist with breathing techniques (first stage: latent phase—slowed-paced; active phase—modified-paced; transition phase—pattern-paced; second stage: any rhythmic breathing that

- enhances relaxation) and rebreathing techniques to correct and prevent hyperventilation
- d. Allow activity as desired to encourage fetal descent and decrease discomfort; recognize maternal movements are restricted with an external fetal monitor
- e. Administer prescribed analgesics or anesthesia; avoid opioids less than 2 hours before birth to prevent fetal depression; have naloxone available

12. Identify signs of impending second stage of labor

- a. Decrease maternal oral intake because vomiting may occur during transition phase
- b. Observe perineum for bloody show
- c. Monitor for spontaneous rupture of membranes
 - (1) Assess for prolapsed cord
 - (2) Obtain fetal heart rate
 - (3) Assess characteristics of amniotic fluid: amount, color (if greenish, verify if breech position); odor (foul may indicate amnionitis)

13. Monitor for clinical manifestations of potential complications

- a. Prolonged strong contractions (tetanic uterus)
- b. Taut, board-like abdomen (abruptio placentae)
- c. Increased pulse and temperature (infection)
- d. Hypertension (preeclampsia)
- e. Hypotension (effect of epidural or spinal anesthesia)
- f. Bright red vaginal bleeding (placenta previa)
- g. Meconium-stained amniotic fluid (breech position or late nonreassuring fetal sign)
- h. Abnormal variations in FHR patterns (nonreassuring fetal sign)

Second Stage

1. Allow client to choose pushing and positioning techniques, especially if unmedicated; assist if pushing is ineffective; transfer to birthing room or prepare birthing bed when perineum bulges during contractions
2. Position legs simultaneously if placed in stirrups to avoid trauma to uterine ligaments
3. Monitor FHR every 5 minutes
4. Assist with anesthesia, which may include pudendal block, saddle block, or local infiltration

Third Stage

1. Provide newborn care
 - a. Clear airway of mucus
 - b. Determine Apgar score at 1 and 5 minutes after birth to determine respiratory effort and physical status ([Table 27-1: Apgar Score](#))
 - c. Maintain body heat; mother-newborn skin to skin positioning most effective; dry
 - d. Assess for visible anomalies
 - e. Allow parents to see newborn; place on maternal abdomen to enhance breastfeeding and begin attachment/bonding process
 - f. Administer antibiotic ophthalmic medication into each eye to prevent ophthalmia neonatorum and vitamin K injection to prevent hemorrhagic disorders
 - g. Apply identification bracelets to newborn and parents (some facilities include significant others) before leaving birthing area according to institutional protocol

2. Assist with birth of placenta
3. Continue to promote attachment behaviors
4. Provide support for parents if infant is not healthy
5. Document birth and accompanying events

Fourth Stage

1. Palpate fundus for firmness every 15 minutes; if relaxed and bladder is not distended, massage until firm
2. Locate fundus: 2 cm below umbilicus immediately after birth; rises to level of umbilicus 1 hour after birth
3. Palpate for bladder distention (uterus above umbilicus and dextroverted); encourage voiding (uterus unable to contract if bladder is full resulting in hemorrhage)
4. Observe perineum for vaginal bleeding (lochia rubra); count vaginal pads; assess for concurrent uterine relaxation, massage as needed
5. Observe episiotomy or laceration sites for hematoma, bleeding, or edema; apply ice bag to perineum immediately after birth to reduce edema; perineal ecchymosis and perineal/rectal pressure indicate vaginal hematoma
6. Monitor vital signs; report fluctuations
7. Administer prescribed oxytocic medication; may be administered immediately after birth to enhance uterine contraction
8. Keep warm to diminish sensation of chilling; shivering common after birth (exact cause unknown)
9. Provide fluid and food as tolerated
10. Encourage and teach breastfeeding techniques within first hour of birth

Evaluation/Outcomes

1. Mother
 - a. Progresses through labor culminating in safe birth
 - b. Remains free of infection
 - c. Maintains homeostasis
2. Newborn
 - a. Establishes airway and respiratory effort, sustaining life without assistance
 - b. Achieves Apgar score of 7 or above at 5 minutes after birth
 - c. Attempts first breastfeeding

Postpartum Period

Data Base

A Puerperium: 6-week period following birth; reproductive organs undergo physical and physiologic changes; emotional changes as responsibilities of parenthood take hold; trend is to increase this period to 3 months and rename it fourth trimester of pregnancy

B Systemic changes during puerperium

1. Reproductive system

- a. Uterus: contraction causes involution; afterpains in multiparas may cause discomfort, necessitating analgesics; oxytocin released during breastfeeding enhances involution; involution follows a one-fingerbreadth descent daily; fundus cannot be felt by seventh to ninth day
- b. Lochia: vaginal flow following birth changes from rubra to serosa, then becomes alba
- c. Vagina: returns almost to its prepregnant state through healing of soft tissue and cicatrization
- d. Menstruation: occurs about 6 weeks after birth in non-breastfeeding mothers; up to 24 weeks in breastfeeding mothers
- e. Abdominal wall: soft, flabby; eventually regains tone; separation of abdominal muscles may occur (diastasis recti)
- f. Breasts
 - (1) Luteinizing hormone of anterior pituitary activated after placenta is expelled; prolactin secretion stimulates milk production
 - (2) Breastfeeding mothers; posterior pituitary releases oxytocin that initiates let-down reflex with milk ejection as infant suckles
 - (3) Nonnursing mothers: absence of suckling inhibits oxytocin and prolactin release; let-down reflex diminishes, inhibiting milk production
 - (4) Breast engorgement: in both breastfeeding and nonbreastfeeding mothers on second or third day; result of vasodilation before lactation

2. Digestive system

- a. Hunger and thirst requiring oral nourishment to replace calories, protein, and fluid lost during all stages of labor
- b. Constipation and abdominal distention: bowel movements delayed for several days; probably caused by fear of pain from hemorrhoids and/or episiotomy, decreased food intake during labor; fiber, fluid, exercise helpful; stool softeners, suppositories, or enema may be prescribed

3. Circulatory system

- a. Blood volume: returns to prepregnant state in 3 weeks
- b. Blood fibrinogen levels and platelets: increase during first week; may lead to thrombus formation; if deep vein thrombosis develops, heparin followed by warfarin (Coumadin) may be prescribed
- c. Leukocytosis: WBCs may increase to $30,000/\text{mm}^3$ if labor was lengthy
- d. Hemoglobin and red blood cell count: decrease on fourth postpartum day

4. Excretory system

- a. Urinary output: increases from second to fifth postpartum day (diuresis)
- b. Retention: diminished bladder tone during pregnancy may result in small, frequent voidings

- indicating retention with overflow
- c. Lactose in urine from lactogenic hormone
- d. Nitrogen excretion increases

5. Integumentary system

- a. Profuse diaphoresis: excretes wastes
- b. Pigmented skin (e.g., striae, linea nigra, darkened areolae): begins to fade; does not return to nulliparous state

6. Vital signs

- a. Temperature: increases (not above 100.4° F) up to 24 hours after birth as result of exertion and dehydration
- b. Blood pressure: returns to baseline; decrease suggests hemorrhage; increase suggests gestational hypertension
- c. Pulse rate: decreases slightly as result of decreased cardiac effort and decreased blood volume

7. Emotional changes

- a. Occurs in some mothers with individual variations
- b. Emotional lability, irritability, restlessness, and anxiety (postpartum blues) during third to tenth day
- c. Depression without psychotic features (postpartum depression); begins by fourth week or within the first year
- d. Depression with psychotic features (postpartum psychosis); by second week after birth; may have history of psychiatric disorder (e.g., bipolar disorder)

Nursing Care during the Postpartum Period

Assessment/Analysis

1. Breasts: soft, filling, engorged
2. Uterus: fundus firm, midline, level in relationship to umbilicus
3. Bowel: bowel sounds, stool
4. Bladder: voiding
5. Lochia
 - a. Color
 - (1) Rubra: 1 to 3 days
 - (2) Serosa: 4 to 10 days
 - (3) Alba: 10 to 21 days
 - b. Amount on pad in less than 2 hours
 - (1) Scant: less than 1 inch
 - (2) Light: less than 4 inches
 - (3) Moderate: less than 6 inches
 - (4) Heavy: more than 6 inches
6. Episiotomy/incision: redness, edema, ecchymosis, discharge, and approximation (REEDA)
7. Anus: hemorrhoids
8. Legs: Homan sign
9. Emotional response: interaction with infant: taking-in/taking-hold, signs of postpartum blues

Planning/Implementation

1. Use standard precautions and aseptic technique during perineal care
2. Fundus
 - a. Palpate for firmness and location ([Figure 25-9](#): Assessment of involution of uterus after childbirth); should remain firm and descend (involute) from midline at level of umbilicus 1 fingerbreadth (1 to 2 cm) per day

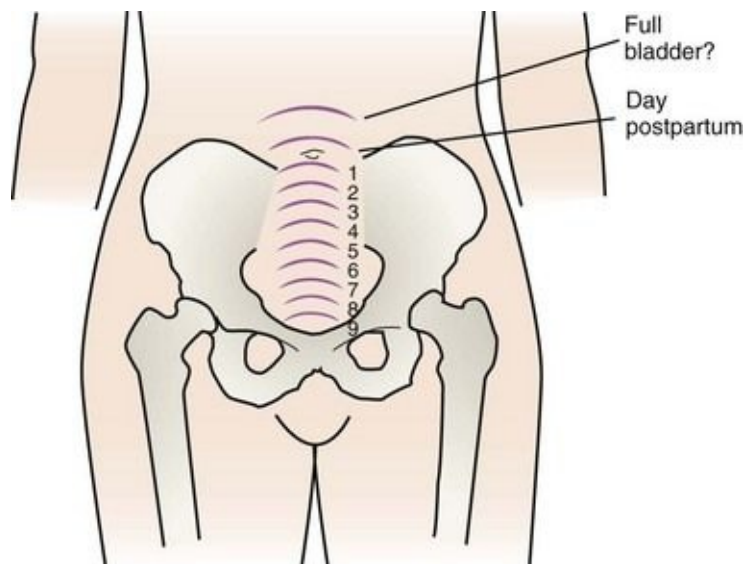


FIGURE 25-9 Assessment of involution of uterus after childbirth. (From Lowdermilk DL, Perry SE, Cashion MC: *Maternity nursing*, ed 8, St. Louis, 2011, Mosby.)

- b. Massage boggy fundus until firm; boggy uterus indicates inadequate contractile power of uterus resulting in bleeding
3. Palpate for full bladder (displaces fundus upward toward right); assist to void, if necessary
 4. Administer prescribed oxytocic to promote involution (e.g., oxytocin [Pitocin], methylergonovine [Methergine], ergonovine [Ergotrate], carboprost [Hemabate])
 - a. Maintains uterus in contracted state; controls bleeding from intrauterine sites; maintains tone, rate, amplitude of rhythmic contractions required for involution
 - b. Methylergonovine and ergonovine may cause hypertension; withhold if blood pressure is higher than 140/90 mm Hg
 5. Monitor lochia for color, amount, clots, odor (foul odor indicates beginning infection); report deviations from what is expected
 6. Observe episiotomy, if present, for redness, ecchymosis, edema, discharge, approximation (REEDA); may be painful; apply cold applications for first 24 hours, then sitz baths
 7. Monitor laboratory reports for hemoglobin, hematocrit, and WBC count
 8. Assess need for administration of RhoGAM if Rh negative; administer if prescribed
 9. Administer rubella vaccine if indicated
 10. Interpret vital signs: bradycardia is expected; temperature above 100.4° F (38° C) for 2 consecutive days (excluding first 24 hours after birth) is sign of beginning puerperal infection; can occur following hemorrhage or trauma; if suspected infection, culture of lochia and diagnostic studies may be ordered; administer prescribed antibiotics, antipyretics
 11. Administer prescribed analgesic for pain (e.g., uterine contractions causing afterpains in multiparas)

12. Promote bladder and bowel function; secure catheterization order if necessary
13. Teach mother
 - a. Self-care; assist as needed
 - b. Breast care
 - (1) Inspect breasts for tissue and nipple breakdown, palpate to rule out growths
 - (2) Breast self-examination
 - (3) Apply ice compresses or cool cabbage leaves to breasts, if ordered, to minimize engorgement; recommend well-fitted brassiere to support breasts
 - c. Importance of hand washing when caring for self and infant
 - d. Diet with adequate proteins and calories to restore body tissues; increased caloric intake if breastfeeding; build on cultural and personal food preferences
14. Encourage Kegel exercises to strengthen pubococcygeal muscles
15. Encourage ambulation to prevent blood stasis; maintain bed rest and notify health care provider if signs of thrombophlebitis occur (e.g., discomfort, edema, erythema)
16. Observe for postpartum blues; may be caused by drop in hormonal levels and psychologic factors; if discharged early, mother and support persons should be alerted to signs and symptoms (mothers with history of depression are more likely to have postpartum depression)
17. Meet mother's needs to enable her to meet infant's needs; explore feelings and concerns
18. Assist mother with infant care as needed; support rooming-in
19. Initiate group discussion on breastfeeding, infant care, other concerns
20. Discuss resumption of intercourse and family planning; include information about when to expect menses
21. Encourage to contact personnel when questions arise
22. Involve family in care and teaching

Evaluation/Outcomes

1. Progresses through process of involution
2. Remains free from hemorrhage, infection, and pain
3. Maintains bowel function
4. Initiates voiding and empties bladder
5. Performs perineal care after each voiding/defecation
6. Successfully feeds and cares for infant
7. Maintains emotional health



Nursing Care of Women at Risk during Pregnancy, Labor, Childbirth, and the Postpartum Period

Tests to Identify and/or Monitor High-Risk Pregnancy

A Alpha-fetoprotein (AFP) enzyme blood test

1. Increase identifies fetus with neural tube defects (spina bifida, anencephaly); may indicate multiple pregnancy; followed by ultrasonography and amniocentesis when increased for two samples; done at 14 to 16 weeks' gestation
2. Nursing care: food or fluid restrictions are not required

B Ultrasonography (sonogram)

1. Identifies multiple pregnancy, placental location, and gestational age by measurement of biparietal diameters; visualizes organ formation
2. Nursing care: encourage fluids; teach to refrain from voiding before test, when performed during first 20 weeks' gestation, to improve visualization

C Chorionic villi sampling (CVS)

1. Supplies chromosomal data; done at 10 to 12 weeks' gestation; sonogram before test to determine placental location, uterine position, and relative placement of neighboring organs (bowel, blood vessels)
2. Nursing care: instruct to drink fluid to fill bladder; after test monitor for uterine contractions and vaginal discharge; teach to monitor for infection

D Amniocentesis

1. Amniotic fluid detects gender, chromosomal or biochemical defects, fetal age; reveals lecithin to sphingomyelin (L/S) ratio (2:1 ratio indicates lung maturity); phosphatidylglycerol (PG) after 35th week (indicates fetal lung maturity); increased bilirubin level (for Rh incompatibility); amniotic fluid index; biophysical profile of fetus; sonogram before test to locate placenta, fetus, and area of amniotic fluid suitable for aspiration
2. Nursing care: instruct to void; assess fetal heart rate (FHR) during and after test; after test monitor for uterine contractions, vaginal discharge; teach to rest and monitor for infection

E Nonstress test (NST)

1. Monitors accelerations of FHR in response to fetal movement over 30- to 40-minute period
2. Classification of results
 - a. Reactive: indicates fetal well-being; baseline FHR 110 to 160 beats/min; 2 accelerations in 10 minutes, each increasing FHR by 15 beats/min and lasting 15 seconds
 - b. Nonreactive: indicates nonreassuring prognosis: criteria not met (see above)
 - c. Unsatisfactory: result cannot be interpreted; test repeated in 24 hours
3. Nursing care: explain test; explain why fasting is unnecessary; document fetal monitor recordings; evaluate physiologic and emotional responses to test and its results

F Contraction stress test (CST)

1. Demonstrates if fetus can withstand decreased oxygen during a contraction; contraction produced by exogenous oxytocin or manual stimulation of nipples or moist heat
2. Classification of results
 - a. Negative: indicates fetus should survive labor; no late decelerations with minimum of three contractions in 10 minutes
 - b. Positive: repetitive late decelerations with more than half of contractions indicate nonreassuring prognosis because of uteroplacental insufficiency; consideration of early intervention
 - c. Suspicious: late decelerations occurring in less than half of contractions; repeat in 24 hours

3. Nursing care: explain procedure; obtain signed consent if needed; instruct to void before test; monitor fetal heart rate for 30 minutes before; monitor after for possible initiation of labor; evaluate physiologic and emotional responses to test and its results

G Biophysical profile (BPP)

1. Assesses fetal breathing movements, gross body movements, tone, amniotic fluid volume, FHR reactivity during NST; each category is assigned a score of 2; used for fetus who may be compromised
2. Score of 8 to 10 indicates healthy fetus
3. Nursing care: initiate care related to amniocentesis; provide emotional support; evaluate response

H Maternal assessment of fetal activity

1. Client counts number of fetal movements in specified time period; reflects vitality of fetus
2. Nursing care: teach how to monitor movements; report fewer than 3 movements in 8 hours, fewer than 10 movements in 12 hours, or no movements in morning

I Fetal scalp pH sampling

1. Capillary blood taken from fetal scalp in utero tested for pH; done during labor when fetal heart patterns are nonreassuring
2. If acidotic, immediate birth is indicated
3. Nursing care: cleanse vaginal area to avoid contamination during test

J Fetal acoustic stimulation test (FAST) or vibroacoustic stimulation test (VST)

1. Buzzing (FAST) or vibration (VST) created over head of fetus through maternal abdomen for 1-second and 1-minute intervals for 5 minutes
2. Reactive test: FHR accelerates; indicates fetal well being
3. Nursing care: explain test is noninvasive; obtain baseline FHR before test

K Digital stimulation

1. Application of pressure to fetal head during vaginal examination
2. Reactive if FHR accelerates; indicates fetal well being

L Fetal oxygen saturation

1. Provides continuous monitoring of fetal oxygen saturation; sensor inserted next to fetal cheek or temple and connected to monitor
2. Expected range is 95% to 100%

Nursing Care of Pregnant Women with Special Needs

The Pregnant Adolescent

Data Base

A Reasons for high-risk pregnancy

1. Physical development: not yet completed; bone growth may be incomplete; increased levels of estrogen may close epiphyses
2. Preeclampsia: common complication because of poorly developed vascular system in placenta; possible inadequate adolescent nutrition
3. Developmental tasks of adolescence not yet achieved
4. Emotional immaturity

B Factors contributing to incidence of adolescent pregnancy

1. Inadequate coping mechanisms
2. Need to enhance self-concept
3. Belief in own invulnerability
4. Need for immediate gratification: focus on present, not future; lack of concern for long-term consequences
5. Need for attention, closeness, and/or idealized or idolized love
6. Lack of knowledge about conception or contraception
7. Indulgence in risk-taking behavior; sexual acting out
8. Change in concepts of morality; variety of family configurations; increase in dysfunctional families

Nursing Care of Pregnant Adolescents

Assessment/Analysis

1. Personal and family health; menstrual history
2. Nutritional status
3. Drug/alcohol abuse
4. Developmental level
5. Support system; financial status
6. Potential role of infant's father
7. Attitude about pregnancy (e.g., denial, ambivalence); understanding of responsibility of pregnancy and motherhood

Planning/Implementation

1. Establish a trusting relationship
2. Refer to appropriate agencies and resources
3. Promote problem-solving abilities
4. Involve father, if desired
5. Provide prenatal education; encourage consistent prenatal care
6. See [Chapter 25](#), Nursing Care of Women during Uncomplicated Pregnancy, Labor, Childbirth, and the Postpartum Period; Nursing Care during the Prenatal Period, Nursing Care during the

Intrapartum Period; and Nursing Care during the Postpartum Period

Evaluation/Outcomes

1. Arrives at decisions regarding pregnancy
2. Keeps prenatal appointments and attends child-care classes
3. Involves significant others in planning during pregnancy and for the future

The Older Pregnant Woman (35 Years of Age or Older)

Data Base

A Reasons for high-risk pregnancy

1. Increased chance of chromosomal abnormalities
2. Preexisting illness
3. Increased incidence of multiple gestation secondary to fertility medications
4. Increased risk for spontaneous abortions and preterm labor
5. Emotional concerns related to changes in role, job, income, and child-care issues

Nursing Care of Older Pregnant Women

Assessment/Analysis

1. Health history; gynecologic/obstetric history (fibroids; nulliparous; grand multipara); family health history
2. Genetic history, counseling, and testing
3. Nutritional status
4. Prescribed/over-the-counter medications and supplements

Planning/Implementation

1. Refer for genetic counseling
2. Provide prenatal care with emphasis on preexisting conditions and immunizations
3. Allow for verbalization of plans regarding work, changing responsibilities, and altered lifestyle

Evaluation/Outcomes

1. Expresses feelings regarding expectations of body changes
2. Uses appropriate agencies for risk assessment
3. Makes appropriate plans for role change during pregnancy and after birth

The Pregnant Woman with HIV

Data Base

A Risk for transmission to infant before or around time of birth; increased with low CD4⁺ T cell count, prolonged rupture of membranes, and high plasma RNA concentrations

B Reduced risk for transmission: antiretroviral (ARV) therapy for mother; caesarian birth; ARV therapy for newborn

Nursing Care of Women with HIV

A See [Chapter 25](#), Nursing Care of Women during Uncomplicated Pregnancy, Labor, Childbirth, and the Postpartum Period; Nursing Care during the Prenatal Period, Nursing Care during the Intrapartum Period; and Nursing Care during the Postpartum Period

B Assess for prenatal antiretroviral (ARV) therapy; offer ARV when in labor to decrease risk of transmission

C Avoid procedures that may increase risk of transmission (e.g., fetal scalp sampling, artificial rupture of membranes)

D Teach importance of formula feeding rather than breastfeeding (may not be an option for mothers in developing countries)

The Woman with a Multifetal Pregnancy

Data Base

A Frequency increasing; related to higher incidence of fertility drug use

B Increasing rate of elective fetal reduction to decrease risk of fetal death; greater incidence of twin births; lower incidence of triplet and higher-order births

C High probability for developing preterm labor, gestational hypertension, hyperemesis gravidarum, iron or folate anemia, dystocia, twin to twin transfusion, postpartum uterine atony

D High risk for fetuses being born with congenital anomalies and intrauterine growth restriction (IUGR)

E Monozygotic (identical) twins: develop from one fertilized ovum and are of same gender, race, heredity, parity; maternal age has no influence on incidence

F Dizygotic (fraternal) twins: develop from two ova, each of which is fertilized by a different sperm; may be same or different genders; familial predisposition; increased incidence in women who are African-American, multiparous, and younger than 35 years of age

Nursing Care of Women with a Multifetal Pregnancy

See [Nursing Care of Women with Premature Rupture of Membranes](#) and [Nursing Care of Women during Preterm Labor](#)

Nursing Care of Pregnant Women with Preexisting Health Problems

Heart Disease

Data Base

A Origin: 50% had rheumatic fever (incidence expected to decrease as incidence of rheumatic fever decreases); congenital and mitral valve disorders are next most common

B Adverse effects of hemodynamics during pregnancy

1. Oxygen consumption increased 10% to 20%; related to needs of growing fetus
2. Plasma level and blood volume increase; red blood cells (RBCs) remain same (physiologic anemia)
3. Peak cardiac output at about 28 weeks
4. After birth, extravascular fluid shifts into intravascular compartment with increased workload of heart

C Functional (therapeutic) classification of heart disease during pregnancy

1. Class I: no limitation of physical activity; no clinical manifestations of cardiac insufficiency or angina
2. Class II: slight limitation of physical activity; may experience excessive fatigue, palpitation, angina, or dyspnea; slight limitations as indicated
3. Class III: moderate to marked limitation of physical activity; dyspnea, angina, and fatigue with slight activity; bed rest during most of pregnancy
4. Class IV: marked limitation of physical activity; angina, dyspnea, and discomfort at rest; indication for termination of pregnancy

Nursing Care of Pregnant Women with Heart Disease

Assessment/Analysis

1. Prenatal period: vital signs, weight gain, dietary patterns, emotional outlook, knowledge about self-care, clinical findings of heart failure, stress factors (e.g., work, household responsibilities), medication regimen
2. Intrapartum period: vital signs (heart rate increases), respiratory changes (dyspnea, coughing, or crackles), FHR patterns
3. Postpartum period: clinical manifestations of heart failure or hemorrhage related to fluid shifts; intake and output (I&O)

Planning/Implementation

1. Prenatal
 - a. Administer prescribed medications: heparin; furosemide (Lasix), digoxin (Lanoxin), beta blockers, antidysrhythmics
 - b. Monitor for heart failure (e.g., respiratory distress, tachycardia); may be precipitated by severe anemia; accelerated maternal heart rate in latter half of pregnancy results in increased cardiac workload

c. Teach client

- (1) Balance activity and rest, avoid stress
- (2) Wear elastic stockings, elevate legs periodically
- (3) Continue supervision by health care provider specializing in cardiology
- (4) Maintain appropriate dietary intake: adequate calories to ensure appropriate, but not excessive, weight gain; limited, not restricted, sodium intake (2.5 g/day)

2. Intrapartum

- a. Observe progress of labor via clinical findings and electronic fetal/uterine monitoring
- b. Maintain continuous cardiac monitoring
 - (1) Monitor for heart failure
 - (2) Monitor for sudden tachycardia during birth, which may cause cardiac arrest
- c. Encourage to remain in semi-Fowler or left-lateral position
- d. Assist to cope with discomfort; regional analgesia usually used
- e. Assist with birth (e.g., forceps or vacuum extraction) to avoid work of pushing

3. Postpartum: most critical because of increased circulating blood volume after birth of placenta

- a. Monitor for heart failure (increased cardiac output after birth of placenta may cause sudden bradycardia with cardiac arrest)
- b. Administer prescribed prophylactic antibiotics if history of rheumatic fever
- c. Encourage adequate rest (increased oxygen consumption during labor can deplete energy reserves)
- d. Institute early ambulation schedule; apply elastic stockings
- e. Determine newborn risks (e.g., intrauterine growth restriction, preterm birth, hypoxia)
- f. Plan for discharge; refer to agencies for family support if needed

Evaluation/Outcomes

1. Gives birth to healthy infant
2. Maintains cardiac status within acceptable limits
3. Uses resources to obtain help in the home

Diabetes Mellitus

Data Base

A Diabetes mellitus during pregnancy

1. Pregestational
 - a. Type 1: complications include retinopathy, neuropathy, and coronary artery disease
 - b. Type 2: complications may include retinopathy, neuropathy, and coronary artery disease; women with type 1 diabetes are at greater risk
2. Gestational diabetes mellitus (GDM)
 - a. Controlled by diet
 - b. Insulin required in 20% of women

B Physiology of pregnancy that affects woman with diabetes

1. Vomiting, especially in first trimester, decreases carbohydrate intake, which reduces insulin need; may result in acidosis
2. Progression of hormonal influences

- a. Insulin production increases, but resistance to insulin occurs
 - b. Insulin need increases
 - c. Exogenous insulin is required to maintain serum glucose level within acceptable range, especially in latter part of pregnancy
3. Basal metabolic rate increases; carbon dioxide combining power decreases; acidosis may result
 4. Renal threshold for glucose decreases, glycosuria may result
 5. During labor: muscular activity depletes glycogen; insulin need decreases
 6. Postpartum period: involution and lactation further reduce insulin need; hypoglycemia may result
- C Hazards of diabetes during pregnancy
1. Increased incidence of fetal deaths, stillbirths, newborn anomalies
 2. Neonatal deaths from hypoxia, hypoglycemia, congenital anomalies, preterm labor
 3. Excessively large newborn; weight over 4000 g (macrosomia) with inadequate diabetic control
 4. Hypertensive disorders, hydramnios
 5. Frequent adjustments of insulin dosage because insulin needs vary throughout pregnancy
 6. Frequent hospitalizations may be necessary
 7. Cesarean birth may be necessary

Nursing Care of Pregnant Women with Diabetes Mellitus

Assessment/Analysis

1. Number of years with disorder; type 1 or type 2
2. Dietary patterns
3. Signs of infection
4. Results of tests (e.g., blood glucose level, glucose tolerance, glycosylated hemoglobin)
5. Understanding of disorder in relation to pregnancy
6. Support system

Planning/Implementation

1. Care of mother
 - a. Encourage preconception counseling; early, sustained prenatal supervision
 - b. Teach
 - (1) Dietary and insulin regimens; encourage adherence
 - (2) Clinical manifestation of hyperglycemia (acidosis), hypoglycemia (insulin reaction)
 - (3) Blood glucose testing, insulin administration, record keeping
 - (4) Reason for multiple tests to determine fetal well-being (e.g., ultrasound, stress/nonstress tests, biophysical profile, amniocentesis for phosphatidylglycerol levels and L/S ratio)
 - c. Prepare for hospitalization, induction of labor, or cesarean birth if indicated
 - d. Monitor fluid and electrolyte balance for signs of ketoacidosis during prenatal, intrapartum, and postpartum periods
 - e. Monitor glucose levels for first 48 hours postpartum; may not remain diabetic if gestational diabetic
2. Care of neonate—infant of diabetic mother IDM
 - a. Perform newborn assessment; inspect for congenital anomalies related to increased incidence

in IDM

- b. Admit to neonatal intensive care unit (NICU) if necessary
- c. Keep warm (inadequate temperature control mechanisms)
- d. Observe respirations (distended stomach may impinge on diaphragmatic movement)
- e. Perform heel-stick blood specimen for glucose level; assess for hypoglycemia caused by excessive insulin production (blood glucose level 30 to 45 mg/dL)
- f. Observe for signs of: hypoglycemia (e.g., lethargy, poor sucking, irritability cyanosis, tremors, hypotonia, cyanosis); hypocalcemia (e.g., muscular twitching, tremors, seizure triggered by minor stimulus)
- g. Offer prescribed glucose water feedings to prevent acidosis; administer prescribed parenteral glucose if newborn has poor sucking reflex
- h. Promote early parent-infant interaction

Evaluation/Outcomes

1. Maintains serum glucose levels within acceptable limits
2. Gives birth to healthy newborn
3. Remains free from complications

Respiratory Disorders

Data Base

A Asthma (see [Chapter 32, Nursing Care of Preschoolers Asthma](#))

1. Recurrent lower respiratory tract bronchospasms with airway inflammation and bronchoconstriction
2. Clinical findings: nonproductive cough, chest tightness, dyspnea, wheezing, shortness of breath
3. Impact on pregnancy: elevation of uterus in abdominal cavity impinges on thoracic cavity; maternal hypoxia causes impaired fetal gas exchange

B Tuberculosis (see [Chapter 7, Pulmonary Tuberculosis](#))

1. Infectious disease caused by *Mycobacterium tuberculosis*
2. Risk factors: being immunocompromised, living in substandard conditions
3. Clinical findings: lethargy, systemic infections, cough, night sweats, weight loss, and fever
4. Impact on pregnancy: elevation of uterus in abdominal cavity impinges on thoracic cavity; maternal hypoxia causes impaired fetal gas exchange
5. Screening test: purified protein derivative (PPD) skin test (Mantoux)

C Therapeutic interventions

1. Asthma
 - a. Identification of triggers for attacks; limitation of exposure to respiratory tract pathogens
 - b. Allergy desensitization if necessary
 - c. Yearly influenza vaccination recommended by Centers for Disease Control and Prevention (CDC); may be administered during pregnancy because it does not contain live organisms
 - d. Inhaled bronchodilators during exacerbations (e.g., albuterol [Proventil] and metaproterenol [Alupent])
 - e. Glucocorticoids when bronchodilators are ineffective to decrease inflammation and mucus secretions

2. Tuberculosis

- a. Isoniazid (INH) and rifampin (Rifadin); for resistance to isoniazid, ethambutol (Myambutol) may be substituted; treatment continued for 9 months
- b. Pyridoxine (vitamin B₆) 50 mg/day
- c. Infants of untreated mothers at risk when cared for by mother after birth; transmission rate is 50%
- d. Uninfected infants may receive bacille Calmette-Guérin (BCG) vaccine

Nursing Care of Pregnant Women with Respiratory Disorders

Assessment/Analysis

1. Health history to identify past record of respiratory disease, exposure to tuberculosis, clinical manifestations of tuberculosis
2. Results of PPD test, sputum cultures, and chest x-ray film if findings indicate possible infection
3. Case finding to limit spread of infection to family and community

Planning/Implementation

1. Teach client to
 - a. Adhere to pharmacologic protocol
 - b. Maintain pregnancy diet and adequate fluid intake
 - c. Balance activity and rest
 - d. Continue prenatal supervision for both maternal and fetal well-being
2. Monitor fetal heart rate
3. Ensure collaboration between pulmonary and obstetric health care providers

Evaluation/Outcomes

1. Maintains pharmacologic regimen throughout pregnancy
2. Modifies activities to maintain optimum oxygenation
3. Fetus exhibits expected growth and reactivity

Cancer

Data Base (see Chapter 3, Integral Aspects of Nursing care, Neoplastic Disorders)

A Risk factors: increase with age, postponement of pregnancy

B Incidence: breast most common; cervical, ovarian, melanoma, leukemia, lymphomas, and tubal and thyroid cancers

C Moral dilemma for childbearing woman, family, and health team

D Therapeutic interventions

1. Staging without exposing fetus to radiation: ultrasound, magnetic resonance imaging (MRI)
2. Laparoscopy used for node sampling; surgical procedures increase risk for preterm labor, IUGR, fetal demise
3. Contraindicated therapies

- a. Chemotherapy: teratogenic, especially in first trimester
- b. Radiotherapy: increases risk of fetal abnormalities, low birth weight, cancer later in life, possible genetic effects on future generations of fetus

Nursing Care of Pregnant Women with Cancer

Assessment/Analysis

1. Results of blood studies related to organ functioning
2. Review of tumor markers (may be influenced by oncofetal proteins found in maternal blood)

Planning/Implementation

1. Explain treatment choices and plan
2. Assess understanding of condition and its effects on client and the pregnancy
3. Encourage client and family to express feelings
4. Refer to health care providers, agencies, and clergy as needed

Evaluation/Outcomes

1. Maintains emotional and physiologic well being
2. Verbalizes concerns
3. Arrives at decisions through problem solving
4. Uses support systems

Nursing Care of Women with Complications during the Prenatal Period

Hypertensive Disorders of Pregnancy

Data Base

A Classification of hypertensive states

1. Gestational hypertension
 - a. Hypertension during pregnancy beginning in second trimester (20 to 24 weeks); disappears 6 weeks after birth
 - b. May have edema or proteinuria; blood changes rarely occur in uncomplicated gestational hypertension
2. Transient hypertension
 - a. Gestational hypertension without preeclampsia
 - b. Resolves by 12 weeks' postpartum
3. Preeclampsia
 - a. Mild: blood pressure (BP) 140/90 mm Hg on two readings taken 6 hours apart; systolic BP increase of 30 mm Hg or diastolic BP increase of 15 mm Hg; proteinuria +1 (30 mg/dL) or more
 - b. Severe:
 - (1) Objective: BP 160/110 mm Hg or higher on two readings taken 6 hours apart after bed rest; proteinuria +3 to +4; hyperreflexia; oliguria; hemoconcentration
 - (2) Subjective: blurred vision; epigastric pain; irritability; persistent headache
 - c. Blood chemistry: elevated hematocrit and hemoglobin; increased uric acid, liver enzymes, and blood urea nitrogen (BUN); decreased carbon dioxide combining power (may indicate worsening preeclampsia)
 - d. Qualitative urinalysis: increased albumin output (proteinuria) and/or decreased urinary output indicates worsening preeclampsia
4. Eclampsia
 - a. Seizure and/or coma; seizure may be preceded by rolling of eyes to one side while staring
 - b. Occurs after intractable, severe preeclampsia
5. Chronic hypertension: preexisting
6. Preeclampsia superimposed on chronic hypertension
 - a. Previously controlled BP becomes elevated; proteinuria
 - b. Blood chemistry: thrombocytopenia, elevated creatinine; other clinical manifestations of severe preeclampsia

B Risk factors: first pregnancy at younger than 17 years of age; over 35 years of age; obesity; numerous pregnancies; chronic hypertension; diabetes mellitus; severe nutritional deficiencies; multifetal pregnancy; trophoblastic disease

C HELLP syndrome (**H**emolysis, **E**levated **L**iver enzymes, **L**ow **P**latelet count); preeclampsia with hepatic dysfunction

1. Sudden onset; may not have previous signs of preeclampsia; 2% to 12% incidence in women with severe preeclampsia; occurs after 24 weeks' gestation or after birth
2. Right upper quadrant pain in 90% of affected women; may have proteinuria

3. Blood smear reveals broken RBCs (schistocytes or burr cells)

4. Increased uric acid, liver enzymes, and BUN

D Guidelines for prevention of hypertensive disorders of pregnancy

1. Reduction of risk factors if possible

2. Adherence to prenatal recommendations (e.g., diet, exercise, rest, regular prenatal examinations)

3. Prophylactic treatment is not available

4. Sodium restriction and diuretics are contraindicated

E Therapeutic interventions

1. Gestational hypertension

a. Frequent rest periods

b. Dietary management with increased fluid intake

c. Treated symptomatically

2. Mild preeclampsia

a. High-protein diet

b. Ambulatory care; frequent visits to health care provider

c. Frequent rest periods with feet elevated; side-lying position to enhance renal and placental perfusion

3. Severe preeclampsia or eclampsia

a. Hospitalization and complete bed rest

b. Magnesium sulfate administered intravenously via infusion pump; if respiratory depression caused by magnesium sulfate occurs, calcium gluconate for mother and levallophan (Lorfan) for newborn

c. Antihypertensives: hydralazine, nifedipine (Procardia), methyldopa (Aldomet), labetalol

d. Indwelling catheter for output assessment

e. Labor induction or cesarean birth

f. Betamethasone for preterm birth less than 34 weeks' gestation (stimulates fetal surfactant production)

4. HELLP syndrome

a. Same as severe preeclampsia or eclampsia

b. Blood or blood product replacement if necessary

Nursing Care of Women with Hypertensive Disorders of Pregnancy

Assessment/Analysis

1. Clinical indications of cerebral involvement (e.g., persistent headache, visual disturbances, irritability, confusion)

2. Vital signs for hypertension

3. Urinary status for proteinuria, oliguria

4. Extremities for edema, increasing daily weight

5. Epigastric pain

Planning/Implementation

1. Monitor BP every 15 minutes during critical phase; every 1 to 4 hours as condition improves

2. Insert indwelling catheter; monitor urine for output and proteinuria

3. Monitor edema, daily weights, I&O
4. Administer magnesium sulfate as prescribed (check for sufficient urinary output before starting); assess for therapeutic response (e.g., +2 deep tendon reflexes, increased urinary output, absence of seizures)
5. Monitor for magnesium toxicity
 - a. Assess for depressed or absent deep tendon reflexes (e.g., patellar, brachial)
 - b. Observe for depressed respirations (fewer than 12 to 14 breaths/min), flushed face
 - c. Assess magnesium blood levels every 6 hours; therapeutic range is 4 to 8 mg/dL
 - d. Have calcium gluconate available for magnesium sulfate toxicity
6. Observe for indications of seizure activity (e.g., may be preceded by rolling of eyes to one side with a stare); maintain seizure precautions; monitor vital signs and FHR after seizure
7. Monitor FHR
8. Monitor hematologic studies
9. Maintain on bed rest in side-lying position; maintain quiet, dark environment; limit visitors
10. Offer high-protein diet with adequate sodium intake
11. Explore anxieties and concerns
12. Observe for signs of bleeding and labor
13. Be prepared for induced birth or emergency cesarean birth
14. Continue to monitor for 48 hours after birth during diuresis (seizures [eclampsia] may occur several weeks postpartum)

Evaluation/Outcomes

1. Maintains (mother and fetus) vital signs within acceptable range
2. Remains free from seizures
3. Maintains fluid balance

Spontaneous Abortion

Data Base

A Complete or partial expulsion (incomplete) of products of conception before viability; gestational age 20 weeks or less; weight less than 500 grams; length less than 16.5 cm

B Incidence: 10% to 20% of confirmed pregnancies

C Risk factors: embryonic defects, maternal hormone imbalances, immunological factors, infections, genetic factors, systemic disorders, external mechanical force, trauma

D Types/clinical findings

1. Threatened abortion: cervix closed, bleeding, cramping, backache; pregnancy may continue uninterrupted
2. Imminent or inevitable abortion: cervix dilates, bleeding, severe cramping, membranes may rupture
3. Incomplete abortion: all products of conception not expelled after cervical os has dilated
4. Complete abortion: all products of conception expelled within 24 to 48 hours
5. Missed abortion: fetus dies in utero but not expelled; risk for developing disseminated intravascular coagulopathy (DIC)
6. Habitual abortions: three consecutive pregnancies that terminate spontaneously

E Therapeutic interventions

1. Maintenance of complete bed rest
2. Diagnostic/therapeutic blood studies: complete blood count (CBC), blood typing, and Rh factor; crossmatching if blood is available; serum progesterone or serial beta human chorionic gonadotropin (β -hCG)
3. Dilation and curettage or vacuum aspiration to remove retained products of conception

Nursing Care of Women Experiencing Spontaneous Abortion

Assessment/Analysis

1. Vital signs; amount of bleeding
2. Level of pain
3. Emotional response to loss

Planning/Implementation

1. Institute measures to alleviate fear and anxiety
2. Monitor and document amount and type bleeding
 - a. Save and count number of perineal pads
 - b. Distinguish between dark clotted blood and frank bleeding (bright red)
3. Monitor vital signs for hypovolemia, shock, and infection
4. Monitor fundus for firmness after products of conception are expelled
5. Check laboratory reports (e.g., CBC, hemoglobin, hematocrit) in preparation for blood transfusion
6. Administer oxygen if necessary
7. Maintain fluid and electrolyte balance
8. Administer RhoGAM if prescribed
9. Assist with grieving process
 - a. Discuss physiologic reality, but encourage to work through feelings
 - b. Expect that grieving may continue for 24 months
 - c. Encourage participation with thanatology services and bereavement/support groups when appropriate
10. Educate about necessity for follow-up care

Evaluation/Outcomes

1. Remains free from complications (e.g., hemorrhage, infection)
2. Expresses feelings

Ectopic Pregnancy (Tubal Pregnancy)

Data Base

A Implantation of fertilized ovum outside uterus; most frequently (95%) in middle portion of fallopian tube; other sites in abdomen, ovaries, and cervix

B Incidence; rising; 20 in 1000 pregnancies

C Risk factors: Pelvic inflammatory disease (PID), tubal surgery, endometriosis

D Diagnosis: ultrasonography, radioimmunoassay for β -hCG

E Tubal pregnancy pattern

1. Asymptomatic
2. Spotting after one or two missed menstrual periods; localized tenderness (before rupture)
3. Sudden, sharp, knifelike lower right or left abdominal pain radiating to shoulder after rupture
4. Concealed bleeding from site of rupture leads to sudden shock

F Therapeutic interventions

1. Diagnosis confirmed by ultrasound examination, laparoscopy, or culdocentesis
2. Immediate blood replacement if blood loss is severe
3. Removal or surgical repair of ruptured fallopian tube
4. Pharmacologic therapy: methotrexate to salvage fallopian tube

Nursing Care of Women with an Ectopic Pregnancy

Assessment/Analysis

1. Vital signs, signs of shock
2. Bleeding; rigid, tender abdomen
3. Character and location of pain
4. Level of anxiety

Planning/Implementation

1. Monitor for signs of shock
2. Administer blood transfusion if ordered
3. Administer prescribed analgesics for pain
4. Provide emotional support
5. Provide preoperative and postoperative care
6. Administer RhoGAM if appropriate

Evaluation/Outcomes

1. Remains free from complications
2. States implications for future childbearing
3. Expresses feelings

Hyperemesis Gravidarum

Data Base

A Vomiting that continues past first 10 weeks of pregnancy; excessive, with 5% weight loss

B Incidence: varies from 3 to 10 per 1000 births

C Risk factors: nulliparity, obesity, history of migraine headaches, multifetal pregnancy, may be related to transient hyperthyroidism, may have psychologic component

D Clinical findings: significant weight loss, dehydration (e.g., decreased BP, increased pulse rate, inadequate tissue turgor) cannot retain even clear fluids, electrolyte imbalances

E Therapeutic interventions

1. Laboratory tests (e.g. urine for ketones [acidosis], CBC, electrolytes, liver enzymes, bilirubin level, thyroid studies); psychosocial assessment

2. IV therapy to correct fluid and electrolyte imbalance; nothing by mouth (NPO) for 48 hours after vomiting ceases; antiemetic medications; corticosteroids for intractable vomiting; total parenteral nutrition (TPN) if necessary; psychotherapy if indicated

Nursing Care of Women with Hyperemesis Gravidarum

Assessment /Analysis

1. History for possible causes of vomiting, precipitating factors,
2. Nature of vomitus: frequency, severity, duration of episodes, amount and color
3. Physical examination: vital signs, weight loss, nutritional status, other signs of dehydration
4. Emotional status

Planning /Implementation

1. Monitor client
 - a. IV therapy, I&O
 - b. Frequency, amount, and characteristics of vomiting
 - c. Vital signs, hydration and nutritional status
2. Maintain NPO as ordered
3. Administer prescribed medications and nutritional supplements
4. Provide quiet, restful environment; attempt to eliminate odors
5. Offer prescribed diet: usually small, low-fat, high-protein, bland feedings; document response to oral intake
6. Encourage ventilation of feelings
7. Arrange for continuing care at home

Evaluation/Outcomes

1. Nausea and vomiting do not recur
2. Consumes nutritional meals
3. Gains weight
4. Pregnancy continues to term
5. Newborn is healthy

Hydatidiform Mole or Trophoblastic Disease

Data Base

A Abnormal proliferation of trophoblastic cells covering chorionic villi; associated with high hCG levels

B Categories: hydatidiform mole; complete or partial mole; gestational trophoblastic neoplasia (GTN); metastatic trophoblastic neoplasia (low, intermediate, or high risk); choriocarcinoma may develop with metastasis to lungs

C Incidence: one in 1200 pregnancies; more common in Asian women

D Risk factors unknown; may be related to malnutrition or ovular defect; previous miscarriages; age (early teens, past 40 years); women who have taken clomiphene (Clomid) to stimulate ovulation

E Clinical findings

1. Types
 - a. Molar pregnancy—no fetus or amnion
 - b. Partial molar pregnancy—fetus and/or amniotic sac
 2. Uterus: larger for period of gestation; fetal parts not palpable; dough-like consistency; contains mass resembling bunch of grapes
 3. Manifestation of gestational hypertension and hyperemesis gravidarum
 4. Potential for uterine perforation, hemorrhage, infection
 5. Confirmation by ultrasonography
- F Therapeutic interventions
1. Evacuation by dilation and curettage or hysterotomy if no spontaneous evacuation
 2. Continued follow-up of serum gonadotropin levels for 1 year to rule out choriocarcinoma (increased gonadotropin levels require chemotherapy)
 3. Chemotherapy when malignant

Nursing Care of Women with Hydatidiform Mole or Trophoblastic Disease

Assessment/Analysis

1. Vaginal bleeding (brownish, prune juice) containing grapelike tissue
2. Uterine enlargement; fundal height greater than expected for length of pregnancy
3. Vomiting
4. Elevated BP earlier than 24 weeks' gestation
5. Absence of fetal heart tones or activity

Planning/Implementation

1. See Nursing Care under Spontaneous Abortion
2. Teach importance of follow-up care for at least 1 year, especially for serum gonadotropin testing
3. Teach importance of preventing pregnancy for 1 year

Evaluation/Outcome

1. Continues follow-up care
2. Uses measures to prevent pregnancy for 1 year

Incompetent Cervix

Data Base

A Cervical effacement and dilation in early second trimester; expulsion of products of conception; recurrent miscarriages, each one earlier in pregnancy

B Risk factors: previous forceful/excessive dilation and curettage; previous difficult birth; congenitally short cervix

C Clinical findings

1. Painless contractions in second trimester
2. Preterm birth of nonviable fetus

D Therapeutic interventions

1. Conservative: bed rest; adequate hydration; tocolytic therapy to inhibit uterine contractions

2. Cerclage procedure: during 10 to 14 weeks' gestation; suture or ribbon placed beneath cervical mucosa to close cervix
3. Activity restrictions (e.g., no intercourse, heavy lifting, standing for more than 90 minutes)
4. Cesarean birth or cutting of suture for vaginal birth at term

Nursing Care of Women with an Incompetent Cervix

Assessment/Analysis

1. Number of weeks gestation
2. Obstetric history
3. Knowledge of treatment options (e.g., cerclage procedure)

Planning/Implementation (after cerclage procedure)

1. Maintain bed rest for 24 hours
2. Monitor vital signs and fetal heart rate
3. Monitor for rupture of membranes or bleeding
4. Teach which activities are restricted and importance of adherence to restrictions

Evaluation/Outcomes

1. Continues pregnancy to term
2. Describes signs of labor
3. States will notify health care provider when labor begins

Placenta Previa

Data Base

- A Placental implantation in lower uterine segment
- B Incidence: 0.5% of births; more common in African and Asian woman
- C Risk factors: maternal age older than 35 years; history of placenta previa, cesarean births, multiple gestations, and closely spaced pregnancies; endometrial scarring
- D Types
1. Type I—low-lying: placenta in lower uterine segment next to internal cervical os; as uterus stretches with gestation, placenta moves away from os
 2. Type II—marginal: placental edge at os, but does not cover it
 3. Type III—partial: placental edge partially covers os
 4. Type IV—complete: placenta is centered over os
- E Clinical findings
1. Painless, bright red bleeding; hemorrhage in third trimester
 2. Soft uterus in latter part of pregnancy
 3. May have signs of infection
- F Therapeutic interventions
1. Ultrasonography to confirm placenta previa
 2. Depend on location of placenta, amount of bleeding, status of fetus
 3. Avoidance of vaginal examinations

4. Measures to control bleeding
5. Replacement of blood loss if necessary
6. Home monitoring with repeated ultrasounds for type I—low-lying
7. Cesarean birth, if necessary

Nursing Care of Women with Placenta Previa

Assessment/Analysis

1. Painless bright red bleeding; absence of pain
2. Clinical manifestations of shock (hypovolemic)
3. Changes in or absence of FHR
4. Level of anxiety (usually increases)

Planning/Implementation

1. Monitor and document amount of bleeding; count number of perineal pads and extent of saturation to determine blood loss
2. Monitor FHR using electronic device
3. Monitor maternal vital signs using electronic equipment
4. Observe color for pallor or cyanosis; administer oxygen if necessary
5. Emphasize to other health care providers that vaginal examinations are contraindicated
6. Maintain bed rest in semi-Fowler position
7. Monitor hemoglobin and hematocrit, administer IV therapy and/or blood replacement if needed
8. If ultrasound is unavailable and a vaginal examination is necessary, prepare a double setup for vaginal or cesarean birth (rarely done)
9. Prepare for cesarean birth if bleeding persists

Evaluation/Outcomes

1. Birth of viable, stable newborn
2. Demonstrates hemodynamic stability

Abruptio Placentae (Premature Separation of Placenta)

Data Base

A Partial, marginal, or complete premature separation of placenta in third trimester; degrees of separation: mild, moderate, severe (grade 1, 2, 3, respectively)

B Risk factors: preexisting hypertension; preeclampsia; eclampsia; cocaine use; abdominal trauma; previous abruptio; multiple gestations

C Clinical findings

1. Vaginal bleeding; concealed if center of placenta separates and margins are intact; overt if placenta separates at margin
2. Moderate to agonizing abdominal pain
3. Persistent uterine contraction; firm to board-like abdomen
4. Fetal hyperactivity, then cessation of fetal movements
5. Hemorrhage, disseminated intravascular coagulopathy (DIC) hypofibrinogenemia may occur

D Therapeutic interventions

1. Replacement of blood loss
2. Administration of oxygen if necessary
3. Maintenance of fluid and electrolyte balance
4. Induction of labor for mild separation with reassuring fetal signs and some cervical effacement and dilation
5. Emergency cesarean birth for moderate or severe separation, maternal distress, fetal compromise

Nursing Care of Women with Abruptio Placentae

Assessment/Analysis

1. Pain with or without dark red bleeding
2. Tonicity of abdominal wall
3. Clinical manifestations of shock
4. Changes in or absence of FHR
5. Levels of increasing anxiety

Planning/Implementation

1. Maintain bed rest in lateral recumbent position
2. Monitor FHR with electronic device
3. Monitor maternal vital signs using electronic equipment
4. Determine abdominal pain and tonicity of abdomen
5. Observe color for pallor or cyanosis; administer oxygen if necessary
6. Obtain blood for typing and crossmatching, coagulation studies, hemoglobin, hematocrit
7. Administer IV therapy and/or blood replacement
8. Prepare for Kleihauer-Betke test to assess fetal bleeding into maternal circulation
9. Observe perineal pads for bleeding
10. Prepare for cesarean birth if abruptio is moderate or severe
11. Observe for signs of DIC (e.g., seepage of blood from IV site or incisional areas)

Evaluation/Outcomes

1. Birth of a viable, stable newborn
2. Demonstrates hemodynamic stability

Nursing Care of Women with Complications During the Intrapartum Period

Induction or Stimulation of Labor

Data Base

A Elective induction (initiation of labor)

1. Pharmacological
 - a. Prostaglandin: vaginal insertion of E1 (e.g., misoprostol [Cytotec]) or E2 (e.g., dinoprostone [Cervidil, Prepidil]) to promote cervical softening (ripening) and effacement
 - b. Oxytocin: intravenous infusion approximately 8 to 12 hours after prostaglandin administration to stimulate contractions
2. Mechanical means
 - a. Artificial rupture of membranes (AROM) (amniotomy)
 - b. Nipple massage to stimulate secretion of oxytocin from posterior pituitary gland

B Medical or obstetric indications: diabetes, pyelonephritis, hypertensive disorders, Rh incompatibility, hydramnios, placental insufficiency, rupture of membranes at term before contractions begin, postterm gestation, history of precipitate birth, fetal jeopardy

C Augmentation of labor: promotes labor when it is not progressing (prolonged labor); employs pharmacologic or mechanical means

D Contraindications: cephalopelvic disproportion, malpresentation of fetus, nonreassuring signs of fetal status, placenta previa, active genital herpes

Nursing Care of Women During Induction or Stimulation of Labor

Assessment/Analysis

1. Obstetric history, estimated date of birth
2. Maternal status (e.g., contractions, status of membranes, status of cervix, ultrasound findings, level of anxiety)
3. Fetal status (e.g., gestational age, absence of cephalopelvic disproportion or other problems, position, results of fetal monitoring and nonstress test)

Planning/Implementation

1. Prepare mother and labor coach for induction (e.g., explain all procedures, obtain informed consent)
2. Obtain and record baseline information (e.g., maternal vital signs, FHR, contractions for later comparison; continue to monitor vital indices)
3. Monitor oxytocin (Pitocin) administration
 - a. Administer piggybacked through infusion device; titrated at 0.5 to 2 mU/min; titrated according to contraction pattern and fetal response
 - b. Discontinue: sustained uterine contraction; persistent fetal decelerations; urinary flow decreased to 30 mL/hr (related to water intoxication); signs of placenta previa or abruptio placentae

4. Assist with artificial rupture of membranes (amniotomy)
 - a. Maintain asepsis
 - b. Assess FHR immediately after rupture
 - c. Observe color and amount of amniotic fluid
 - d. Record time of rupture (prolonged time after rupture may predispose to sepsis)
5. Maintain hydration
6. Provide for blood typing, Rh compatibility, crossmatching
7. Have oxygen, suction, and resuscitation equipment available
8. Prepare for emergency cesarean birth if necessary

Evaluation/Outcomes

1. Progresses through labor to safe birth of newborn
2. Remains free from complications

Premature Rupture of Membranes (PROM)

Data Base

- A Spontaneous rupture of membranes before onset of labor
- B Maternal implication: ascending infection
- C Fetal implications
 1. Prolapsed cord
 2. FHR decelerations caused by cord compression from lack of amniotic fluid
 3. Sepsis from ascending infection
- D Therapeutic interventions
 1. Hospitalization with bed rest after 37 weeks' gestation
 2. Amnioinfusion of isotonic saline to allow for fetal movement and lessen danger of cord compression
 3. Prophylactic antibiotics

Nursing Care of Women with Premature Rupture of Membranes

Assessment/Analysis

1. Time of rupture
2. FHR and maternal vital signs
3. Perineum for prolapsed cord
4. Characteristics of leaking amniotic fluid (e.g., odor and color)
5. Confirmation
 - a. Fern test: microscopic examination reveals fernlike crystals of sodium chloride
 - b. Nitrazine test: confirms presence of amniotic fluid; paper changes color when touched by alkaline amniotic fluid (7.0 to 7.5) rather than acidic vaginal secretions

Planning/Implementation

1. Monitor FHR and maternal vital signs; temperature and pulse every 2 hours
2. Monitor uterine activity

3. Avoid vaginal/cervical stimulation (e.g., unnecessary vaginal examinations)
4. Ensure adequate hydration
5. Educate parents (e.g., amniotic fluid is still being produced, avoid intercourse)
6. Provide perineal hygiene
7. Administer antibiotics as prescribed

Evaluation/Outcomes

1. Remains free from infection
2. Progresses through labor to safe birth of healthy newborn

Preterm Labor

Data Base

A Contractions begin after 20th week but before end of 37th week of gestation, causing effacement and dilation of the cervix

B Risk factors: previous preterm labors, risky lifestyle, multiple gestation, maternal fever, opioid use, bacterial vaginitis, multiple abortions, pyelonephritis, asymptomatic bacteriuria

C Diagnostic studies

1. Transvaginal cervical sonography
2. Immunoassay for fetal fibronectin
3. Vaginal examinations to determine cervical changes

D Therapeutic interventions

1. Activity restrictions (no evidence to support effectiveness of continuous bed rest)
2. Treatment of etiology (e.g., antibiotics for pyelonephritis)
3. Tocolytic therapy to decrease frequency and duration of contractions, postponing birth
 - a. Betasymphathomimetics: terbutaline (Brethine)
 - b. Magnesium sulfate
 - c. Prostaglandin inhibitors: indomethacin (Indocin)
 - d. Calcium channel blockers: NIFEdipine (Procardia)
4. Corticosteroid therapy
 - a. Betamethasone (Celestone)
 - b. Administered 24 to 48 hours before birth
 - c. Reduces incidence and severity of respiratory distress syndrome (RDS) in preterm infants; enhances formation of surfactant
 - d. May be contraindicated if woman has an infection

Nursing Care of Women During Preterm Labor

Assessment/Analysis

1. Number of weeks' gestation
2. Fetal status
3. Signs of labor: two contractions lasting 30 seconds within 15 minutes; cervical dilation less than 4 cm; effacement 50% or less
4. Signs of hemorrhage or infection

5. Signs of severe preeclampsia
6. Rupture of membranes; length of time since rupture
7. Emotional status of mother

Planning/Implementation

1. Prevention by decreasing risk factors
 - a. Discuss impact of drug use and lifestyle risks
 - b. Teach importance of early reporting of temperature elevations
 - c. Check results of prenatal vaginal cultures
 - d. Monitor for urinary tract infections; asymptomatic bacteriuria shows a positive culture of more than $100,000/\text{mm}^3$
2. Arrange for home health nurse to supervise maternal and fetal status (e.g., vital signs, FHR, breath sounds, fetal activity, hematologic and cervical status, blood and urine glucose levels, fundal height, maternal weight, urine evaluation, presence of edema)
3. Provide home instruction for halting preterm labor
 - a. Rest periods in lateral position; avoidance of vigorous activity
 - b. Increase fluid intake
 - c. Avoid sexual intercourse or sexual activity that leads to orgasm
 - d. Avoid nipple stimulation
 - e. Avoid stressful events
 - f. Empty bladder regularly and if contractions occur
4. Monitor vital signs, FHR, contractions, and progression of labor
5. Maintain bed rest if ordered
6. Provide emotional support; reduce anxiety and prepare for perinatal death
7. Provide care related to tocolytic medications
 - a. Teach about medication; explain that use of pain medications will be limited to avoid their depressive effects on fetus
 - b. Use an infusion pump for administration of IV medications
 - c. Obtain baseline hematologic data and electrocardiographic (ECG) readings if appropriate
 - d. Monitor vital signs (hypotension can occur with all tocolytics, tachycardia can occur with terbutaline)
 - e. Maintain hydration; monitor for pulmonary edema
 - f. Monitor for signs of hypokalemia and hyperglycemia
 - g. Monitor I&O
 - h. Provide care related to magnesium sulfate therapy (e.g., assess reflexes and respirations)
8. Prepare to administer corticosteroid therapy
9. Prepare for preterm birth

Evaluation/Outcomes

1. Exhibits cessation of labor
2. Fetus remains in utero with acceptable FHR and fetal movements
3. Mother and partner list signs and symptoms of preterm labor

Postterm Pregnancy

Data Base

A Extends beyond 42nd week of gestation or 2 weeks beyond estimated date of birth (EDB); 37 to 42 weeks' gestation is considered full-term

B Fetal risk factors

1. Decreased amniotic fluid may lead to cord compression during labor
2. Decreased placental function because placental aging lowers oxygen and nutritional transport; fetus jeopardized during labor (e.g., asphyxia, hypoglycemia)
3. Increasing size (mainly length) and hardening of skull may contribute to cephalopelvic disproportion

C Maternal risk if infant is excessively large

D Fetal assessment: contraction stress test (CST) to determine ability to tolerate labor

E Therapeutic intervention: induction of labor

Nursing Care of Women During Postterm Labor

Assessment/Analysis

1. Number of weeks' gestation; date of last menstrual period; estimated date of birth
2. Biophysical profile, particularly amount of amniotic fluid because decreased amniotic fluid is result of decreased kidney perfusion related to decreased fetal oxygen levels
3. Presence of meconium in amniotic fluid
4. Level of anxiety related to delayed date of birth
5. Newborn (e.g., little vernix; long nails and hair; peeling, wrinkled skin; reduced subcutaneous fat; meconium staining)

Planning/Implementation

See Planning/Implementation under Induction or Stimulation of Labor

Evaluation/Outcomes

1. Progresses through labor to safe birth of healthy newborn
2. Remains free from complications

Dystocia

Data Base

A Dysfunctional or difficult labor

B Mechanical factors: cephalopelvic disproportion; contracted pelvis; malpresentation or position; multiple gestation; occiput posterior position of fetus

C Faulty uterine contractions

1. Hypertonic
 - a. Increased frequency of contractions with decreased intensity usually in early labor; cervix does not dilate and mother becomes exhausted
 - b. Older primigravidas or very anxious women at risk
 - c. Increased fetal molding may cause caput succedaneum or cephalohematoma

2. Hypotonic: slowing of rate and intensity of contractions in latter part of labor
- D Maternal complications: cervical trauma, postpartum hemorrhage, infection, and exhaustion
- E Shoulder dystocia: head is born, but anterior shoulder cannot pass under pubic arch; caused by fetopelvic disproportion related to excessive fetal size (>4000 g) or maternal pelvic abnormalities
 1. Newborn: may experience asphyxia, birth injuries (e.g., brachial plexus damage, fracture of humerus or clavicle)
 2. Mother: may experience blood loss from uterine atony or rupture, trauma (e.g., lacerations, extension of episiotomy), infection (e.g., endometritis)
- F Ultrasonography to determine fetal and pelvic size
- G Therapeutic interventions
 1. Intervention based on length of labor, status of mother and fetus, extent of cervical effacement and dilation, and fetal presentation, position, and station
 2. Hypertonic contractions: analgesic and nonpharmacologic strategies to promote rest
 3. Hypotonic contractions: oxytocics and nonpharmacologic strategies to stimulate labor
 4. Cesarean birth

Nursing Care of Women with Dystocia

Assessment/Analysis

1. Progress of labor
2. Status of mother
3. Status of fetus

Planning/Implementation

1. Relieve back pain caused by prolonged posterior pressure from fetus in occiput posterior position (e.g., apply sacral pressure during contractions; encourage side-lying position)
2. Observe for signs of maternal exhaustion (e.g., dehydration, acidosis/alkalosis)
3. Monitor for nonreassuring fetal signs
4. Have oxygen, suction, and resuscitation equipment available
5. Provide care related to oxytocin infusion (see [Nursing Care under Induction or Stimulation of Labor](#))
6. Provide emotional support; keep client and family informed about progress
7. Administer fluids as ordered
8. Administer sedatives as prescribed
9. Shoulder dystocia: position mother to facilitate birth (e.g., legs flexed apart with knees on abdomen [McRoberts maneuver], hands-and-knee position [Gaskin maneuver], squatting, lateral recumbent)

Evaluation/Outcomes

1. Rests/sleeps between contractions and after birth
2. Progresses through labor to safe birth of newborn
3. Remains free from complications

Precipitate Birth

Data Base

A Rapid labor and birth of less than 3 hours' duration

B Maternal complications: perineal laceration, postpartum hemorrhage

C Newborn complications: anoxia, intracranial hemorrhage

Nursing Care of Women During Precipitate Birth

Assessment/Analysis

1. Rapid cervical dilation
2. Accelerated fetal descent
3. History of rapid labor
4. Rapid uterine contractions with decreased periods of relaxation between contractions

Planning/Implementation

1. Remain with mother continuously
2. Keep emergency birth pack at bedside
3. Keep mother and partner informed throughout process of labor and birth
4. Support and guide fetal head through birth canal when birth occurs
5. Newborn: establish airway (e.g., position head slightly lower than chest to drain mucus by gravity; rub back to initiate crying)

Evaluation/Outcomes

1. Mother remains free from injury
2. Newborn remains free from injury

Breech Birth

Data Base

A Types of fetal presentation

1. Frank: only buttocks; thighs flexed on hips; knees extended
2. Complete: buttocks and feet; thighs and knees flexed
3. Incomplete: one or both feet (footling) extend below buttocks

B Maternal implication: cesarean birth may be required, especially for primigravida

C Fetal implications

1. Increased mortality
2. Prolapsed cord, leading to asphyxia
3. Birth trauma (e.g., brachial palsy, fracture of upper extremities)

Nursing Care of Women During Breech Birth

Assessment/Analysis

1. Leopold maneuvers and vaginal examination to identify fetal presentation
2. Auscultation of fetal heart tones above umbilicus

3. Presence of meconium despite fetal well-being; results from contraction of uterus on lower colon of fetus

Planning/Implementation

1. Promote comfort
2. Monitor FHR in an upper quadrant
3. Monitor for prolapsed cord; if it occurs
 - a. With a sterile gloved hand, push presenting part off cord
 - b. Place in Trendelenburg position to keep presenting part away from cord
 - c. Keep prolapsed cord moist with sterile saline
4. Observe for frank meconium
5. Prepare for a forceps-assisted birth if vaginal birth is anticipated
6. Teach mother and partner about process of breech birth
7. Prepare for cesarean birth

Evaluation/Outcomes

1. Mother remains free from injury
2. Newborn remains free from injury

Cesarean Birth

Data Base

A Birth of infant via abdominal incision; usually transverse incision of lower uterine segment

B Risk factors: cephalopelvic disproportion, dystocia, placenta previa, abruptio placentae, postmaturity, growths within birth canal, multiple births, diabetes, hypertensive disorders, Rh incompatibility, nonreassuring fetal heart pattern, active herpes, and malpresentations (e.g., breech, shoulder); previous cesarean birth

C Vaginal birth after cesarean: an alternative for women who had a transverse uterine incision for a previous cesarean birth

1. Each pregnancy may have different variables that make this attempt possible or impossible
2. Multiple uterine incisions may cause uterine rupture during labor

Nursing Care of Women Before and After Cesarean Birth

Assessment/Analysis

1. Vital signs
2. Dressing status: intact, presence of bleeding
3. Status of incision: REEDA (no **R**edness, **E**dema, **E**cchymosis, or **D**ischarge and well **A**pproximated)
4. Fundus and lochia: one or two pads may be saturated during first hour after birth; usually less than after a vaginal birth
5. Urinary output: amount; specific gravity; presence of blood
6. Neurovascular status following regional anesthesia
7. Presence of pain

8. Response to neonate

Planning/Implementation

1. Provide preoperative care
 - a. Ensure consent is signed; keep client and partner informed
 - b. Obtain specimens for laboratory tests
 - c. Prepare for surgery (e.g., arrange for operating room, insert urinary catheter)
2. Provide postoperative care
 - a. Monitor vital signs, fundal height and tone, abdominal incision
 - b. Maintain IV infusion of oxytocin if prescribed
 - c. Administer analgesics as prescribed
 - d. Promote lung aeration (e.g., deep breathing and coughing, incentive spirometer)
 - e. Maintain fluid and electrolyte balance; monitor I&O
 - f. Encourage early ambulation to prevent circulatory stasis and promote peristalsis
 - g. Encourage eating solid foods to promote peristalsis (prevents distention) when bowel sounds have returned
3. Assist with parent and newborn bonding and attachment; encourage touching; include father in process; offer emotional support
4. Support early breastfeeding if desired

Evaluation/Outcomes

1. States relief from pain
2. Maintains urinary and fecal elimination
3. Remains free from complications
4. Parents demonstrate attachment behaviors with newborn

Assisted Birth

Data Base

A Device is used to shorten second stage of labor and facilitate birth

B Assistive devices

1. Forceps: instrument applied to fetus' head or presenting part, allowing health care provider to control the birth; indicated for ineffective pushing, malposition, large infants, and women with heart disease
2. Vacuum extraction: cup is placed on fetus' head or presenting part; applied suction promotes descent; newborn may develop caput succedaneum, but is otherwise unharmed

Nursing Care of Women During and After Assisted Births

See [Nursing Care of Women with Complications during the Intrapartum Period](#) and [Nursing Care of Women with Complications during the Postpartum Period](#)

Nursing Care of Women with Complications During the Postpartum Period

Postpartum Bleeding

Data Base

A Bleeding in excess of 500 mL within first 24 hours following birth

B Risk factors: uterine atony; vaginal, cervical, and perineal lacerations; hematomas; retained placental fragments; multifetal pregnancy; numerous previous pregnancies; (bleeding increases risk of infection)

1. Uterine atony: caused by overdistention of uterus; prolonged labor, birth trauma, grand multiparity
2. Classification of lacerations
 - a. First-degree: superficial, extends through perineal skin and vaginal epithelium
 - b. Second-degree: extends through perineal muscles; episiotomies are second degree
 - c. Third-degree: extends partially or totally through fibers of the external and/or internal anal sphincters
 - d. Fourth-degree: extends through anterior rectal wall
3. Hematomas: in perineum, vagina, uterus; caused by increased fundal pressure by fetus, forceps, or manipulation
4. Placental abnormalities: can cause life-threatening hemorrhage
 - a. Placenta accreta: chorionic villi adhere to uterine myometrium
 - b. Placenta increta: chorionic villi invade myometrium
 - c. Placenta percreta: chorionic villi invade and pass through the myometrium to peritoneal covering

C Clinical findings

1. Excessive frank, red bleeding
2. Boggy uterus; uterus above umbilicus
3. Hypotension
4. Disseminated intravascular coagulopathy (DIC)
 - a. Profuse, uncontrollable bleeding from uterus
 - b. Oozing of blood from episiotomy, laceration, or IV site
 - c. Fragmented or distorted RBCs
 - d. Decreased coagulation factors (pathologic form of clotting)

D Therapeutic interventions

1. Maintenance of empty bladder
2. Massage of fundal portion of uterus
3. Administration of oxytocics
4. Replacement of blood if severe blood loss
5. Surgical repair of lacerations
6. Removal of retained placental fragments
7. Cryoprecipitate, fresh frozen plasma for DIC

Nursing Care of Women with Postpartum Bleeding

Assessment/Analysis

1. History of multiparity; prolonged labor; analgesia; multiple gestation; abruptio placentae or placenta previa; hypertensive disorders, especially HELLP syndrome
2. Vaginal bleeding with clots
3. Uterus for tone (firm, boggy)
4. Urinary output for decrease
5. Vital signs
6. Results of blood studies
7. Clinical manifestation of shock; anemia
8. Level of anxiety

Planning/Implementation

1. Monitor vital signs
2. Assess fundus for height and firmness every 15 minutes; if boggy massage until firm
3. Monitor bleeding (e.g., number of perineal pads, presence of clots)
4. Administer oxytocic as prescribed
5. Encourage emptying bladder to prevent distension, which interferes with uterine contraction; insert indwelling catheter as ordered if voiding is insufficient; monitor I&O
6. Prepare for ultrasonography if retained placental fragments are suspected
7. Maintain NPO in case surgical intervention becomes necessary
8. Prepare for blood transfusions or emergency surgery if condition worsens

Evaluation/Outcomes

1. Demonstrates hemodynamic stability
2. Remains free from complications

Episiotomy

Data Base

A Incision into perineum to facilitate birth, prevent lacerations and overstretching of pelvic floor usually on perineum between vaginal introitus and rectum; may be midline or mediolateral

B Closed surgically; usually performed under regional anesthesia

C More painful, more difficult to repair, and causes more perineal trauma and infection than repair of lacerations

Nursing Care of Women after an Episiotomy

Assessment/Analysis

1. Clinical manifestations of REEDA
2. Extent of pain
3. Signs of hematoma

Planning/Implementation

1. Apply cold to perineum if ordered (limits edema during first 12 to 24 hours)
2. Provide and teach perineal care, including when to change pads
3. Administer prescribed analgesics; may be systemic and/or local
4. Provide sitz baths if ordered; promotes dilation of blood vessels, increases blood to area, facilitates healing
5. Teach perineal exercises (Kegel)

Evaluation/Outcomes

1. States relief from pain
2. Remains free from infection

CHAPTER 27

Foundations of Nursing Care for Newborns

Family and Prenatal History

A Chronic illness in mother's or father's family

B Previous maternal and paternal illnesses

C Ages and present health status of parents

D History of previous pregnancies

E Prenatal history

1. Supervision during pregnancy
2. Nutrition during pregnancy
3. Duration of gestation
4. Course of pregnancy
 - a. Medications; antibiotics if positive for group beta streptococcus (GBS)
 - b. Illnesses; infections, including sexually transmitted infections
 - c. Ingestion of alcohol, drug use, smoking
 - d. Sedation; analgesia; anesthesia
5. Type of birth; significant events during initial minutes after birth
6. Newborn responses to birth (Apgar score at 1 and 5 minutes following birth)

Parent-Infant Relationships

A Concepts basic to parent-infant relationships

1. Early, frequent parent-infant contact essential for attachment (bonding)
2. Developmental stages
 - a. Biologic changes at puberty and during pregnancy influence development of nurturance
 - b. Interaction between mother and infant begins from moment of conception; can be shared with father
 - c. Childbearing; parenting abilities can be fostered and developed
 - d. Childrearing: parental behavior is learned; frequent parent-infant contact enhances parenting abilities; ambivalence is natural phenomenon as are feelings of resentment
3. Development of parent-infant love
 - a. Love for infant grows as parents interact and give care
 - b. As parent gives to infant and infant accepts, parent in turn receives satisfaction from parenting tasks
 - c. Disturbance in give-and-take cycle initiates frustrations in parents and infant

B Infant's basic needs

1. Physiologic: food, clothing, hygiene, and protection from environment
2. Emotional: security, comfort, fondling, caressing, rocking, verbalizing, consistent contact with caregiver

C Basis for parenting

1. Biologic inborn desire to reproduce
2. Role concepts that begin with own childhood experiences
3. Primitive emotional relationships
4. Level of maturity

D Parent-infant relationships influences

1. Readiness for pregnancy
 - a. Planned or unplanned
 - b. Health status before pregnancy
 - c. Determinants: age, cultural backgrounds, number in family unit, financial status
2. Nature of pregnancy
 - a. Health status during pregnancy
 - b. Preparation for parenthood
 - c. Support from family members and health care team
3. Characteristics of labor and birth
 - a. Length and pattern of labor; type of birth
 - b. Type and amount of analgesia/anesthesia received
 - c. Support from family and health team
4. Factors that impede attachment
 - a. Impaired physical status of newborn and/or mother
 - b. Treatments that interfere with attachment
 - c. Disturbance related to idealized image of infant

E Reva Rubin Significant Phases of Maternal Adjustment

1. Taking-in phase: mother's needs must be met before she can meet infant's needs; talks about self rather than infant; may not touch infant; cries easily; integrates birth experience into reality
2. Taking-hold phase: mother starts to assume responsibility for her infant; lasts from day 2 to day 10; concerned about infant, interested in learning; teachable, reachable, and referable at this time
3. Letting-go phase: mother discards idealized notion of childbirth; may have periods of guilt or grief over childbirth experience

F Supportive care to promote attachment

1. Allow time to inspect and identify with infant; encourage parents to touch, fondle, and hold infant
2. Encourage interaction between parents and infant
3. Teach about characteristics of newborn; demonstrate infant care to help parents learn how to meet infant's and their own needs
4. Evaluate parents' and infant's responses; revise plan as necessary; identify disturbed relationships
5. Provide therapeutic environment for various family lifestyle types: nuclear, single parent, gay, blended

Adaptation to Extrauterine Life

A Immediate care at time of birth

1. Aspirate mucus to provide an open airway
2. Evaluate with Apgar score 1 and 5 minutes following birth
 - a. Score determined by points for heart rate (most critical), respiration, muscle tone, reflex irritability, and color ([Table 27-1: Apgar Score](#))

Table 27-1
Apgar Score

Sign	Score		
	0	1	2
Heart rate (bpm)	Absent	Slow (<100)	>100
Respiratory rate	Absent	Slow, weak cry	Good cry
Muscle tone	Flaccid	Some flexion of extremities	Well flexed
Reflex irritability	No response	Grimace	Cry
Color	Blue, pale	Body pink, extremities blue	Completely pink

(From Lowdermilk DL, Perry SE: *Maternity and women's health care*, ed 10, St. Louis, 2012, Mosby.)

b. Scores: 7 to 10, good condition; 3 to 6, moderately depressed; 0 to 2, severely depressed; lower scores related to high neonatal morbidity and mortality with need for resuscitative interventions

3. Dry infant and place in skin-to-skin contact with mother or under radiant warmer to maintain body temperature
4. Perform newborn assessment
5. Promote interaction between parents and newborn
6. Identify by applying matching identification bands to infant and mother; may include father and significant others
7. Provide prophylactic eye care; instill prescribed antibiotic (e.g., erythromycin) in each eye to prevent ophthalmia neonatorum caused by gonorrhea or chlamydia infection
8. Administer vitamin K (intramuscularly (IM) in United States, orally in Canada) to prevent hemorrhage
9. Obtain heel-stick blood specimen for laboratory tests to assess adaptation to extrauterine life and presence of congenital conditions; use outer aspect of heel to prevent lancet penetration of bone (Figure 27-1: Heel-stick sites)

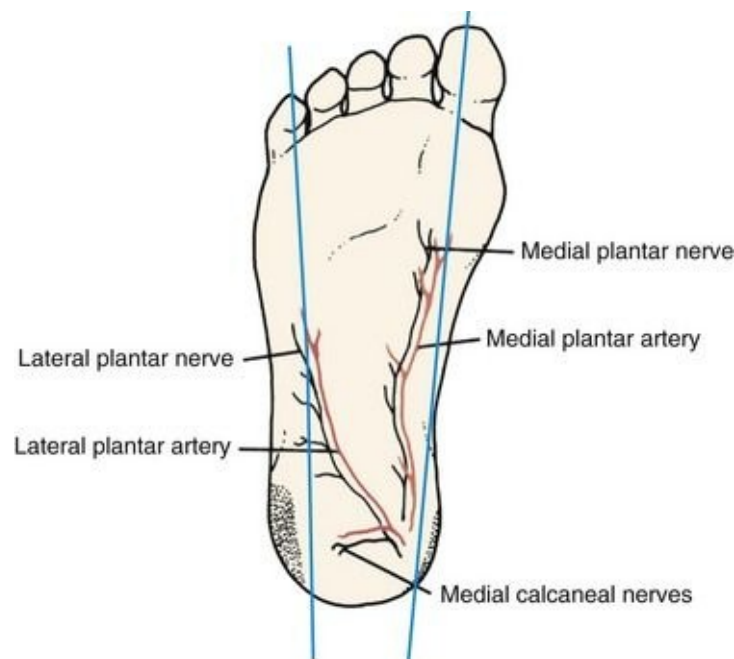


FIGURE 27-1 Heel-stick sites. (From Lowdermilk DL, Perry SE: *Maternity and women's health care*, ed 10, St. Louis, 2012, Mosby.)

B Behavioral characteristics during transition period

1. First stage (period of reactivity)
 - a. Lasts 0 to 30 minutes
 - b. Alert and moving
 - c. Gustatory movements
 - d. Heart rate: 160 to 180 beats/min for 15 minutes; declines to baseline of 100 to 120 beats/min
 - e. Respirations: 40 to 60 breaths/min; abdominal; irregular; grunting, flaring of nostrils; intermittent chest retractions
2. Second stage (period of decreased responsiveness)
 - a. Lasts 30 minutes to 2 hours
 - b. Relaxation and rest
 - c. Heart rate between 100 and 120 beats/min
 - d. Respirations: rapid, shallow, synchronous; chest shape gradually changes to increase anterior-posterior diameter
 - e. Audible bowel sounds
3. Third stage (second period of reactivity)
 - a. Lasts 2 to 8 hours
 - b. Increased responsiveness to stimuli
 - c. Cardiac and respiratory rates may increase
 - d. Changes in color and muscle tone
 - e. Bowel sounds more frequent; may pass meconium

C Characteristics and changes during first week of life

1. Circulatory
 - a. Changes in fetal circulation after umbilical cord is clamped
 - (1) Foramen ovale closes
 - (2) Ductus arteriosus closes; becomes ligamentum arteriosum
 - (3) Umbilical arteries obliterate
 - (4) Circulation becomes similar to adult within 1 hour after birth

- b. Heart rate regular; 100 to 160 beats/min; variable depending on infant's activity; soft heart murmur common for first month of life
 - c. Clotting mechanism inadequate because intestinal bacteria necessary for synthesis of prothrombin are lacking; exogenous vitamin K needed
 - d. Liver large but immature; cannot destroy large number of red blood cells (RBCs) that consist of fetal hemoglobin, resulting in physiologic jaundice by third day
 - e. Hemoglobin 14 to 20 g/100 mL; fetal hemoglobin replaced by adult form in 6 weeks
 - f. White blood cell (WBC) count high; 6000 to 22,000/mm³
2. Respiratory: 40 to 60 breaths/min during first 2 hours after birth, then 30 to 50 breaths/min; irregular rate; abdominal excursions
3. Temperature: maintained at 97.8° F to 98° F (36.6° C to 36.7° C); environment may cause fluctuations
4. Excretory
- a. Stools
 - (1) Meconium: first 2 days; black-green; tenacious,
 - (2) Transitional: by third day; mixes with milk stool; green-yellow
 - b. Urine
 - (1) Kidneys immature
 - (2) Voids in first 24 hours; voids 20 times daily at 2 weeks of age
 - (3) Contains albumin and urates during first week causing brick-red staining on diaper
5. Integumentary
- a. Lanugo: fine, downy hair growth over entire body; preterm infants have more lanugo
 - b. Vernix caseosa; whitish cheesy substance covers body; more abundant in creases; more in preterm infant and less in postterm infant
 - c. Milia: small, whitish, pinpoint spots over nose caused by retained sebaceous secretions that resolve within a month
 - d. Mongolian spots: blue-black discolorations on back, buttocks, and sacral region that disappear by first year; common on dark-skinned infants
 - e. Telangiectatic nevi (stork bites): pink or red areas caused by capillary dilation
6. Digestive
- a. Fetus stores nutrients toward end of third trimester; needs little nourishment during first few days
 - b. Rooting and sucking reflexes active at birth
 - c. Simple carbohydrates, fats, and proteins readily digested
 - d. Inadequately developed cardiac sphincter; regurgitation after feeding
 - e. Swallowing of air when suckling requires being burped during and after feedings
 - f. Gastric acidity is low for 2 to 3 months
7. Metabolic
- a. Attempts to maintain body temperature by flexion of extremities, breaking down of brown fat, and vasoconstriction
 - b. Loses 5% to 10% of body weight by first week of life
 - c. Needs screening for inborn errors of metabolism
 - (1) Phenylketonuria (PKU) testing done 24 to 48 hours after first feeding; test may be done earlier with repeat test at first follow-up visit; infants with excess phenylalanine require special low phenylalanine diet to prevent mental retardation

(2) Thyroxine (T_4) screening; inadequate thyroxine without replacement therapy leads to cretinism

(3) Lactose intolerance; requires nonmilk formula

d. Hypoglycemia

(1) Caused by inadequate glycogen reserve

(2) Clinical findings: jitteriness, temperature and respiratory instability

(3) Risk factors: small for gestational age (SGA), large for gestational age (LGA), infants of diabetic mothers (IDM), birth trauma, congenital anomalies, endocrine disorders (e.g., hyperinsulism, hypopituitarism, hypothyroidism)

8. Endocrine

a. Related to hormones transmitted by mother

b. Males: breast enlargement (gynecomastia); edematous scrotum

c. Females: breast enlargement; secretion from nipples (witch's milk); edematous labia; blood-tinged vaginal discharge (pseudomenstruation)

9. Neural

a. Immature central nervous system (CNS) and brain; most responses are reflexive

b. Early neural activities: breathing, sucking, crying; necessary for survival

10. Sleep

a. Lowers body metabolism

b. Helps restore energy and assimilate nutrients for growth

11. Habituation: psychologic or physiologic phenomenon whereby neonate's response to a repetitive stimulus decreases; promotes environmental selectivity and learning

D Nutrition

1. Infant feeding: put to breast or given formula soon after birth; simple proteins, carbohydrates, fats, vitamins, and minerals needed for continued cell growth

a. Fluid: 130 to 200 mL/kg or 2 to 3 oz/lb of body weight

b. Calories: 110 to 130 calories/kg or 50 to 60 calories/lb of body weight

c. Protein: 2.0 to 2.2 g/kg of body weight from birth to 6 months of age; 1.8 g/kg of body weight from 6 to 12 months of age

2. Self-regulation schedule

a. Varying degrees of maturity, nutrition needs, and body rhythms

b. Schedule modified to meet needs of infant and parents

c. Formula-fed infants fed on demand or about every 4 hours

d. Breastfed infants fed on demand, approximately every 2 to 3 hours

e. Feeding behavior and degree of satisfaction influence psychologic development

f. Close mother/father-infant relationship during feeding process meets basic need of trust (Erikson's stage of trust versus mistrust)

E Newborn immunity

1. Passive immunity in utero: immunoglobulin G (IgG) passes from mother to fetus through placenta

2. Active immunity in utero: fetus produces immunoglobulin M (IgM) by end of first trimester

3. Passive immunity after birth: immunoglobulin A (IgA) passes from mother to infant through colostrum, the precursor to breast milk

Nursing Care Common to All Newborns

Assessment/Analysis

1. Gestational age

- a. Preterm: birth at less than 37 completed weeks' gestation
- b. Term: birth between the 37th and 42nd week of gestation
- c. Postterm (postmature): birth after 42 weeks' gestation; subjected to effects of progressive placental insufficiency and diminished amniotic fluid
- d. Gestational age assessment: new Ballard scale determines gestational age of very low birth weight infants as well as at term. (Figure 27-2: Neuromuscular maturity and physical maturity)

NEUROMUSCULAR MATURITY

	-1	0	1	2	3	4	5
Posture							
Square Window (wrist)							
Arm Recoil							
Popliteal Angle							
Scarf Sign							
Heel to Ear							

PHYSICAL MATURITY

Skin	sticky friable transparent	gelatinous red, translucent	smooth pink, visible veins	superficial peeling or rash, few veins	cracking pale areas rare veins	parchment deep cracking no vessels	leathery cracked wrinkled
Lanugo	none	sparse	abundant	thinning	bald areas	mostly bald	
Plantar Surface	heel-toe 40-50 mm: -1 <40 mm: -2	>50 mm no crease	faint red marks	anterior transverse crease only	creases ant. 2/3	creases over entire sole	
Breast	imperceptible	barely perceptible	flat areola no bud	stippled areola 1-2 mm bud	raised areola 3-4 mm bud	full areola 5-10 mm bud	
Eye/Ear	lids fused loosely: -1 tightly: -2	lids open pinna flat stays folded	sl. curved pinna; soft; slow recoil	well-curved pinna; soft but ready recoil	formed & firm instant recoil	thick cartilage ear stiff	
Genitals (male)	scrotum flat, smooth	scrotum empty faint rugae	testes in upper canal rare rugae	testes descending few rugae	testes down good rugae	testes pendulous deep rugae	
Genitals (female)	clitoris prominent labia flat	prominent clitoris small labia minora	prominent clitoris enlarging minora	majora & minora equally prominent	majora large minora small	majora cover clitoris & minora	

MATURITY RATING

score	weeks
-10	20
-5	22
0	24
5	26
10	28
15	30
20	32
25	34
30	36
35	38
40	40
45	42
50	44

FIGURE 27-2 Neuromuscular maturity and physical maturity. (From Ballard J, et al: *New Ballard score, expanded to include extremely premature infants*. J Pediatrics, 119: 417-423, 1991.)

2. Birth weight

- a. Appropriate for gestational age (AGA): between 10th and 90th percentile (between 6 and 8.5 lb)
- b. Large for gestational age (LGA): above 90th percentile

- c. Small for gestational age (SGA): below 10th percentile
- d. Low birth weight (LBW): less than 2500 g (6 lb)
- e. Very low birth weight (VLBW): less than 1500 g (3.5 lb)
- f. Extremely low birth weight: less than 1000 g (2.2 lb)
- g. Intrauterine growth restriction (IUGR): fetal growth rate below expected range for gestational age
- 3. Skin
 - a. Body: pink with cyanosis of hands and feet (acrocyanosis); jaundice during first 24 hours is sign of pathology
 - b. Markings: abrasions, rashes, crackling, birthmarks, forceps marks, ecchymosis, papules
 - c. Turgor: elasticity indicates adequate tissue hydration
- 4. Vital signs: moves from least to most invasive
 - a. Respirations, heart rate, temperature
 - b. Respirations: abdominal and irregular; 40 to 60 breaths/min during first 2 hours; then 30 to 50 breaths/min retractions with sternal depression indicate pathology
 - c. Heart rate: 100 beats/min at rest, 180 beats/min when crying; more than 160 beats/min at rest indicates cardiac disorder
 - d. Temperature: 97.7° F to 98.9° F
- 5. Head and sensory organs
 - a. Head and chest circumference: nearly equal with chest slightly smaller than head; if reversed, indicates microcephaly; if head is more than 1 inch (2 to 3 cm) larger than chest it indicates hydrocephaly
 - b. Fontanels: flat; bulging when crying; bulging at rest indicates increased intracranial pressure; sunken indicate dehydration
 - c. Symmetry of face: sides of face should move equally when crying
 - d. Characteristics of head: molding, abrasions, or skin breakdown; caput succedaneum (edema of soft tissue of scalp); cephalohematoma (edema of scalp caused by effusion of blood between skull bone and periosteum)
 - e. Neck: adequacy of range of motion indicated by full head movement in all directions when extended; head lags as infant is raised
 - f. Eyes: discharge or irritation, pupils for reaction to light, equality of eye movements (usually some ocular incoordination), sclerae for clarity, jaundice, or hemorrhage
 - g. Nose: patency of both nostrils; frequent sneezing in an attempt to clear mucus from nose
 - h. Mouth: color and continuity of gums and hard and soft palates; white patches that bleed on rubbing indicate thrush, a monilial infection
 - i. Ears: auricles open; vernix covers tympanic membrane, response when bell is rung close to ear; both eyes at same level as ears (ears lower than eyes indicate congenital anomaly); upper earlobes curved (flatness indicates kidney anomaly)
- 6. Chest and abdomen
 - a. Chest auscultation: respiratory sounds audible (noisy crackling sounds are unexpected); regular heart rate
 - b. Breasts and nipples: edematous; witch's milk is response to maternal hormone stimulation
 - c. Abdomen
 - (1) Bowel sounds over abdomen
 - (2) Spleen: tip should be palpable by fingertips under left costal margin
 - (3) Liver: palpation on right side; 1 cm below costal margin

- (4) Umbilical cord: redness, odor, or discharge; contains one vein and two arteries (two vessels or 2 veins and 1 artery indicate congenital anomalies)
- (5) Umbilical hernia when crying
- (6) Femoral pulses: gentle palpation at inner aspect of groin; pulses indicate intact circulation to extremities

7. Genitalia

a. Males

- (1) Testes in scrotum: palpable; one or both may be undescended in preterm infants and some full-term newborns; usually descend during childhood; must descend by puberty or sperm are destroyed by high temperature in abdominal cavity
- (2) Scrotum: edematous; enlargement indicates hydrocele and diagnosis confirmed by transparent appearance of scrotum when flashlight is held close to scrotal sac (transillumination)
- (3) Penis: urinary meatus at tip; meatus on upper surface of penis (epispadias); meatus on lower surface (hypospadias)
- (4) Voiding pattern, frequency

b. Females

- (1) External: labia, urinary meatus, and vaginal opening
- (2) Labia: edema,
- (3) Vagina: bloody mucoid discharge response to maternal hormones
- (4) Voiding frequency

c. Ambiguous genitalia: unclear identification of gender; studies needed to determine gender (e.g., genetic, surgical procedure)

8. Extremities

a. Hands and arms: thumbs clenched in fist; wrist angle is 0 degrees at term

- (1) Fingers: number and variation
- (2) Movement of clavicles and scapulae while putting arms through range of motion: clicking or resistance indicates dislocation or fracture
- (3) Fractures; indicated by crepitation

b. Feet and legs

- (1) Toes: appearance and number
- (2) Adduction and abduction of feet during range of motion: resistance or tightness indicate need for further assessment
- (3) Flexion of both legs onto lower abdomen with abduction of knees: click (Ortolani sign) indicates developmental dysplasia of hip (DDH)
- (4) Feet placed on flat surface with bent knees: knees of unequal height (Allis sign) indicates DDH
- (5) Symmetry of gluteal folds; asymmetry indicates DDH

9. Back: dimples, separations, or swellings along spinal column indicates spina bifida

10. Anus: patency confirmed with passage of meconium; imperforate anus ruled out by digital examination

11. Neuromuscular development: reflexes

a. Rooting: when cheek is touched with finger, head turns to search for finger; may persist for up to 1 year

b. Sucking: object close to mouth elicits sucking movements; persists throughout infancy

- c. Gag: stimulation of posterior pharynx causes choking; helps prevent aspiration; persists through life
- d. Grasp: pressure on palm (palmar) or on sole of foot below toes (plantar) elicits flexion; palmar lessens by 3 months, plantar by 8 months
- e. Babinski: when outer undersurface of foot is stroked in an arc toward inner undersurface, toes separate and flare out; disappears after 1 year
- f. Moro (startle): sudden jar, noise, or change in equilibrium causes extension and abduction of extremities, followed by flexion and adduction into embrace position; may cry out; disappears by 3 to 4 months
- g. Crawl: when in prone position on firm surface, crawling movements are elicited; disappears at about 6 weeks
- h. Step or dance: when supported under both arms with feet on firm surface, stepping movements are elicited; disappears after 3 to 4 weeks
- i. Tonic neck (fencing): when in supine position, arm and/or leg on side to which head is turned extends with flexion of contralateral limbs; usually disappears by 3 to 4 months

Planning/Implementation

1. Monitor and maintain patent airway ([Figure 27-3: Neonatal resuscitation triangle](#))

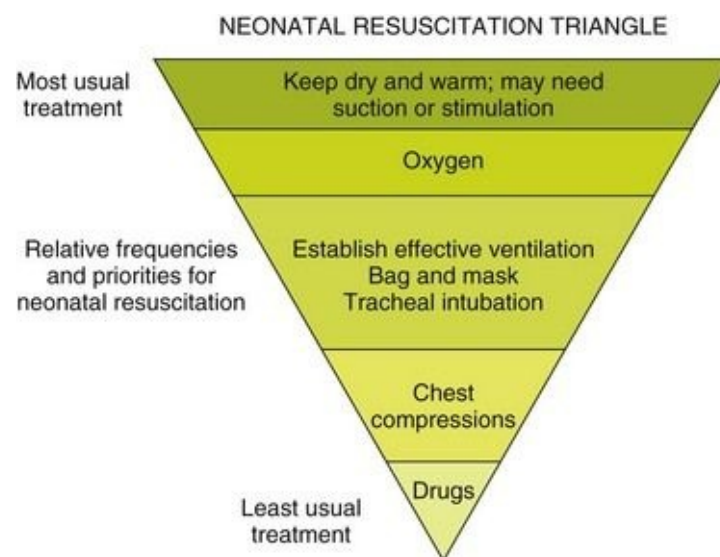


FIGURE 27-3 Neonatal resuscitation triangle. (From Hamilton P: *ABCs of labor care: care of the newborn in the delivery room*, Br Med J 318:1403-1406, 1999.)

- a. Suction mucus as needed
 - b. Place head in side-lying position to facilitate drainage of mucus
 - c. Observe for signs of respiratory distress: grunting, flaring of nostrils, sternal retractions
 - d. Observe for signs of aspiration during first feeding (e.g., choking, cyanosis); stop feeding, suction airway, and administer oxygen before resuming feeding
2. Provide warmth
 - a. Keep in radiant warmer using a surface temperature probe until body temperature is stabilized to prevent chilling; infant is unable to shiver and breaks down brown fat to produce energy for warmth; preterm or SGA infants can be compromised by chilling because of small amount of brown fat available for breakdown

- b. Dress in loose, soft clothing
- c. Maintain warm, draft-free environment
- d. Keep skin clean and dry
- 3. Monitor vital signs, weigh daily
- 4. Provide daily sponge bath, change diaper frequently
- 5. Provide care of umbilical cord stump
 - a. Observe for edema, redness, drainage
 - b. Adhere to hospital protocol; clamp usually removed before discharge
 - c. Keep dry, secure diaper below level of cord
 - d. Teach parents to sponge bathe until cord falls off
- 6. Provide care of penis
 - a. Circumcision
 - (1) Observe for bleeding, monitor urination
 - (2) Apply diaper loosely
 - (3) Change dressing with each diaper change or at least every 4 hours and apply petrolatum to glans
 - (4) Teach care to parents if appropriate
 - b. No circumcision: bathe daily, do not retract foreskin
- 7. Administer vitamin K to prevent hemorrhage
- 8. Administer hepatitis B (Hep B) vaccine; Centers for Disease Control and Prevention mandate that newborns receive vaccine regardless of mother's status
- 9. Administer prophylactic ophthalmic antibiotic to prevent ophthalmia neonatorum
- 10. Provide for feeding (see [Breastfeeding](#) and [Formula Feeding \[Bottle Feeding\]](#))
- 11. Teach infant care to parents; act as role model for acceptance regardless of newborn's physical characteristics or behavior
- 12. Allow time for contact with parents (e.g., touching, talking, rocking, singing)

Evaluation/Outcomes

- 1. Maintains patency of the airway
- 2. Stabilizes body temperature within acceptable range
- 3. Urinates amounts commensurate with fluid intake
- 4. Passes stool
- 5. Maintains 90% of birth weight
- 6. Remains free from complications associated with the perinatal period

Breastfeeding

Data Base

A Advantages

- 1. Psychologic value of closeness and satisfaction in beginning mother-infant relationship
- 2. Optimum nutritional value
- 3. Economical and readily accessible
- 4. Fewer allergies
- 5. Aids in development of facial muscles, jaw, and nasal passages because stronger sucking is

necessary

6. Promotes involution of uterus because it stimulates oxytocin secretion that initiates let-down reflex
7. Reduces risk for infection because of maternal antibodies in colostrum and milk
8. Stimulates evacuation of meconium because of frequent feeding; helps prevent reabsorption of bilirubin into circulation

B Prerequisites

1. Psychologic readiness of mother is major factor for successful breastfeeding
2. Adequate diet to ensure high-quality milk; increased intake of milk, protein, calories, and noncaffeinated fluids
3. Motivation to allow time for rest and exercise
4. Adequacy of infant's sucking force; stimulates maternal production and release of oxytocin into circulation; oxytocin causes constriction of lactiferous sinuses to move milk down through nipple ducts (let-down reflex)
5. Family support; minimum maternal emotional stress (anxiety inhibits let-down reflex)

C Contraindications

1. Mother

- a. Illnesses: active tuberculosis; acute contagious disease; HIV positive; chronic disease (e.g., cancer, advanced nephritis, cardiac disease, hepatitis); extensive surgery
- b. Opioid addiction
- c. Prescription, over-the-counter (OTC) drugs, and supplements: excreted in breast milk; may have harmful effects; must be avoided or taken judiciously, if necessary; requires careful monitoring of infant

2. Infant

- a. Any condition that interferes with or prevents grasping the nipple (e.g., cleft lip or palate, other congenital anomalies)
- b. Inadequate sucking force (e.g., prematurity, cardiac problems)
- c. Inborn errors of metabolism that result in negative response to breast milk (e.g. PKU, lactose intolerance)

Nursing Care of the Breastfeeding Mother and Infant

Assessment/Analysis

1. Condition of nipples
2. Desire to breastfeed
3. Level of anxiety and concerns regarding breastfeeding
4. Knowledge of breastfeeding and breast care
5. Family support

Planning/Implementation

1. Teach feeding techniques
 - a. Mother and infant in comfortable position, semireclining or in comfortable chair
 - b. Entire body of infant turned toward mother's breast; alternate starting breast; use both breasts at each feeding
 - c. Initiate feeding by stimulating rooting reflex; direct nipple straight into infant's mouth; ensure

areola is in infant's mouth to promote latching-on (Figure 27-4: Correct attachment [latch-on] of infant at breast)

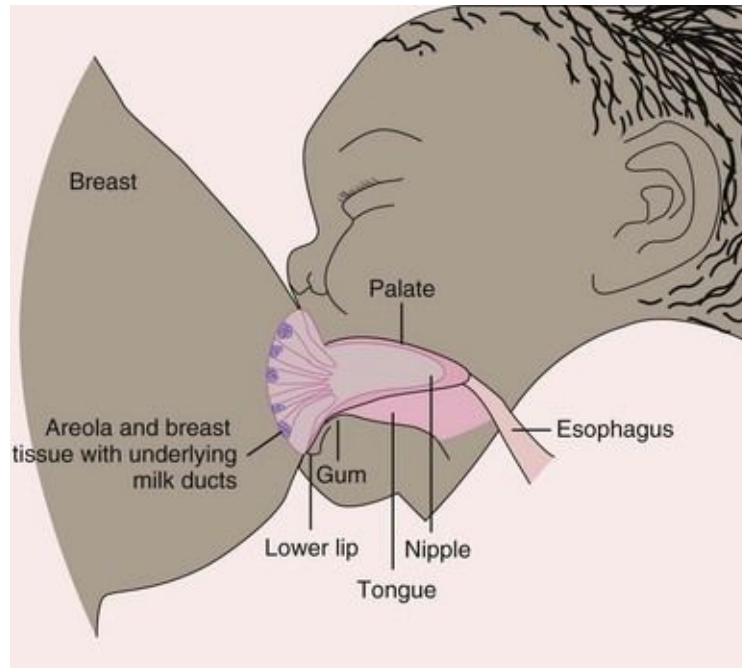


FIGURE 27-4 Correct attachment (latch-on) of infant at breast. (From Lowdermilk DL, Perry SE: *Maternity and women's health care*, ed 9, St. Louis, 2007, Mosby.)

d. Burp infant during and after feeding to allow for escape of air: sit infant on lap, flexed forward; rub or pat back, while avoiding jarring

2. Teach care of breasts

- Cleanse with plain water once daily (soap or alcohol can cause irritation and dryness)
- Allow nipples to air dry at intervals; avoid plastic bra liners because they increase heat and perspiration and decrease air circulation necessary for keeping nipples dry
- Wear brassiere that supports breasts day and night
- Place nursing pads inside bra cup to absorb milk leaking between feedings
- If breasts are engorged, take warm showers, apply cold packs between feedings, and put infant to breast more frequently

3. Teach feeding schedule

- Self-demand schedule is desirable; infant usually self-regulates to a schedule of every 2 to 3 hours
- Length of feeding time is variable; about 15 to 20 minutes per breast, with greatest quantity of milk consumed in first 5 to 10 minutes
- Feed more often if lactation diminishes to stimulate increased milk production

4. Provide information about frequently asked questions

- Breast milk intake similar to formula intake: 130 to 200 mL of milk/kg (2 to 3 oz of milk/lb) of infant's weight; from one sixth to one seventh of infant's weight per day
- After lactation is established, occasional formula feeding can be substituted, but is not recommended; breast milk can be expelled manually
- Length of time for continuing breastfeeding is variable

Evaluation/Outcomes

1. Mother demonstrates effective breastfeeding techniques

2. Mother remains free from nipple cracking and infection
3. Infant produces six or more wet diapers daily
4. Infant gains weight

Formula Feeding (Bottle Feeding)

Data Base

A Advantages

1. Alternative to breastfeeding
2. Less restrictive than breastfeeding; may meet needs of working mothers
3. Accurate assessment of intake
4. Required for infant with congenital anomaly (e.g., cleft lip, cleft palate)
5. Required for infant needing special formula (e.g., allergies, inborn errors of metabolism)

B Types of formulas

1. Commercial liquid or powdered formulas
2. Special formulas
3. Unmodified cow's milk, liquid or reconstituted: not appropriate for infants before 12 months of age; contains more protein and calcium than breast milk; contains less vitamin C, iron, and carbohydrate than breast milk

C Contraindications

1. Deficient knowledge of formula preparation and maintaining asepsis
2. Poor storage and refrigeration
3. Contaminated water supply
4. Cost of formula and equipment
5. Lack of equipment to adequately prepare bottles

Nursing Care of the Formula-Feeding Parents and Infant

Assessment/Analysis

1. Desire to formula feed
2. Sucking ability of infant
3. Knowledge of different formulas, their advantages and disadvantages
4. Ability to prepare formula

Planning/Implementation

1. Teach preparation of formula
 - a. Calculate formula to yield 110 to 130 calories and 130 to 200 mL of fluid/kg of body weight; caution regarding dangers of overdilution (inadequate weight gain) and underdilution (excess weight gain)
 - b. Sterilize formula by terminal heat or aseptic method
 - c. Keep formula refrigerated
2. Teach feeding techniques
 - a. Hold infant during feeding to provide warm body contact; bottle propping can contribute to aspiration of formula

- b. Hold bottle so that nipple is filled with milk to prevent excessive air ingestion
 - c. Adjust size of nipple hole according to infant's suckling ability; preterm infants and those with cardiac defects need a larger hole that requires less intense sucking
 - d. Burp during and after feeding; prop infant on right side after feeding to aid digestion and prevent aspiration
3. Inform parents why feedings should be offered on demand to meet infant's needs

Evaluation/Outcomes

- 1. Parents demonstrate effective preparation of formula
- 2. Parent's demonstrate effective formula-feeding techniques
- 3. Infant produces six or more wet diapers daily
- 4. Infant gains weight

Nursing Care of High-Risk Newborns

Preterm Infant

Data Base

A Classification based on gestational age with consideration of birth weight; full-term infant may be of low birth weight (IUGR), preterm infant may not be low birth weight (infant of diabetic mother [IDM])

1. Near-term: 35 to 37 weeks
2. Preterm: 36 weeks or less
3. Low birth weight: less than 2500 g
4. Very low birth weight: less than 1500 g
5. Extremely low birth weight: less than 1000 g; may be both preterm and small for gestational age
6. Stillborn: fetus of 20 or more weeks' gestation who dies before or during birth

B Incidence: preterm births account for 75% to 85% of neonatal morbidity and mortality

C Risk factors

1. Preconception disorders: diabetes; incompetent cervical os
2. Postconception disorders: preeclampsia; pyelonephritis; placenta previa; abruptio placentae
3. Maternal malnutrition: associated with higher preterm birth rates and intrauterine growth restriction (IUGR)
4. Age: adolescent
5. Destructive lifestyle: drug use, smoking, unprotected sex

D Prevention

1. Correction or control of preconception disorders, if possible
2. Preconception and continued education about nutrition
3. Education about hazards of destructive lifestyle; support to change behavior
4. Early and regular prenatal health supervision
5. Referrals to community agencies to facilitate services for those in need

E Therapeutic interventions immediately after birth

1. Suctioning of mucus to maintain open airway
2. Direct laryngoscopy, tracheal suctioning, intubation, and mouth-to-tube resuscitation to initiate respirations
3. Suctioning of stomach contents to facilitate respirations
4. Maintenance of body temperature using radiant warmer; difficult because of heat loss through skin evaporation and limited subcutaneous fat
5. Oxygenation and resuscitation as needed

F Characteristics

1. Skin
 - a. Wrinkled because of minimum subcutaneous fat
 - b. Transparent with visible blood vessels and bony structures
 - c. Lanugo on face and body; absent eyebrows
 - d. Color changes with movement; upper half or one side of body pale, lower half or one side of body red (harlequin sign)
2. Head

- a. Circumference large compared to chest
- b. Small fontanelles
- c. Skull bones soft; prone to intracranial hemorrhage
- d. Ear cartilage soft; cannot support ear pinna
3. Chest: small breast buds; underdeveloped nipples
4. Posture: complete relaxation with marked extension of legs and abduction of hips
5. Extremities: random movements with slightest stimulus; square window sign
6. Central nervous system: underdeveloped
 - a. Heat regulation center: heat loss caused by large body surface area, lack of subcutaneous and brown fat, lack of shivering
 - b. Insufficient heat production: inadequate metabolism
 - c. Respiratory center: diminished oxygen consumption causing asphyxia
7. Respirations
 - a. Inefficient respirations caused by muscle weakness of rib cage and limited surfactant production; prone to atelectasis
 - b. Retraction at xiphoid (evidence of air hunger)
8. Circulation
 - a. Weak heart action slows circulation with inadequate oxygenation
 - b. Capillary fragility; low RBC and WBC counts; anemia during first few months of life
9. Nutrition
 - a. Weak sucking and swallowing reflexes
 - b. Small capacity of stomach
 - c. Low gastric acidity
 - d. Calories: full-term intake 110 to 130 calories/kg (50 to 60 calories/lb) of body weight is increased to 200 to 220 calories/kg (100 calories/lb) for adequate growth and to compensate for inadequate metabolism
10. Excretion: reduced glomerular filtration rate results in decreased ability to concentrate urine and conserve fluid

Nursing Care of Preterm Infants

Assessment/Analysis

1. Respiratory rate and effort; heart rate; temperature; blood pressure
2. Oxygen concentrations via oximeter
3. Skin color and integrity
4. CNS integrity
5. Daily weight; fluid and electrolyte status (radiant warmer causes dehydration)
6. Sucking ability; nutritional status
7. Parents' ability to cope with preterm birth

Planning/Implementation

1. Monitor vital signs; skin color; intake and output; laboratory reports of blood gases for acidosis
2. Maintain airway
 - a. Suction secretions when necessary

b. Position with head and chest elevated to promote ventilation

3. Maintain respirations

a. Observe for changes in respiratory status (e.g., increasing cyanosis; rapid, irregular respirations; flaring of nostrils; intercostal or suprasternal retractions; grunting on expiration)

b. Stimulate if apnea occurs

c. Administer oxygen as needed; monitor responses, regulate flow rate to prevent retinopathy of the newborn

d. Check ventilator function, if used

4. Maintain body temperature

a. Monitor for temperature lability

b. Adjust environmental temperature of radiant heater accordingly

5. Monitor for CNS changes (e.g., muscle twitching; seizures; cyanosis; abnormal respirations; short, shrill cry)

6. Maintain nutrition

a. Observe weight gain pattern

b. Monitor amount of intake

c. Adhere to techniques of gavage feeding

7. Maintain aseptic technique to prevent infection

8. Institute phototherapy for hyperbilirubinemia as ordered

9. Support parents

a. Encourage verbalization to relieve anxiety

b. Provide liberal visiting hours

c. Encourage participation in care; encourage talking to and touching infant

d. Refer to support group

10. Arrange for follow-up care before and after discharge

Evaluation/Outcomes

1. Maintains respiratory functioning

2. Maintains body temperature within acceptable limits

3. Remains free from infection

4. Gains weight

Respiratory Distress Syndrome (RDS)

Data Base

A Deficiency in surface-active (detergent-like) lipoproteins (surfactant), resulting in inadequate lung inflation and ventilation

B Most common in preterm and low birth weight newborns, also in infants after cesarean birth

C Therapeutic intervention: surfactant replacement through endotracheal tube

Nursing Care of Infants with Respiratory Distress Syndrome

Assessment/Analysis

1. Cyanosis
2. Tachypnea, dyspnea, sternal retractions, nasal flaring, grunting
3. Respiratory and metabolic acidosis

Planning/Implementation

1. Admit to neonatal intensive care unit (NICU)
2. Maintain patent airway
3. Maintain oxygenation and high humidity; prevent chilling
4. Administer surfactant by aerosol as prescribed
5. Administer antibiotics as prescribed
6. Maintain mechanical ventilation, if used
7. Monitor for respiratory and metabolic acidosis
8. Administer feedings as ordered; attempt to prevent exhaustion

Evaluation/Outcomes

1. Remains free from respiratory distress
2. Maintains fluid and electrolyte balance
3. Gains weight

Meconium Aspiration Syndrome (MAS)

Data Base

A Compromised fetus releases meconium into amniotic fluid; fluid is aspirated during first few breaths after birth, causing pulmonary obstruction leading to chemical pneumonitis

B Therapeutic interventions

1. Amnioinfusion before birth to thin particles of meconium
2. Suctioning after head appears outside vaginal orifice
3. Surfactant lavages immediately after birth
4. Oxygenation and ventilation

Nursing Care of Infants with Meconium Aspiration Syndrome

Assessment/Analysis

1. Signs of fetal hypoxia and meconium-stained amniotic fluid during intrapartum
2. Respiratory distress after birth
3. Signs of sepsis
4. Altered neurologic status (e.g., seizures)

Planning/Implementation

1. Remove meconium and amniotic fluid from nasopharynx and oropharynx immediately after birth
2. See [Planning/Implementation under Respiratory Distress Syndrome](#)

Evaluation/Outcomes

1. Maintains respiratory functioning
2. Remains free from infection
3. Feeds without difficulty

Cranial Birth Injuries (Caput Succedaneum, Cephalohematoma, Intracranial Hemorrhage)

Data Base

A Caput succedaneum: edema with extravasation of serum into scalp tissues caused by molding during birth process; crosses suture lines of bony skull plates; no treatment; subsides in several days (Figure 27-5: Differences between caput succedaneum and cephalohematoma)

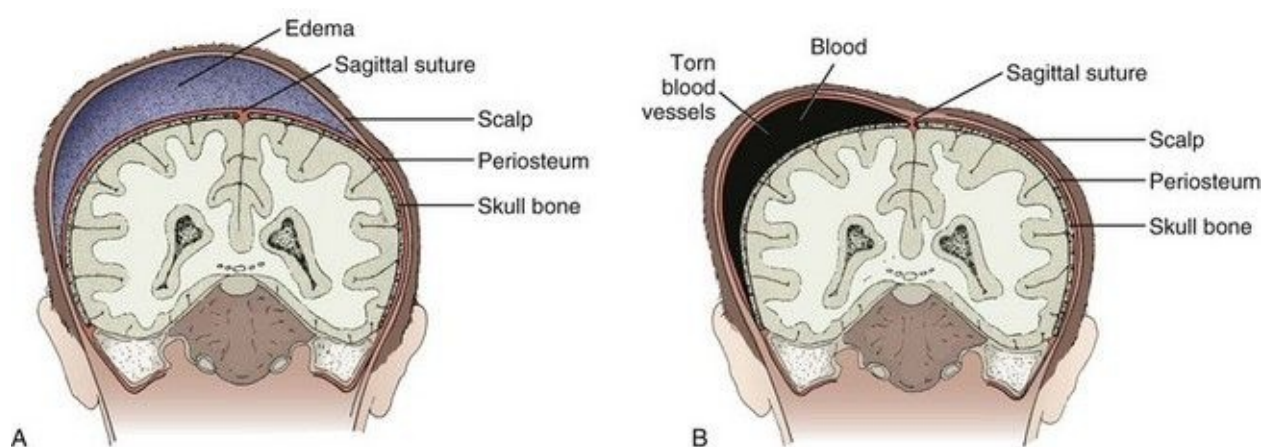


FIGURE 27-5 Differences between caput succedaneum and cephalohematoma. **A**, Caput succedaneum. Edema of scalp noted at birth crosses suture lines. **B**, Cephalohematoma. Bleeding between periosteum and skull bone appearing within first 2 hours; does not cross suture lines. (From Lowdermilk DL, Perry SE: *Maternity and women's health care*, ed 9, St. Louis, 2007, Mosby.)

B Cephalohematoma: scalp edema with effusion of blood between skull bone and periosteum; contained within suture line of bony skull plate; no treatment; disappears in several weeks to several months; resolution of hematoma can lead to hyperbilirubinemia

C Intracranial hemorrhage

1. Bleeding into cerebellum, pons, and medulla oblongata caused by tearing of tentorium cerebelli
2. Risk factors: preterm infants, prolonged labor, difficult forceps birth, precipitate birth, version, breech extraction

Nursing Care of Infants with Intracranial Hemorrhage

Assessment/Analysis

1. Abnormal respirations, cyanosis
2. Shrill or weak cry
3. Flaccidity or spasticity, seizures
4. Restlessness, wakefulness
5. Impaired sucking reflex

Planning/Implementation

1. Maintain oxygenation in high-Fowler position
2. Maintain body temperature
3. Administer prescribed vitamins C and K to control and prevent further hemorrhage
4. Institute ordered gavage feedings if sucking reflex is impaired
5. Support parents because of guarded prognosis

Evaluation/Outcomes

1. Remains free from neurologic damage
2. Gains weight

Neuromusculoskeletal Birth Injuries

Data Base

A Facial paralysis: temporary paralysis of one side of face caused by pressure on cranial nerve VII (facial nerve) during difficult vaginal or forceps birth; no treatment; disappears in several days

B Erb-Duchenne paralysis (brachial palsy): paralysis of upper arm muscles caused by injury to brachial plexus during prolonged, difficult labor or traumatic birth; treatment depends on severity of paralysis

C Dislocations and fractures: caused by difficult birth/extraction birth; treatment depends on site of fracture

Nursing Care of Infants with Neuromusculoskeletal Birth Injuries

Assessment/Analysis

1. Facial paralysis: inability to close eye; drawing mouth to one side; absence of forehead wrinkles when crying
2. Erb-Duchenne paralysis: flaccid arm with elbow extended; unequal Moro reflex
3. Fractures: variation in range of movement, immobility, crepitation

Planning/Implementation

1. Facial paralysis: continue monitoring
2. Erb-Duchenne paralysis (brachial paralysis or palsy)
 - a. Massage and exercise arm as ordered to prevent contractures
 - b. Place in traffic cop or maître d' position
 - c. Apply ordered splints and braces (used when paralysis is severe)
3. Dislocations and fractures: position as ordered; provide care if swaddling, splints, slings, or casts are applied
4. Reassure parents; teach necessary care and positioning

Evaluation/Outcomes

1. Maintains correct alignment of limb
2. Achieves movement in affected part

Hemolytic Disorders

Data Base

A Rh incompatibility: Rh-negative woman is sensitized to blood from her Rh-positive fetus or other sources (e.g., Rh-positive blood transfusion), causing production of antibodies to Rh-positive blood

1. These antibodies transfer through placenta to fetus in subsequent pregnancies; if fetus is Rh positive, agglutination and destruction of fetal red cells occur (pathologic jaundice, erythroblastosis fetalis); rarely a problem in first pregnancy unless previously sensitized
2. Prevention: RhoGAM (Rho (D) immune globulin) administered intramuscularly to Rh-negative mother at about 28 weeks' gestation and within 72 hours after birth or abortion; prevents production of antibodies in this pregnancy; mother must be negative for Rh antibodies to receive RhoGAM

B ABO incompatibility

1. Most common when fetal blood type is A, B, or AB and mother is type O; mother's anti-A or anti-B antibodies transfer through placenta to fetus, causing hemolysis resulting in fetal anemia, jaundice, and kernicterus (excessively high bilirubin levels) within first 24 hours after birth (pathologic jaundice)
2. More common but less severe than Rh incompatibility; previous exposures to A, B, or AB blood do not increase formation of anti-A or anti-B antibodies, so first pregnancy can be affected

C Therapeutic interventions

1. During pregnancy: amniotic fluid determinations using chemical and spectrophotometric analysis; elevated readings warrant either intrauterine exchange transfusion or induction of labor, depending number of weeks' gestation
2. Phototherapy: reduces mild to moderate kernicterus
3. Transfusions or exchange transfusions of Rh-negative blood for severely affected infants to decrease antibody level and increase RBC count and hemoglobin level

Nursing Care of Infants with Hemolytic Disorders

Assessment/Analysis

1. Verification of blood incompatibility (e.g., ABO, Rh) between mother and fetus
2. Jaundice; increasing bilirubin levels during first 24 hours after birth
3. Laboratory results of bilirubin, hematocrit, and hemoglobin levels
4. Lethargy or irritability
5. Ineffective feeding pattern, vomiting
6. Enlargement of liver and spleen
7. Signs of kernicterus (e.g., absence of Moro reflex, apnea, high-pitched cry, opisthotonos, tremors, seizures)

Planning/Implementation

1. Monitor maternal antibody titers
2. Administer RhoGAM to Rh-negative mother within 72 hours after birth if neonate is Rh positive and mother has not been sensitized
3. Teach parents

- a. Why RhoGAM is necessary if not previously sensitized
- b. Reason for intrauterine or extrauterine exchange transfusions

4. Provide care during phototherapy

- a. Bank of phototherapy lights: place unclothed under lights at distance as per protocol; turn according to protocol; cover eyes completely with opaque mask; remove mask during feedings to check eyes and promote visual contact; monitor temperature; maintain adequate hydration
- b. Fiberoptic blanket: place blanket around torso or place flat in bed; place thin pad between device and newborn; cover eyes with mask as per protocol; may be held

Evaluation/Outcomes

1. Mother remains free from Rh isoimmunization
2. Neonate remains free from injury

Thrush

Data Base

A Oral infection caused by *Candida albicans*, a fungus

B Transmitted as neonate passes through vaginal canal

C Postnatal risk factors: unclean feeding utensils, inadequately cleansed breasts before breastfeeding, ineffective hand-washing techniques

Nursing Care of Infants with Thrush

Assessment/Analysis

1. White patches on tongue, palate, inner cheeks that bleed when touched
2. Sucking difficulties

Planning/Implementation

1. Teach mother how to cleanse breasts or feeding equipment before feeding
2. Teach how to apply oral antifungal topical agents (e.g., nystatin [Mycostatin])

Evaluation/Outcomes

1. Infant achieves infection-free status
2. Infant gains weight

Ophthalmia Neonatorum

Data Base

A Eye infection caused by *Neisseria gonorrhoeae* or *Chlamydia trachomatis*

B Transmitted from genital tract of infected mother during birth or by infected hands

C Prevention: ophthalmic antibiotic (e.g., 0.5% erythromycin ophthalmic ointment) instilled at birth

Nursing Care of Infants with Ophthalmia Neonatorum

Assessment/Analysis

1. Perinatal history of maternal infection
2. Purulent conjunctivitis without treatment manifested 3 to 4 days after birth
3. Respiratory status with chlamydial infection (may cause pneumonia)

Planning/Implementation

1. Cleanse eyes with normal saline solution by wiping from inner to outer canthus
2. Administer prescribed antibiotic
3. Refer for ophthalmic evaluation
4. Monitor vital signs
5. Administer oxygen with chlamydial infection

Evaluation/Outcomes

1. Maintains or achieves infection-free status
2. Remains free from sequelae of infection

Syphilis

Data Base

A Congenital systemic infection caused by *Treponema pallidum*

B Transmitted to fetus by mother

C Incidence: varies with stage of mother's disease at time of pregnancy

D Fetus infected after fourth month of pregnancy; earlier in pregnancy Langerhans cells in chorion provide protective barrier

E Length of time infection is untreated correlates with amount of damage to fetus

F Adequate treatment of pregnant woman with antibiotic treats fetus

Nursing Care of Infants with Syphilis

Assessment/Analysis

1. Perinatal history of maternal infection and treatment with antibiotic
2. Signs of congenital syphilis (e.g., maculopapular lesions of palms of hands and soles of feet)
3. Restlessness
4. Rhinitis, hoarse cry
5. Enlargement of spleen, palpable lymph nodes
6. Enlarged ends of long bones on x-ray examination

Planning/Implementation

1. Administer prescribed antibiotics (usually penicillin); not contagious after 12 hours of treatment
2. Teach parents importance of continued health supervision

Evaluation/Outcomes

1. Maintains or achieves infection-free status
2. Remains free from sequelae of infection

Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS)

Data Base

A Generalized invasion of T cells by human immunodeficiency virus (HIV)

B Maternal clinical findings

1. Recurrent vulvovaginal candidiasis
2. Bacterial vaginosis
3. Recurrent genital herpes simplex virus
4. Human papillomavirus
5. Pelvic inflammatory disease
6. Cervical dysplasia and neoplasms

C Transmitted by mother to fetus

D Clinical manifestations not present at birth

E Treatment with zidovudine (AZT) during pregnancy reduces risk of transmission

Nursing Care of Infants Who are Human Immunodeficiency Virus (HIV) Positive or Have Acquired Immunodeficiency Syndrome

Assessment/Analysis

1. Signs of prematurity or SGA
2. Failure to thrive
3. Enlarged spleen and liver
4. Diarrhea, weight loss
5. Neurologic deficits
6. Subsequent frequent and debilitating infections

Planning/Implementation

1. Obtain blood specimen for HIV screening; done if either parent is at high risk for HIV or has been diagnosed as HIV positive
2. Institute and teach parents standard precautions
3. Inform parents that virus may be transmitted via breast milk and that infant should be formula fed (in developing countries breastfeeding may be acceptable where there are no safe alternatives)
4. Emphasize importance of continued health supervision
5. Encourage and provide human contact to meet infant's emotional needs

Evaluation/Outcomes

1. Infant remains free from opportunistic infections
2. Caregiver maintains standard precautions

Necrotizing Enterocolitis (NEC)

Data Base

A Necrotic lesions in intestines resulting from three factors: intestinal ischemia; presence of pathologic bacteria colonies; excess formula in intestines

B More common in preterm and formula-fed infants; occurs several weeks after birth

C Prevention: encouragement of breastfeeding

D Therapeutic interventions: surgical excision, which may lead to short bowel syndrome; early minimal feedings may be protective

Nursing Care of Infants with Necrotizing Enterocolitis

Assessment/Analysis

1. Abdominal distention, diminished or absent bowel sounds
2. Impaired sucking, vomiting, loss of weight
3. Gastrointestinal bleeding

Planning/Implementation

1. Maintain NPO and nasogastric decompression
2. Administer IV therapy and total parenteral nutrition as prescribed
3. Monitor fluid and electrolyte balance
4. Provide ileostomy or colostomy care if ostomy is created
5. Provide nonnutritive sucking (e.g., pacifier)

Evaluation/Outcomes

1. Maintains fluid and electrolyte balance
2. Gains weight

Sepsis

Data Base

A Generalized bacterial infection

B Risk factors: infected amniotic fluid; infected birth canal; break in aseptic technique after birth

Nursing Care of Infants with Sepsis

Assessment/Analysis

1. Poor feeding, vomiting
2. High temperature, inability to maintain temperature
3. Lethargy, increasing irritability
4. Signs of anemia (e.g., pallor, weakness)
5. Frequent stools

Planning/Implementation

1. Monitor IV fluid administration
2. Administer oxygen as ordered
3. Administer prescribed IV antibiotic therapy
4. Aid in decontaminating areas on the unit that house newborns

Evaluation/Outcomes

1. Maintains fluid and electrolyte status
2. Achieves infection-free status

Substance Dependence (Neonatal Abstinence Syndrome)

Data Base

A Physiologic dependence on addictive substance (e.g., alcohol, methadone, heroin, cocaine) resulting from maternal drug use and/or abuse

B Incidence: perinatal mortality 6 to 8 times higher than in control group

C Maternal alcohol abuse can result in fetal alcohol syndrome producing congenital defects (e.g., short, thin upper lip; hypoplastic maxilla; microcephaly; motor and mental retardation; persistent growth lag)

D Clinical findings

1. Respiratory distress, jaundice, congenital anomalies, behavioral aberrations
2. Withdrawal signs appear soon after birth; severity depends on length of maternal addiction, type of drug used, amount of drug taken, concurrent use of other drugs, and when drug was taken before birth; may persist for up to 4 months

Nursing Care of Infants Who Are Dependent on Alcohol or Opioids

Assessment/Analysis

1. Maternal intake of drug: type, time, amount
2. Signs of withdrawal
 - a. Facial scratches, hyperactivity, tremors, seizures
 - b. Yawning, disturbed sleep
 - c. Tachypnea, sneezing, stuffy nose
 - d. Shrill cry
 - e. Ineffective sucking, drooling, vomiting
 - f. Diarrhea, excoriated buttocks

Planning/Implementation

1. Monitor neuromuscular status
2. Monitor vital signs, support respiratory functioning
3. Provide small, frequent feedings
4. Administer prescribed sedatives or opioids
5. Minimize environmental stimuli, maintain seizure precautions
6. Promote parent-infant attachment when possible, provide constant caregiver

7. Hold and cuddle frequently, provide periods of uninterrupted rest
8. Swaddle when in crib
9. Use soft nipple to reduce sucking effort, administer supplemental methods of nutritional support as prescribed
10. Encourage continued health supervision
11. Refer to appropriate community-service agencies for family support and supervision

Evaluation/Outcomes

1. Maintains respiratory functioning
2. Survives withdrawal from drug
3. Establishes a sleeping pattern
4. Gains weight

Torch

Data Base

A Acronym for

1. T—Toxoplasmosis (*Toxoplasma gondii*)
 - a. Acquired by eating raw or undercooked meat, contact with cat feces
 - b. Crosses placenta, severity related to gestational age at time of exposure
 - c. Newborn sequelae: hydrocephalus, intracranial calcifications, chorioretinitis
2. O—Others: HIV, gonorrhea, syphilis, human papillomavirus, varicella, group B streptococcus, hepatitis B virus, measles, mumps
3. R—Rubella (rubella virus)
 - a. Greatest risk if maternal infection occurs in first 12 weeks of gestation
 - b. May have active viral infection requiring isolation until pharyngeal mucus and urine are free of virus
 - c. Newborn sequelae: encephalitis, ocular abnormalities, cardiac maldevelopment, other defects
 - d. Vaccine should be administered in immediate postbirth period to mothers who have not had rubella or who are serologically negative; it should not be administered during pregnancy
4. C—Cytomegalic inclusion disease (cytomegalovirus)
 - a. Sexually transmitted infection; pregnant women usually asymptomatic
 - b. Newborn sequelae: hemolytic anemia, hydrocephalus, microcephalus, IUGR, neonatal death
5. H—Herpes genitalis (herpesvirus)
 - a. Contracted during sexual activity
 - b. Characterized by exacerbations and remissions; first attack most severe
 - c. Intercourse should be avoided during last 4 to 6 weeks of pregnancy
 - d. Cesarean birth required during exacerbation because vaginal birth may cause neonatal infection resulting in death
 - e. Newborn sequelae: CNS involvement, visual impairment

B Therapeutic interventions: prevention and early treatment of pregnant woman to eliminate or reduce risk to fetus

Congenital Disorders

Structural or metabolic problems that may be genetically determined or a result of environmental interference during intrauterine life (see [Chapter 30](#), Nursing Care of Infants, and [Chapter 31](#), Nursing Care of Toddlers)

Childbearing and Women's Health Nursing

Review Questions with Answers and Rationales

Questions

Note: Thousands of additional practice questions are available on the enclosed companion CD.

▶ Denotes alternate format question.

Nursing Care to Promote Childbearing and Women's Health

1. A woman arrives at the prenatal clinic stating that her pregnancy test is positive. She asks the nurse for information about an abortion. After verifying that the woman is at 8 weeks' gestation, the nurse counsels her that having an abortion is controversial and that many women have long-term guilt feelings after an abortion. Legally, the:
 1. nurse's statements need not be based on current clinical research.
 2. client has a right to receive correct, unbiased information.
 3. nurse has a right to state feelings as long as they are identified as the nurse's own.
 4. health care provider should be notified because this is beyond the scope of nursing practice.
2. One day the family planning clinic is very busy, and the supervisor asks a nurse from the pediatric clinic who is strongly opposed to any chemical or mechanical method of birth control to work in the family planning clinic. What is the **most** professional response that this nurse could give to the supervisor?
 1. "I will go, but it is against my beliefs."
 2. "I won't do it because I do not believe in birth control."
 3. "I would prefer another assignment that is not contrary to my beliefs."
 4. "I will have to reinforce that the rhythm method is the method of choice."
3. The result of an amniocentesis performed at 16 weeks' gestation reveals a fetus with Down syndrome. The client elects to have the pregnancy terminated. What should the nurse conclude about an abortion at this stage of the pregnancy?
 1. The client is exhibiting emotional instability.
 2. There is a high risk for a postoperative infection.
 3. Contraceptive counseling should be deferred to a later time.
 4. An opportunity to express feelings about her decision should be provided.
4. Which research-based knowledge guides a nurse regarding the emotional factors of pregnancy?
 1. A rejected pregnancy will result in a rejected infant.
 2. Ambivalence and anxiety about mothering are common.
 3. A mother's love usually develops within the first week after birth.
 4. An effective mother does not experience ambivalence and anxiety about mothering.
5. Why is it important for a nurse to support the parents' decision to abort a fetus with a birth defect even if the nurse is morally against abortion?
 1. Supporting them will eliminate feelings of guilt.
 2. The parents are legally responsible for the decision.
 3. It is essential for maintenance of the family equilibrium.
 4. The nurse's support will relieve the pressure caused by this decision.
6. During the postpartum period a client with heart disease and type 2 diabetes asks a nurse, "Which contraceptives will I be able to use to prevent pregnancy in the near future?" How should the nurse respond?
 1. "You may use oral contraceptives because they are almost completely effective in preventing a pregnancy."
 2. "You should use foam with a condom to prevent pregnancy because this is the safest method for women with your illnesses."

3. "You will find that the intrauterine device is best for you because it prevents a fertilized ovum from implanting in the uterus."
4. "You do not need to worry about becoming pregnant in the near future because women with your illnesses usually become infertile."
7. A nurse is teaching a group of women about the side effects of different types of contraceptives. What is the **most** frequent side effect associated with the use of an intrauterine device (IUD)?
1. A tubal pregnancy
 2. A rupture of the uterus
 3. An expulsion of the device
 4. An excessive menstrual flow
8. A client asks a nurse about the **most** common problem associated with the use of an intrauterine device (IUD). What should the nurse respond?
1. Perforation of the uterus
 2. Spontaneous device expulsion
 3. Discomfort associated with coitus
 4. Development of vaginal infections
9. A client seeking advice about contraception asks a nurse about how an intrauterine device (IUD) prevents pregnancy. How should the nurse respond?
1. "It covers the entrance to the cervical os."
 2. "The openings to the fallopian tubes are blocked."
 3. "The sperm are prevented from reaching the vagina."
 4. "It produces a spermicidal intrauterine environment."
10. A nurse teaches women in the fertility clinic that after ovulation has occurred, the ovum is thought to remain viable for:
1. 1 to 6 hours.
 2. 12 to 18 hours.
 3. 24 to 36 hours.
 4. 48 to 72 hours.
11. A nurse is teaching clients to determine the time of ovulation by taking the basal temperature. What change is expected to occur in the basal temperature during ovulation?
1. Slight drop and then rises
 2. Sudden rise and then drops
 3. Marked rise and remains high
 4. Marked drop and remains lower
12. Oral contraceptives are prescribed for a client. What side effect should the nurse inform the client might occur?
1. Cervicitis
 2. Ovarian cysts
 3. Breakthrough bleeding
 4. Fibrocystic breast disease
13. What is important for a nurse to discuss with a client who just had a vasectomy?
1. Recanalization of the vas deferens is impossible.
 2. Unprotected coitus is safe within 1 week to 10 days.
 3. Some impotency is to be expected for several weeks.
 4. There must be 15 ejaculations to clear the tract of sperm.

14. The school nurse is discussing issues concerning premarital sex with a group of adolescents taking a health education course. The students are asked to write an essay on what they have learned about preventing pregnancy. Which comment alerts the nurse to have a private discussion with the student?

1. "I can't get pregnant if I have sex during my period."
2. "The pill may prevent me from getting pregnant, but I can still get an STI."
3. "I won't get pregnant if I swim in a pool where a boy has just masturbated."
4. "A condom will not always protect me from getting pregnant, but it can protect me from getting an STI."

►15. Contraceptives that have estrogen-like and/or progesterone-like compounds are prepared in a variety of forms. Which contraceptives should a nurse identify as having a hormonal component?

Select all that apply.

1. Oral agents
2. Diaphragms
3. Cervical caps
4. Female condoms
5. Foam spermicides
6. Transdermal agents

16. A nurse explains that the efficiency of the basal body temperature method of contraception depends on fluctuation of the basal body temperature. What factor will alter its effectiveness?

1. Presence of stress
2. Length of abstinence
3. Age of those involved
4. Frequency of intercourse

17. A biphasic antiovarulatory medication of combined progestin and estrogen is prescribed for a female client. What should a nurse include when teaching about this oral contraceptive?

1. Report irregular vaginal bleeding.
2. Restrict sexual activity temporarily.
3. Have regular bimonthly Pap smears.
4. Increase the dietary intake of calcium.

18. A nurse is giving discharge instructions to a client who had an aspiration abortion by suction curettage. What should the client be told?

1. Avoid showering for 2 days.
2. Tampons may be used after 1 day.
3. Sexual intercourse should be delayed for 3 weeks.
4. Report bleeding that requires a pad change every 2 hours.

19. A client at 10 weeks' gestation elects to have an induced abortion. After receiving oral mifepristone (Mifeprex), she returns to the clinic 2 days later to have misoprostol (Cytotec) inserted vaginally. For when should the nurse schedule a follow-up visit?

1. 4 hours after the procedure
2. 2 weeks after the procedure
3. 4 to 8 days after the procedure
4. 8 to 24 hours after the procedure

20. A couple indicate that they do not want any more children. The woman is scheduled for a laparoscopic bilateral tubal ligation. What should the nurse include in preoperative teaching?

1. "Menstruation will stop after the surgery."
 2. "Birth control will be needed until your follow-up visit."
 3. "You will be admitted as an outpatient for same-day surgery."
 4. "You can have the operation reversed if you decide to have more children."
21. One of the responsibilities of a nurse in a fertility specialist's office is to provide health teaching to the client in relation to timing of intercourse. Which instruction addresses the **best** time to achieve a pregnancy?
1. Midway between periods
 2. Immediately after menses end
 3. 14 days before the next period is expected
 4. 14 days after the beginning of the last period
22. A nurse teaches a client that a postcoital test to evaluate fertility should be performed:
1. 1 week after ovulation.
 2. immediately after menses.
 3. just before the next menstrual period.
 4. within 1 to 2 days of presumed ovulation.
23. A histogram (hysterosalpingography [HSG]) is performed to determine whether there is a tubal obstruction. The nurse concludes that infertility caused by a defect in the tube is **most** often related to a:
1. tubal injury.
 2. past infection.
 3. fibroid tumor.
 4. congenital anomaly.
24. A nurse is counseling a couple in the fertility clinic. Which aspect of the protocol is the **most** stressful for the couple?
1. Planning when to have intercourse
 2. Obtaining the necessary specimens
 3. Visiting the fertility clinic frequently
 4. Taking daily basal body temperatures
25. Genetic testing is being discussed with a couple at the fertility clinic. What is the nurse's **best** response when they express concerns?
1. "You should be tested because it will be to your benefit."
 2. "Environmental factors can have an impact on genetic factors."
 3. "This type of testing will determine if you'll need in vitro fertilization."
 4. "If you have a gene for a disease there is a probability that your children will inherit it."
26. A client is admitted with a diagnosis of torsion of the testes. How should the nurse respond when the client asks, "Why must I have surgery immediately?"?
1. "There is no other way to control the pain."
 2. "Irreversible damage occurs after a few hours."
 3. "Swelling is excessive, which may cause the testicle to rupture."
 4. "There is a reduction in testicular blood flow, which leads to rapid death of sperm."
27. A nurse at the fertility clinic is counseling a couple about the tests that will be needed to determine the cause of their infertility. Which test should the nurse describe that will evaluate the woman's organs of reproduction?
1. Biopsy

2. Cystogram
3. Culdoscopy
4. Hysterosalpingogram

28. While preparing a client for her first routine Papanicolaou (Pap) smear, a nurse determines that she appears anxious. What should the nurse include as part of the teaching plan?

1. Current statistics on the incidence of cervical cancer
2. Description of the early symptoms of cervical cancer
3. Explanation of why there is a small risk for cervical cancer
4. Written instructions about the purpose of the Papanicolaou smear

29. A client who menstruates regularly every 30 days asks a nurse on what day she is **most** likely to ovulate. Her last menses started on January 1st. On what day in January should the nurse respond?

1. 7th
2. 16th
3. 24th
4. 29th

Nursing Care Related to Major Disorders Affecting Women's Health

30. A client who has a diagnosis of endometriosis is concerned about the side effect of hot flashes from her prescribed medication. She tells the nurse that her mother found them very uncomfortable during her menopause. Which medication causes this side effect?

1. Estrogen (Premarin)
2. Leuprolide (Lupron)
3. Diclofenac (Voltaren)
4. Ergonovine (Ergotrate)

31. At 6 weeks' gestation a client is diagnosed with gonorrhea. What medication does a nurse expect the health care provider to prescribe?

1. Ceftriaxone (Rocephin)
2. Levofloxacin (Levaquin)
3. Sulfasalazine (Azulfidine)
4. Trimethoprim/sulfamethoxazole (Bactrim)

32. A 15-year-old adolescent tells a school nurse, "I have persistent pain during my periods." What should the nurse encourage her to do?

1. Continue daily activities.
2. Have a gynecologic examination.
3. Eat a nutritious diet containing iron.
4. Practice relaxation of abdominal muscles.

33. A client at the women's health clinic tells the nurse she has endometriosis. What factors associated with endometriosis does the nurse anticipate the client will report? **Select all that apply.**

1. Insomnia
2. Ecchymoses
3. Rectal pressure
4. Abdominal pain
5. Skipped periods
6. Pelvic infections

34. What does a nurse expect to be the **priority** concern of a 28-year-old woman who is to undergo a laparoscopic bilateral salpingo-oophorectomy?

1. Acute pain
2. Risk for hemorrhage
3. Fear of chronic illness
4. Loss of childbearing potential

35. A nurse is assessing a client who is being admitted for surgical repair of a rectocele. What signs or symptoms does the nurse expect the client to report? **Select all that apply.**

1. Painful intercourse
2. Crampy abdominal pain
3. Bearing-down sensations
4. Urinary stress incontinence
5. Recurrent urinary tract infections

36. When taking the health history of a client who is admitted for repair of a cystocele and rectocele,

the nurse should expect the client to report the occurrence of:

1. white vaginal discharge and itching.
2. sporadic bleeding and abdominal pain.
3. elevated temperature and intractable diarrhea.
4. stress incontinence and low abdominal pressure.

37. A client has an anterior and posterior surgical repair of a cystocele and rectocele and returns from the postanesthesia care unit (PACU) with an indwelling catheter in place. What should the nurse tell the client about the **primary** reasons for the catheter? **Select all that apply.**

1. Discomfort is minimized.
2. Bladder tone is maintained.
3. Urinary retention is prevented.
4. Pressure on the suture line is relieved.
5. Hourly urine outputs can be easily measured

38. A client past menopause undergoes an anterior-posterior colporrhaphy. What should the discharge teaching include?

1. Eating a high-fiber diet
2. Limiting daily activities
3. Reporting signs of urinary retention
4. Observing for signs of a rectovaginal fistula

39. What potential complication does a nurse anticipate when admitting a client with the diagnosis of severe procidentia (prolapse of the uterus)?

1. Edema
2. Fistulas
3. Exudate
4. Ulcerations

40. A client with a third-degree uterine prolapse is scheduled for a vaginoplasty. What should the nurse anticipate the surgeon will order?

1. Encourage ambulation.
2. Elevate the foot of the bed.
3. Apply moist compresses to the uterus.
4. Support the prolapsed uterus with a sanitary pad.

41. What resting position should a nurse encourage for a client with pelvic inflammatory disease (PID)?

1. Sims
2. Fowler
3. Supine with knees flexed
4. Lithotomy with head elevated

42. A nurse explains to a client with cervical erosion that early treatment of the erosion can help prevent:

1. cancer of the cervix.
2. pelvic inflammatory disease.
3. unexpected vaginal bleeding.
4. more erosions from occurring.

43. A client asks a nurse why she developed cervical polyps. How should the nurse respond?

1. "They are often malignant and must be removed."

2. "Cervical polyps usually are precursors of uterine cancer."
3. "They are usually benign and a biopsy rules out a malignancy."
4. "Cervical polyps do not cause bleeding unless they are malignant."
44. A nurse in the women's health clinic is counseling clients about the signs of gynecological problems. What early manifestation of cervical cancer should prompt a client to seek professional care?
 1. Abdominal heaviness
 2. Pressure on the bladder
 3. Foul-smelling discharge
 4. Bloody spotting after intercourse
45. After a client has a biopsy for suspected cervical cancer, the laboratory report reveals a stage 0 lesion. What does a nurse conclude about this client's stage of cancer?
 1. The lesion is carcinoma in situ.
 2. There is early stromal invasion.
 3. There is parametrial involvement.
 4. The cancer is confined to the cervix.
46. A nurse in the women's health clinic is obtaining a client's health history. What question will elicit information about the client's risk for exposure to diethylstilbestrol (DES)?
 1. "Were you born before 1971?"
 2. "Have you ever taken oral contraceptives?"
 3. "Have you noticed any lesions in your perineal area?"
 4. "Did your mother take hormones during her pregnancy?"
47. A 35-year-old client is scheduled for a conization of the cervix to remove dysplastic cervical cells and to determine the extent of involvement. What behavior indicates to a nurse that the client understands the postoperative instructions?
 1. States she will not resume sexual intercourse for 48 hours
 2. Verbalizes expectations of a vaginal discharge for 3 to 5 days
 3. Demonstrates the ability to change sterile surgical dressings
 4. Affirms that because she has children she does not mind being sterile
48. A client with cancer of the cervix has an intracavity radioactive sealed implant in place. What precaution should the nurse take to protect against excessive exposure to radiation?
 1. Dispose of body fluids in special marked containers.
 2. Cohort two clients who have implanted radiation therapy.
 3. Exit the room walking backward while wearing a lead apron.
 4. Limit visitors to individuals who are 13 years of age and older.
49. A client who is scheduled to have an abdominal panhysterectomy asks how the surgery will affect her periods. How should the nurse respond?
 1. "You will not have any more periods."
 2. "Your periods will become more regular."
 3. "Your periods will become lighter until they disappear."
 4. "You will notice that the time between periods will be longer."
50. A client is diagnosed with uterine fibroids, and the health care provider advises a hysterectomy. The client expresses concern about having a hysterectomy at age 45 because she has heard from friends that she will undergo severe symptoms of menopause after surgery. What is the nurse's **most** appropriate response?

1. "You are correct, but there are medicines you can take that will ease the symptoms."
 2. "This sometimes occurs in women of your age, but you needn't worry about it at this time."
 3. "Perhaps you should talk to your surgeon because I am not allowed to discuss this with you."
 4. "Some women may experience symptoms of menopause if their ovaries are removed with their uterus."
51. After a hysterosalpingo-oophorectomy, a client wants to know whether it would be wise for her to take hormones right away to prevent symptoms of menopause. What is the nurse's **most** appropriate response?
1. "It is best to wait because you may not have any symptoms."
 2. "It is comforting to know that hormones are available if you should ever need them."
 3. "You have to wait until symptoms are severe; otherwise, hormones will have no effect."
 4. "Discuss this with your health care provider, because it is important to know your concerns."
52. After an abdominal hysterectomy the client returns to the unit with an indwelling catheter. The nurse identifies that the urine in the client's collection bag has become increasingly sanguineous. What complication does a nurse suspect?
1. An incisional nick in the bladder
 2. A urinary infection from the catheter
 3. Disseminated intravascular coagulopathy
 4. Uterine relaxation with increased bleeding
53. A client who had a mastectomy asks about the term *ERP-positive*. The nurse explains that tumor cells are evaluated for estrogen receptor protein to determine the:
1. need for supplemental estrogen.
 2. feasibility of breast reconstruction.
 3. degree of metastasis that has occurred.
 4. potential response to hormone therapy.
54. A nurse is caring for a client who just had a mastectomy. How should the nurse position the client's arm on the affected side?
1. In adduction supported by sandbags
 2. In abduction surrounded by sandbags
 3. On pillows with the hand higher than the arm
 4. With the arm lower than the level of the heart
55. When encouraging a client to cough and deep breathe after a bilateral mastectomy, the client says, "Leave me alone! Don't you know I'm in pain?" What is the nurse's **most** therapeutic response?
1. "I know it hurts to cough, but try to use the incentive spirometer."
 2. "We'll start this tomorrow; I will give you something for your pain."
 3. "I understand that you are in pain; rest now, and I'll come back later."
 4. "Your pain is to be expected, but you must attempt to expand your lungs."
56. A nurse is writing a teaching plan about osteoporosis. The nurse should include in language that **most** clients would understand that osteoporosis is **best** described as:
1. avascular necrosis.
 2. pathologic fractures.
 3. hyperplasia of osteoblasts.
 4. decrease in bone substance.
57. The plan of care for a client with osteoporosis includes active and passive exercises, calcium supplements, and daily vitamins. How does a nurse determine that the desired effect of therapy is

attained?

1. Mobility increases.
2. Fewer muscle spasms occur.
3. There is a more regular heartbeat.
4. There are fewer bruises than before therapy.

58. A nurse is assessing a client for the potential for developing osteoporosis. Which factor in the client's history increases the risk for this disorder?

1. Estrogen therapy
2. Hypoparathyroidism
3. Prolonged immobility
4. Excessive calcium intake

59. Which food selected by a client with osteoporosis indicates that the nurse's dietary instruction was effective?

1. Red meat
2. Soft drinks
3. Turnip greens
4. Enriched grains

60. A thin older adult client is diagnosed with osteoporosis. What should the nurse include in the discharge plan for this client?

1. Encouragement of gradual weight gain
2. Monitoring for decreased urine calcium
3. Instructions relative to diet and exercise
4. Safety factors when using opioids and nonsteroidal antiinflammatory drugs

61. A nurse is counseling a postmenopausal obese client how to prevent bone loss. Which statements indicate understanding of the strategies to prevent bone loss? **Select all that apply.**

1. "I must go on a strict diet."
2. "I will take 400 mg of vitamin D daily."
3. "I should take 1200 mg of calcium daily."
4. "Swimming or bike riding 5 times a week is good for me."
5. "Joining an aerobics class 3 times a week will help my bones."

62. A health care provider prescribes teriparatide (Forteo), a parathyroid hormone (PTH) agonist, for a client with osteoporosis. What should the nurse consider before administering this medication?

1. It requires an increased intake of vitamin A.
2. It prevents existing bone from being destroyed.
3. Sunscreen should be used to prevent vitamin D absorption.
4. Osteoblastic activity is stimulated more than osteoclastic activity.

63. A female client who has been sexually active for 5 years is diagnosed with gonorrhea. The client is upset and asks the nurse, "What can I do to prevent getting another infection in the future?" The nurse provides health teaching. Which client statement indicates that the teaching was effective?

1. "I will douche after each time I have sex."
2. "Having sex is a thing of the past for me."
3. "My partner must use a condom all the time."
4. "I will use a spermicidal cream from now on."

64. A nurse is caring for a client who contracted a trichomonal infection. Which oral drug should the nurse anticipate the health care provider **most** likely will prescribe?

1. Penicillin G
2. Gentian violet
3. Nystatin (Mycostatin)
4. Metronidazole (Flagyl)

65. A nurse is teaching a client how to self-administer a medicated douche. In which direction should the nurse instruct the client to direct the douche nozzle?

1. To the left
2. To the right
3. Toward the sacrum
4. Toward the umbilicus

Nursing Care of Women during Uncomplicated Pregnancy, Labor, Childbirth, and the Postpartum Period

66. At her first visit to the prenatal clinic, a client tells the nurse she is ambivalent about continuing the pregnancy. Why does the nurse conclude that the client is experiencing a crisis?

1. Mood changes occur during pregnancy.
2. Pregnancy is a period of change and adjustment to change.
3. Hormonal and physiologic changes occur during pregnancy.
4. Pregnancy changes the future parents' relationship with each other.

67. A pregnant woman who is at term is admitted to the birthing unit in active labor. She is excited about the anticipated birth because she has three sons and the amniocentesis indicated that she will have a girl. Which factor in the client's history alerts the nurse that the newborn will be at risk for a complication?

1. Her membranes ruptured two hours ago.
2. Her first child was diagnosed with hemophilia.
3. She used NSAIDs for frequent sinus headaches.
4. She had a placenta previa in a previous pregnancy.

68. A couple who recently emigrated from Israel tells a nurse in the prenatal clinic that they are concerned about a genetic disease that is prevalent among Jewish people. Which genetic blood test should the nurse recommend to determine the possibility of their child inheriting the disease?

1. Cystic fibrosis
2. Phenylketonuria
3. Turner syndrome
4. Tay-Sachs disease

69. A nurse is teaching a childbirth class to a group of pregnant women. One of the women asks the nurse at what point during the pregnancy does the embryo become a fetus. How should the nurse respond?

1. During the eighth week of the pregnancy
2. At the end of the second week of pregnancy
3. When the fertilized ovum becomes implanted
4. When the products of conception are visualized on the sonogram

70. A client at 35 weeks' gestation asks a nurse why her breathing has become more difficult. How should the nurse respond?

1. "Your lower rib cage is more restricted."
2. "Your diaphragm has been displaced upward."
3. "There is an increase in the size of your lungs."
4. "There is an increase in the height of your rib cage."

71. A nurse at the prenatal clinic examines a client and determines that her uterus has risen out of the pelvis and is now an abdominal organ. At what week of gestation does this occur?

1. 8th week of pregnancy
2. 10th week of pregnancy
3. 12th week of pregnancy
4. 18th week of pregnancy

►72. A client has several tests during pregnancy. Place the tests in the order they should be performed during pregnancy.

1. _____ Fetal movement test
2. _____ Sickle cell screening
3. _____ Group B streptococcus culture
4. _____ Serum glucose for gestational diabetes
5. _____ Alpha-fetoprotein (AFP) testing for neural tube defects

►73. What information should a nurse include when counseling a pregnant client about human immunodeficiency virus (HIV) testing? **Select all that apply.**

1. Risks of passing the virus to the fetus
2. Meaning of positive or negative test results
3. Disclosure of risk factors for contracting HIV
4. Requirement that pregnant women are tested for HIV
5. Emotional, legal, and medical implications of test results

74. At what time during prenatal development should the nurse expect the greatest fetal weight gain?

1. Third trimester
2. Second trimester
3. First eight weeks
4. Implantation period

75. A client tells the nurse that the first day of her last menstrual period was July 22, 2010. What is the estimated date of birth?

1. May 7, 2011
2. April 29 2011
3. April 22, 2011
4. March 6, 2011

76. What information concerning the childbearing process should the nurse teach a client during the first trimester of pregnancy?

1. Labor and birth
2. Signs and symptoms of complications
3. Role transition into parenthood and its acceptance
4. Physical and emotional changes resulting from pregnancy

77. A nurse is caring for a client during an ultrasonogram. What parameters does the nurse expect to be used when determining pregnancy dates?

1. Occipital frontal diameter at term
2. Crown to rump measurement until 11 weeks
3. Biparietal diameter of 12 cm or more at term
4. Diagonal conjugate is between 26 and 37 weeks

78. What change does a nurse expect in a client's hematologic system during the second trimester of pregnancy?

1. An increase in hematocrit
2. An increase in blood volume
3. A decrease in sedimentation rate
4. A decrease in white blood cells

79. During a physical in the prenatal clinic the client's vaginal mucosa is observed to have a purplish discoloration. What sign should the nurse document in the client's clinical record?

1. Hegar
2. Goodell
3. Chadwick
4. Braxton Hicks

80. What does a nurse explain to a pregnant client about the cause of her physiologic anemia?

1. Erythropoiesis decreases.
2. Plasma volume increases.
3. Utilization of iron decreases.
4. Detoxification by the liver increases.

81. The nurse reviews the blood test results of a client who is at 24 weeks' gestation. Which finding should be reported to the health care provider?

1. Platelets: 230,000 mm³
2. Hemoglobin: 10.8 g/dL
3. Fasting blood glucose: 90 mg/dL
4. White blood cell count: 10,000 mm³

82. At her first prenatal visit, a client says to the nurse, "I guess I'll be having an internal examination today." What is the nurse's **best** response?

1. "Yes, an internal exam is done at the mother's first visit."
2. "Are you fearful of having an internal examination done?"
3. "Have you ever had an internal examination done before?"
4. "Yes, a slightly uncomfortable internal exam must be done."

83. A pregnant client is making her first antepartum visit. She has a 2-year-old son born at 40 weeks, a 5-year-old daughter born at 38 weeks, and 7-year-old twin daughters born at 35 weeks. She had a spontaneous abortion 3 years ago at 10 weeks. Using the GTPAL format, what does the nurse document about the client's obstetric history?

1. G4 T3 P2 A1 L4
2. G5 T2 P2 A1 L4
3. G5 T2 P1 A1 L4
4. G4 T3 P1 A1 L4

84. A nurse is assessing a pregnant client during the third trimester. What clinical finding is an expected response to the pregnancy?

1. Tachycardia
2. Dyspnea at rest
3. Progressive dependent edema
4. Shortness of breath on exertion

85. A pregnant woman reports nausea and vomiting during the first trimester of pregnancy. An increase in which hormone should the nurse explain is the precipitating cause of the nausea and vomiting?

1. Estrogen
2. Progesterone
3. Luteinizing hormone
4. Chorionic gonadotropin

86. During a client's first visit to the prenatal clinic, a nurse discusses a pregnancy diet. The client states that her mother told her she should restrict her salt intake. What is the nurse's **best** response?

1. "Your mother is correct. You should use less salt to prevent swelling."

2. "Because you need salt to maintain body water balance, it is not restricted. Just eat a well-balanced diet."
 3. "Salt is an essential nutrient that is naturally reduced by the body's estrogen. There is no reason to restrict salt in your diet."
 4. "We no longer recommend that salt intake be as restricted as much as in the past. However, you shouldn't add salt to your food."
87. A pregnant client uses a computer continuously during her working hours. This has implications for her plan of care during pregnancy. What should a nurse recommend?
1. "Try to walk around every few hours during the workday."
 2. "Ask for time in the morning and afternoon to elevate your legs."
 3. "Tell your boss that you cannot work beyond the second trimester."
 4. "Ask for time in the morning and afternoon to get something to eat."
88. A client at her first prenatal clinic visit is at 6 weeks' gestation. She asks how long she may continue to work and when she should plan to quit. How should the nurse respond?
1. "What activities does your job entail?"
 2. "How do you feel about continuing to work?"
 3. "Most women work throughout their pregnancy."
 4. "Usually women quit work at the start of their third trimester."
89. Why is it important for a nurse in the prenatal clinic to provide nutritional counseling to all newly pregnant women?
1. Most weight gain is caused by fluid retention.
 2. Different cultural groups favor different essential nutrients.
 3. Dietary allowances should not increase throughout pregnancy.
 4. Pregnant women must adhere to a specific pregnancy dietary regimen.
90. A primigravida in her 10th week of gestation is concerned because she has read that nutrition during pregnancy is important for the growth and development of the fetus. She wants to know something about the foods she should eat. What should be the nurse's **initial** response?
1. Instruct her to continue eating her regular diet.
 2. Ask her what she has eaten over the last three days.
 3. Give her a list of foods to help her plan her meals more efficiently.
 4. Emphasize to her the importance of limiting highly seasoned foods.
91. A pregnant woman tells a nurse in the prenatal clinic that she knows that folic acid is very important during pregnancy and she is taking a prescribed supplement. She asks the nurse what foods contain folic acid (folate) so she can add them to her diet in its natural form. Which foods should the nurse recommend? **Select all that apply.**
1. Beef and fish
 2. Milk and cheese
 3. Chicken and turkey
 4. Black and pinto beans
 5. Enriched bread and pasta
92. A client at 8 weeks' gestation reports having to urinate more often. The nurse explains that urinary frequency often occurs because bladder capacity during pregnancy is diminished by:
1. atony of the detrusor muscle.
 2. compression by the enlarging uterus.
 3. compromise of the autonomic reflexes.

4. narrowing of the ureteral entrance at the trigone.

►93. While caring for a pregnant client and her partner, a nurse suspects domestic violence. Which assessments support this suspicion? **Select all that apply.**

1. Woman has injuries to the breasts and abdomen.
2. Partner refuses to come into the examination room.
3. Partner answers questions that are asked of the woman.
4. Woman has visited the clinic several times in the last month.
5. Partner is excessively attentive while the health history is being taken.

►94. A nurse who is caring for a mother and her newborn infant reviews their record. Using the data below, which nursing intervention is required?

1. Neonatal blood transfusion
2. Maternal rubella vaccination
3. Maternal RhoGAM injection
4. Neonatal 50% glucose infusion

MATERNAL: Prenatal Laboratory Tests						
Type: RH:	Rubella Titer	RPR/VDRL	HB Sag	HIV	Hgb/Hct	Sickle Prep
A Neg	1:2	Neg	Neg	Neg	11/33	Neg

INFANT: Day 2 of Life Laboratory Tests			
Blood Glucose	Total Bilirubin	Blood type	Hct
46	10 mg	O Neg	55

95. A client at 10 weeks' gestation calls the clinic and tells a nurse that she has morning sickness and cannot control it. What should the nurse suggest to promote relief?

1. "Eat dry crackers before arising."
2. "Increase fat intake before bedtime."
3. "Drink high-carbohydrate fluids with meals."
4. "Have two small meals a day with a snack at noon."

96. What should a nurse suggest to a pregnant client that might help overcome first-trimester morning sickness?

1. "Eat protein before bedtime."
2. "Take an antacid before breakfast."
3. "Drink water until the nausea subsides."
4. "Request a prescription for an antiemetic."

97. What should a nurse include in nutritional planning for a newly pregnant woman of average height weighing 145 pounds?

1. A decrease of 100 calories per day
2. A decrease of 200 calories per day
3. An increase of 300 calories per day
4. An increase of 500 calories per day

98. A client is concerned about gaining weight during pregnancy. What should the nurse explain is the

cause of the largest amount of weight gain during pregnancy?

1. Fetal growth
2. Fluid retention
3. Metabolic alterations
4. Increased blood volume

99. A client at 7 weeks' gestation tells a nurse in the prenatal clinic that she is sick every morning with nausea and vomiting and adds that she does not think she can tolerate it throughout her pregnancy.

The nurse assures her that this is a common occurrence in early pregnancy and will probably disappear by the end of the:

1. fifth month.
2. third month.
3. fourth month.
4. second month.

100. A pregnant client is being prepared for a pelvic examination. She states that she is always tired and feels sick to her stomach, especially in the morning. What is the nurse's **best** response?

1. "Tell me about how you feel the rest of the day."
2. "Let's discuss ways to resolve these common problems."
3. "Perhaps you should ask your health care provider about it."
4. "There is no need to worry about these expected problems."

101. During a prenatal examination, a nurse draws blood from an Rh-negative client. The nurse explains that an indirect Coombs test will be performed to predict whether the fetus is at risk for developing:

1. acute hemolytic anemia.
2. respiratory distress syndrome.
3. protein metabolism deficiency.
4. physiologic hyperbilirubinemia.

102. What is the **best** advice a nurse can give to a pregnant woman in her first trimester?

1. "Cut down on drugs, alcohol, and cigarettes."
2. "Avoid drugs, and refrain from smoking and ingesting alcohol."
3. "Avoid smoking, limit alcohol consumption, and do not take aspirin."
4. "Take only prescription drugs, especially in the second and third trimesters."

103. During a routine visit to the prenatal clinic, a client listens to the fetal heartbeat for the first time. The client, commenting on how rapid it is, appears frightened and asks whether this is normal. The nurse should respond, "The heart rate is:

1. usually rapid and is in the expected range."
2. usually rapid and twice the mother's pulse rate."
3. rapid, but I'd be more concerned if it were slow."
4. rapid, but it accommodates the fetus's nutritional needs."

104. When involved in prenatal teaching, a nurse should inform clients that there is an increase in vaginal secretions during pregnancy called leukorrhea. What causes this increase?

1. Metabolic rate
2. Production of estrogen
3. Secretion from the Bartholin glands
4. Supply of sodium chloride to the vaginal cell

105. A client who is 28 weeks into her second pregnancy is experiencing increasing edema in the

lower extremities. The nurse advises rest with the legs elevated and provides dietary instructions. What else should the nurse suggest?

1. A preferred diet will include favorite foods
2. A nutritionist should be involved in planning a diet.
3. The foods selected do not need to have a low salt content.
4. The client should be referred to the health care provider at the prenatal clinic.

106. What recommendation should a nurse give to clients who have fluid retention during pregnancy?

1. Decrease fluid intake.
2. Maintain a low-sodium diet.
3. Elevate the lower extremities.
4. Ask the health care provider for a diuretic.

107. A 36-year-old multigravida who is at 14 weeks' gestation is scheduled for an alpha-fetoprotein test. She asks the nurse, "What does the alpha-fetoprotein test indicate?" The nurse bases a response on the knowledge that this test can detect:

1. kidney defects.
2. cardiac anomalies.
3. neural tube defects.
4. urinary tract anomalies.

108. A client is scheduled for a nonstress test in the 37th week of gestation. A nurse explains the procedure. Which statement demonstrates that the client understands the teaching?

1. "An IV will be needed to inject the medication."
2. "My baby may get very restless after this procedure."
3. "I hope this test does not cause my labor to begin early."
4. "If the heart reacts well, my baby should do okay when I give birth."

109. A client in the 18th week of pregnancy is scheduled for ultrasonography. What instruction should the nurse give the client?

1. "Don't eat for 4 hours after the test."
2. "Give yourself an enema the night before."
3. "Don't urinate for at least 3 hours before the test."
4. "You will be monitored closely afterward for signs of labor."

110. A nurse is teaching a primigravida about how she can identify the onset of labor. What clinical indicator of labor would necessitate the client to call her health care provider?

1. Bloody show and back pressure occur.
2. Contractions become regular or get stronger.
3. Membranes rupture or contractions are 5 to 8 minutes apart.
4. Contractions are 10 to 12 minutes apart and last about 30 seconds.

111. A nurse teaches a pregnant woman to avoid lying on her back during labor. What information about the result of lying in the supine position is the basis for the nurse's teaching?

1. Labor may take longer.
2. Placental perfusion is decreased.
3. Movement of the coccyx is obstructed.
4. Transient episodes of hypertension may occur.

112. A 42-year-old client has an amniocentesis during the 16th week of gestation because of concern about Down syndrome. What additional information about the fetus will examination of the amniotic fluid reveal at this time?

1. Lung maturity
2. Type 1 diabetes
3. Cardiac anomaly
4. Neural tube defect

113. During the postpartum period, a client tells a nurse she is having leg cramps. Which foods should the nurse encourage the client to eat?

1. Liver and raisins
2. Cheese and broccoli
3. Eggs and lean meats
4. Whole wheat breads and cereals

114. When is it **most** important for a female client to know that a fetus may be structurally damaged by the ingestion of drugs?

1. During early adolescence
2. Throughout the entire pregnancy
3. When planning to become pregnant
4. At the beginning of the first trimester

115. A pregnant client asks the clinic nurse how smoking will affect her baby. What information about cigarette smoking will influence the nurse's response?

1. It relieves tension and the fetus responds accordingly.
2. The resulting vasoconstriction affects both fetal and maternal blood vessels.
3. Substances contained in smoke diffuse through the placenta and compromise the fetus's well-being.
4. Effects are limited because fetal circulation and maternal circulation are separated by the placental barrier.

116. A client who is at 12 weeks' gestation tells a nurse at the prenatal clinic that she has severe nausea and frequent vomiting. The nurse suspects that the client has hyperemesis gravidarum. With what disorder is this frequently associated?

1. History of cholecystitis
2. Large amount of amniotic fluid
3. High levels of chorionic gonadotropin
4. Decreased secretion of hydrochloric acid

▶117. A nurse is planning a prenatal class about the changes that occur during pregnancy and the necessity of routine health care supervision throughout pregnancy. Which cardiovascular compensatory mechanisms should the nurse explain will occur? **Select all that apply.**

1. Systemic vasodilation
2. Increased blood volume
3. Elevated blood pressure
4. Increased cardiac output
5. Enlargement of the heart
6. Decreased erythrocyte production

118. The husband of a client who is in the transition phase of the first stage of labor becomes very tense and anxious during this period and asks a nurse, "Do you think it is best for me to leave, since I don't seem to be doing my wife much good?" What is the nurse's **best** response?

1. "This is the time your wife needs you. Don't run out on her now."
2. "This is hard for you. Let me try to help you coach her during this difficult phase."
3. "I know this is hard for you. You should go have a cup of coffee to help you relax and then come

back in a little while.”

4. “If you feel that way, you’d best go out and sit in the father’s waiting room for a while. You may transmit your anxiety to your wife.”

119. A nurse is caring for an obese client in early labor. The anesthesiologist discussed several types of analgesia/anesthesia with the client and recommended one. The client requests clarification before signing the consent form. Which type did the anesthesiologist recommend?

1. Epidural anesthesia
2. Oral opioid analgesia
3. Pudendal nerve anesthesia
4. IV infusion of opioid analgesia

120. During labor a client who has been receiving epidural anesthesia has a sudden episode of severe nausea, and her skin becomes pale and clammy. What is the nurse’s immediate reaction?

1. Turn the client on her side.
2. Notify the health care provider.
3. Check the vaginal area for bleeding.
4. Monitor the fetal heart rate every three minutes.

121. A nurse is caring for a primigravida during labor. At 7 cm dilation a prescribed pain medication is administered. Which medication requires monitoring of the newborn for the side effect of respiratory depression?

1. Butorphanol (Stadol)
2. Hydroxyzine (Vistaril)
3. Promethazine (Phenergan)
4. Diphenhydramine (Benadryl)

122. A client in active labor becomes very uncomfortable and asks a nurse for pain medication. Nalbuphine (Nubain) is prescribed. How does this medication relieve pain?

1. Produces amnesia
2. Acts as a preliminary anesthetic
3. Induces sleep until the time of birth
4. Acts on opioid receptors to reduce pain

123. At a prenatal visit a client who is at 36 weeks’ gestation states that she is having uncomfortable irregular contractions. What should the nurse recommend?

1. “Lie down until they stop.”
2. “Walk around until they subside.”
3. “Time the contractions for 30 minutes.”
4. “Take 2 extra-strength aspirins if the discomfort persists.”

124. How does the nurse identify true labor as opposed to false labor?

1. Cervical dilation is progressive.
2. Contractions stop when the client walks around.
3. Clients’ contractions progress only in a side-lying position.
4. Contractions occur immediately after the membranes rupture.

125. Why should a nurse teach pregnant women the importance of conserving the “spurt of energy” before labor?

1. Energy helps to increase the progesterone level.
2. Fatigue may influence the need for pain medication.
3. Energy is needed to push during the first stage of labor.

4. Fatigue will increase the intensity of the uterine contractions.

126. A client is admitted to the birthing suite in early active labor. Which nursing action takes **priority** during the admission process?

1. Auscultating the fetal heart
2. Obtaining an obstetric history
3. Determining when the last meal was eaten
4. Ascertaining whether the membranes have ruptured

127. A primigravida is admitted to the birthing unit in early labor. A pelvic examination reveals that her cervix is 100% effaced and 3 cm dilated. The fetal head is at +1 station. In what area of the client's pelvis is the fetal occiput?

1. Not yet engaged
2. Below the ischial spines
3. Entering the pelvic inlet
4. Visible at the vaginal opening

128. After performing Leopold maneuvers on a laboring client, a nurse determines that the fetus is in the right occiput posterior (ROP) position. Where should the Doppler be placed to **best** auscultate fetal heart tones?

1. Above the umbilicus in the midline
2. Above the umbilicus on the left side
3. Below the umbilicus on the right side
4. Below the umbilicus near the left groin

129. A client in the active phase of the first stage of labor begins to tremble, becomes very tense during contractions, and is quite irritable. She frequently states, "I cannot stand this a minute longer." What does this behavior indicate to the nurse caring for her?

1. There was no preparation for labor.
2. She should receive an analgesic for pain.
3. She is entering the transition phase of labor.
4. Hypertonic uterine contractions are developing.

130. A nurse assesses the frequency of a client's contractions by timing them from the beginning of a contraction:

1. until the uterus starts to relax.
2. to the end of a second contraction.
3. until the uterus completely relaxes.
4. to the beginning of the next contraction.

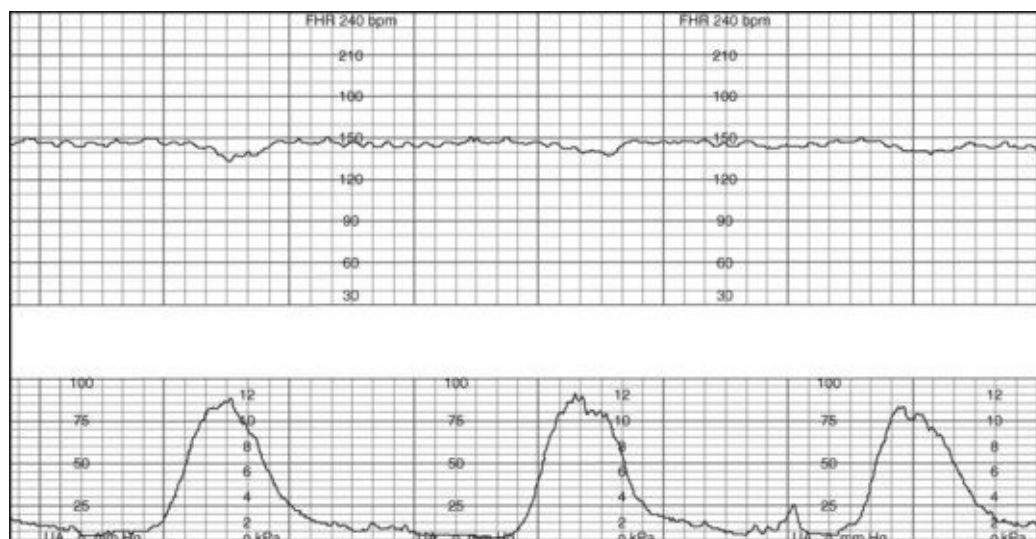
131. A nurse observes a laboring client's amniotic fluid and decides that it is the expected color. What description of amniotic fluid supports this conclusion?

1. Clear, dark amber, and contains shreds of mucus
2. Straw-colored, clear, and contains little white specks
3. Milky, greenish yellow, and contains shreds of mucus
4. Greenish yellow, cloudy, and contains little white specks

►132. A client in active labor has an external fetal monitor in place. Using the monitor strip on the next page, identify the correct assessment.

1. Tetanic contractions
2. Marked FHR variability
3. FHR baseline at 150 beats/min

4. Contractions lasting 130 seconds



133. What is a common problem that confronts the client in labor when an external fetal monitor has been applied to her abdomen?

1. Intrusion on movement
2. Inability to take sedatives
3. Interference with breathing techniques
4. Increased frequency of vaginal examinations

134. A client's membranes rupture while her labor is being augmented with an oxytocin (Pitocin) infusion. A nurse observes variable decelerations in the fetal heart rate on the fetal monitor strip. What action should the nurse take next?

1. Change the client's position.
2. Take the client's blood pressure.
3. Stop the client's oxytocin infusion.
4. Prepare the client for an immediate birth.

►135. Epidural anesthesia was initiated 30 minutes ago for a client in labor. The nurse identifies that the fetus is experiencing late decelerations. List the following nursing actions in order of priority.

1. _____ Increase IV fluids.
2. _____ Reposition client on her side.
3. _____ Reassess fetal heart rate pattern.
4. _____ If late decelerations persist notify the health care provider.
5. _____ Document interventions with related maternal/fetal responses.

136. A client's membranes spontaneously rupture during active labor. The nurse inspects the perineum and determines that the umbilical cord is not visible. What is the next nursing action?

1. Auscultate the FHR.
2. Time the contractions.
3. Call the health care provider.
4. Obtain the maternal vital signs.

137. The membranes of a client who is at 39 weeks' gestation have ruptured spontaneously. Examination in the emergency department revealed that her cervix is 4 cm dilated and 75% effaced, and the fetal heart rate is 136 beats/min. She and her partner are admitted to the birthing unit. What should the nurse do upon their arrival?

1. Place the client in bed and attach an external fetal monitor.
 2. Have the client undress while taking her history from her partner.
 3. Introduce the staff nurses to the couple and try to make them feel welcome.
 4. Ask the couple to wait in the examining room while notifying the health care provider.
138. A pregnant woman at 39 weeks' gestation arrives in the triage area of the birthing unit, stating she thinks her "water broke." What should the nurse do **first**?
1. Auscultate the fetal heart to determine fetal well-being.
 2. Perform Leopold's maneuvers to rule out a breech presentation.
 3. Check the vaginal introitus for the presence of the umbilical cord.
 4. Do a nitrazine test on the vaginal fluid for verification of ruptured membranes.
139. A client is admitted to the birthing unit in active labor. What should the nurse expect after an amniotomy is performed?
1. Diminished bloody show
 2. Increased and more variable FHR
 3. Less discomfort with contractions
 4. Progressive dilation and effacement
140. A primigravida who is at 40 weeks' gestation arrives at the birthing center with abdominal cramping and a bloody show. Her membranes ruptured 30 minutes before arrival. A vaginal examination reveals 1 cm dilation and the presenting part at -1 station. After obtaining the fetal heart rate and maternal vital signs, what should the nurse do next?
1. Teach the client how to push with each contraction.
 2. Encourage the client to perform pattern-paced breathing.
 3. Provide the client with comfort measures used for women in labor.
 4. Prepare to have the client's blood typed and crossmatched for a possible transfusion.
- ▶141. A client is receiving an IV piggyback infusion of oxytocin (Pitocin) to augment labor. The nurse identifies that there have been three contractions lasting 80 to 90 seconds that are less than 2 minutes apart. There is a specific protocol that is followed in response to this observation. List in order of priority the nursing actions that should be taken.
1. _____ Check the fetal heart rate.
 2. _____ Stop the piggyback infusion.
 3. _____ Notify the health care provider.
 4. _____ Administer oxygen via face mask.
 5. _____ Document maternal/fetal responses.
 6. _____ Determine if the contractions have diminished.
142. When monitoring the FHR of a client in labor, the nurse identifies an elevation of 15 beats more than the baseline rate of 135 beats/min lasting for 15 seconds. How should the nurse document this event?
1. An acceleration
 2. An early elevation
 3. A sonographic motion
 4. A tachycardic heart rate
143. A client and her partner are working together during the woman's labor. The client's cervix is now dilated 7 cm, and the presenting part is low in the midpelvis. What should the nurse instruct the partner to do that would alleviate the client's discomfort during contractions?
1. Deep breathe slowly.

2. Perform pelvic rocking.
 3. Use the panting technique.
 4. Begin pattern-paced breathing.
144. Why should a nurse withhold food and oral fluids as a laboring client approaches the second stage of labor?
1. The mechanical and chemical digestive processes require energy that is needed for labor.
 2. Undigested food and fluid may cause nausea and vomiting and limit the choice of anesthesia.
 3. The gastric phase of digestion stimulates the release of hydrochloric acid and may cause dyspepsia.
 4. Food and fluid will further aggravate gastric peristalsis, which is already increased because of the stress of labor.
145. How should a nurse direct care for a client in the transition phase of the first stage of labor?
1. Decrease IV fluid intake.
 2. Help the client to maintain control.
 3. Reduce the client's discomfort with medications.
 4. Institute simple breathing patterns during contractions.
146. Which breathing technique should the nurse instruct the client to use as the head of the fetus is crowning?
1. Shallow
 2. Blowing
 3. Slow chest
 4. Modified paced
147. When a client's legs are placed in stirrups for birth, the nurse confirms that both legs are positioned simultaneously to prevent:
1. venous stasis in the legs.
 2. pressure on the perineum.
 3. excessive pull on the fascia.
 4. trauma to the uterine ligaments.
148. A nurse is caring for a primigravida during labor. What does the nurse observe that indicates birth is about to take place?
1. Bloody discharge from the vagina increases.
 2. Perineum begins to bulge with each contraction.
 3. Client becomes irritable and stops following instructions.
 4. Contractions occur more frequently, are stronger, and last longer.
149. For what complication should a nurse monitor a client when an oxytocin (Pitocin) infusion is used to induce labor?
1. Intense pain
 2. Uterine tetany
 3. Hypoglycemia
 4. Umbilical cord prolapse
150. The cervix of a client in labor is fully dilated and effaced. The head of the fetus is at +2 station. What should the nurse encourage the client to do during contractions?
1. Relax by closing her eyes.
 2. Push with her glottis open.
 3. Blow to slow the birth process.
 4. Pant to prevent cervical edema.

151. A laboring client is to have a pudendal block. What should a nurse teach the client about the effects of the pudendal block?

1. Bladder sensation may be lost.
2. She will not feel an episiotomy.
3. She may lose the ability to push.
4. Contractions will no longer be felt.

►152. A nurse is caring for a client during the early postpartum period. The client alerts the nurse that she is having pain. The nurse interviews the client, obtains her vital signs, and performs a physical assessment. What does this assessment **most** likely indicate?

Vital Signs

T: 99° F

P: 108 beats/min

R: 20 breaths/min

BP: 105/60 mm Hg

Physical Assessment

Episiotomy surrounded by edema and ecchymosis

Fundus is firm

No lochia present

Client Interview

Reports severe perineal and rectal pressure

1. Uterine infection
2. Urinary infection
3. Vaginal hematoma
4. Postpartum hemorrhage

153. After a client gives birth, what physiologic occurrence indicates to the nurse that the placenta is beginning to separate from the uterus and is ready to be expelled?

1. Relaxation of the uterus
2. Descent of the uterus in the abdomen
3. Appearance of a sudden gush of blood
4. Retraction of the umbilical cord into the vagina

154. A multigravida has a spontaneous vaginal birth. Five minutes later the placenta is expelled. Where does a nurse expect to locate the uterine fundus at this time?

1. In the pelvic cavity
2. Just below the xiphoid process
3. At the umbilicus and in the right quadrant
4. Halfway between the symphysis pubis and the umbilicus

155. A client in labor begins to experience contractions 2 to 3 minutes apart that last about 45 seconds. Between contractions the nurse identifies a fetal heart rate of 100 beats/min on the internal fetal

monitor. What is the next nursing action?

1. Notify the health care provider.
2. Resume continuous fetal heart monitoring.
3. Continue to monitor the maternal vital signs.
4. Document the fetal heart rate as an expected response to contractions.

156. A client is bleeding excessively after the birth of a neonate. The health care provider orders fundal massage and prescribes an IV infusion containing 10 units of oxytocin (Pitocin) at 100 mL/hr. A nurse's evaluation of the client's responses to these interventions is BP: 135/90 mm Hg; uterus: boggy at 3 cm above the umbilicus and displaced to the right; perineal pad: saturated with bright red lochia. What is the nurse's next action?

1. Increase the infusion rate.
2. Assess for a distended bladder.
3. Continue to perform fundal massage.
4. Continue to assess the blood pressure.

157. A nurse is evaluating the effectiveness of fundal massage on a postpartum client 3 hours after giving birth. An IV infusion of 10 units of oxytocin (Pitocin) is infusing at 100 mL/hr. Her blood pressure is 135/90, the uterus is boggy at 3 cm above the umbilicus and displaced to the right, and her perineal pad is saturated with lochia rubra. What should the nurse do next?

1. Massage the fundus again.
2. Notify the health care provider.
3. Assist the client to the bathroom.
4. Increase the IV infusion rate as prescribed.

158. A primigravida who is at 35 weeks' gestation is diagnosed with hydramnios. For what should the nurse assess the newborn?

1. Cardiac defect
2. Kidney disorder
3. Diabetes mellitus
4. Esophageal atresia

159. A client who just gave birth has three young children at home. She comments to the nursery nurse that she must prop the baby during feedings when she returns home because she has too much to do, and anyway holding babies during feedings spoils them. What is the nurse's **best** response?

1. "You seem concerned about time. Let's talk about it."
2. "That's up to you, since you have to do what works for you."
3. "Holding the baby when feeding is important for development."
4. "It is not safe to prop a bottle. The baby could aspirate the fluid."

160. A primipara has just given birth at 37 weeks' gestation. What should the nurse do to help promote the attachment process between the mother and her newborn?

1. Teach how to breastfeed the baby.
2. Encourage continuous rooming-in.
3. Assign one nurse to care for both of them.
4. Allow extra visiting privileges in the nursery.

161. A multigravida of Asian descent weighs 104 pounds, having gained 14 pounds during the pregnancy. On her second postpartum day, the client's temperature is 100.2° F. She is anorectic and rarely gets out of bed. What should the nurse do?

1. Ask the nursing supervisor to discuss this with the health care provider.

2. Encourage the family to bring in special foods preferred in their culture.
 3. Order a high-protein milkshake as a between-meal snack to stimulate her appetite.
 4. Explain to the family that the dietician plans nutritious meals that the client should eat.
162. At 9 PM visiting hours are officially over, but the sister of a newly admitted postpartum client remains at the bedside. What is the **most** appropriate nursing intervention?
1. Remind the client's sister that visiting hours are over.
 2. Get written permission from the client for her sister to remain.
 3. Call the evening nursing supervisor to tactfully handle the situation.
 4. Encourage the sister to participate in care as much as the client wishes.
163. Three weeks after giving birth, a client develops a deep vein thrombophlebitis of the left leg and is admitted to the hospital for bed rest and anticoagulant therapy. Which anticoagulant does the nurse expect to administer?
1. Clopidogrel (Plavix)
 2. Warfarin (Coumadin)
 3. Continuous infusion of heparin
 4. Intermittent doses of a low molecular weight heparin
164. A nurse teaches a postpartum client how to care for her episiotomy to prevent infection. Which behavior indicates that the teaching was effective?
1. The perineal pad is changed twice daily.
 2. She washes her hands whenever a perineal pad is changed.
 3. She rinses her perineum with water after using an analgesic spray.
 4. The perineum is cleansed from the anus toward the symphysis pubis.
165. A nurse observes that a client is voiding frequently in small amounts 8 hours after giving birth. What should the nurse conclude about this small output of urine during the early postpartum period?
1. It may indicate retention of urine with overflow.
 2. It may be indicative of beginning glomerulonephritis.
 3. This is common because less fluid is excreted after birth.
 4. This is common because fluid intake diminishes after birth.
166. When palpating a client's fundus on the second postpartum day, a nurse identifies that it is above the umbilicus and displaced to the right. What does the nurse conclude?
1. There is a slow rate of involution.
 2. There are retained placental fragments.
 3. The bladder has become overdistended.
 4. The uterine ligaments are overstretched.
167. A nurse examines a client who had a cesarean birth. It is 3 days since the birth and the client is about to be discharged. Where does the nurse expect the fundus to be located?
1. 1 fingerbreadth below the umbilicus
 2. 2 fingerbreadths below the umbilicus
 3. 3 fingerbreadths below the umbilicus
 4. 4 fingerbreadths below the umbilicus
168. A client on the postpartum unit asks the nurse why the nurses are always encouraging her to walk. What should the nurse consider when forming a response in language the client will understand?
1. Respirations are enhanced.
 2. Bladder tonicity is increased.

3. Abdominal muscles are strengthened.
4. Peripheral vasomotor activity is promoted.

169. What should a nurse include in the discharge teaching of a postpartum client?

1. The prenatal perineal tightening exercises should be continued.
2. The episiotomy sutures will be removed at the first postpartum visit.
3. She may not have a bowel movement for up to a week after the birth.
4. She should schedule a postpartum checkup as soon as her menses return.

170. A nurse is caring for a postpartum client who is formula feeding. What should the nurse teach her about minimizing breast discomfort?

1. Apply covered ice packs to her breasts.
2. Gently apply cocoa butter to her nipples.
3. Place warm, wet washcloths on her nipples.
4. Manually express colostrum from her breasts.

171. Two days after having had a cesarean birth, a client tells a nurse that she has pain in her right leg, and after an assessment the nurse suspects that the client may have a thrombus. What is the nurse's **initial** response?

1. Maintain bed rest.
2. Apply warm soaks.
3. Encourage leg exercises.
4. Massage the affected area.

172. A nurse teaches a multipara who has just given birth to a large baby how she can maintain a contracted uterus. Which statement indicates to the nurse that the teaching was effective?

1. "If I start to bleed, I will call for help."
2. "I will massage my uterus regularly to keep it firm."
3. "If I urinate frequently, my uterus will stay contracted."
4. "I will call you every 15 minutes to massage my uterus."

►173. Two days after giving birth a client's temperature is 101° F. A nurse notifies the health care provider and receives a variety of orders and two prescriptions. In what order should they be implemented?

1. _____ Obtain a chest x-ray study.
2. _____ Send a lochia specimen for culture.
3. _____ Administer the prescribed IV antibiotic.
4. _____ Offer the prn acetaminophen (Tylenol) for a fever more than 100° F.
5. _____ Document the client's temperature 30 minutes after administering the medications.

Nursing Care of Women at Risk during Pregnancy, Labor, Childbirth, and the Postpartum Period

174. A 16-year-old adolescent visits the prenatal clinic because she has missed three menstrual periods. Before her physical examination she says, "I don't know what the problem is, but I can't be pregnant." What is the nurse's **most** therapeutic response?

1. "Many young women are irregular at your age."
2. "You probably are pregnant if you had intercourse."
3. "Why did you decide to come to the prenatal clinic?"
4. "Should I ask the health care provider to talk to you?"

175. A teenager at 32 weeks' gestation is hospitalized with preeclampsia. She is anorexic and appears depressed. Which comment indicates to the nurse that further exploration of the client's emotional status is indicated?

1. "I'm tired of feeling so clumsy."
2. "I'll be glad when I can sleep all night."
3. "I dreamed my baby had only one arm."
4. "I was really happy before I got pregnant."

176. A client visiting the prenatal clinic for the first time asks a nurse about the probability of having twins because her husband is one of a pair of fraternal twins. What is the appropriate response by the nurse?

1. "A sonogram will confirm if there is a twin pregnancy."
2. "There is a twenty-five percent probability of having twins."
3. "The husband's history of being a twin increases the chance of having twins."
4. "There is no greater probability of having twins than in the general population."

177. What assessment finding of a pregnant client should alert the nurse to notify the health care provider?

1. Dependent edema at 38 weeks' gestation
2. Fundal height at the umbilicus at 16 weeks' gestation
3. Fetal heart rate of 150 beats/min at 24 weeks' gestation
4. Maternal heart rate of 92 beats/min at 28 weeks' gestation

178. A pregnant client with severe abdominal pain and heavy bleeding is prepared for a cesarean birth. What is the **priority** nursing intervention?

1. Teaching coughing and deep-breathing techniques
2. Sterilizing the surgical site and administering an enema
3. Providing a sterile gown and inserting an indwelling catheter
4. Obtaining an informed consent and assessing for drug allergies

179. A nurse is caring for a client who is having a prolonged labor. The client is annoyed and very concerned because her labor is deviating from what she perceives as normal. After the nurse has acknowledged the client's feelings, what is the next **best** intervention?

1. "I'll leave so you can talk to your partner."
2. "I'll rub your back, and you tell me if it helps."
3. "Let's talk some more about what's really bothering you."
4. "Women usually become weary and frustrated during labor."

180. A client at 26 weeks' gestation is admitted to the high-risk unit with an influenza infection. She is

in labor. Which of these instructions should a nurse question?

1. Betamethasone 12 mg IV every 12 hours
2. I&O and IV Ringer lactate 500 mL/24 hours
3. Vital signs and fetal heart rate every 30 minutes
4. Loading dose 4 g IV magnesium sulfate, continue per protocol

181. A client is admitted to the birthing unit in active labor. Cervical dilation has progressed from 2 to 3 cm during an 8-hour period. The health care provider determines that she has hypotonic dystocia, and an infusion of oxytocin (Pitocin) is prescribed to augment her contractions. What is the **most** important nursing action at this time?

1. Checking the perineum for bulging
2. Documenting the fetal heart rate and its variations
3. Preparing the client for an emergency cesarean birth
4. Monitoring the duration and intensity of the contractions

182. A client at 38 weeks' gestation is admitted for induction of labor. Her membranes ruptured 12 hours ago. There are no other signs of labor. Which medication does the nurse anticipate will be prescribed?

1. Oxytocin (Pitocin)
2. Estrogen (Premarin)
3. Ergonovine (Ergotrate)
4. Progesterone (Prometrium)

▶183. A client at 39 weeks' gestation is admitted for induction of labor. Knowing that several medications are used to induce labor, a nurse identifies those that may be prescribed. **Select all that apply.**

1. Oxytocin (Pitocin)
2. Misoprostol (Cytotec)
3. Ergonovine (Ergotrate)
4. Carboprost (Hemabate)
5. Dinoprostone (Prepidil)

184. A client arrives at the clinic in preterm labor and terbutaline (Brethine) is prescribed. For what therapeutic effect should the nurse monitor the client?

1. Increased blood pressure and pulse
2. Reduction of pain in the perineal area
3. Gradual cervical dilation as labor progresses
4. Decreased frequency and duration of contractions

185. A client is receiving magnesium sulfate therapy for severe preeclampsia. What **initial** sign of toxicity should alert the nurse to intervene?

1. Hyperactive sensorium
2. Increase in respiratory rate
3. Lack of the knee-jerk reflex
4. Development of a cardiac dysrhythmia

186. A nurse is monitoring a client with severe preeclampsia who is receiving an infusion of magnesium sulfate. Assessment reveals a pulse rate of 55/minute, respirations of 12/minute, and a flushed face. What is the next nursing action?

1. Continue the infusion and notify the health care provider.
2. Stop the infusion and start an infusion of dextrose and water.

3. Continue the infusion and document the findings on the clinical record.

4. Decrease the rate of the infusion and obtain blood for a magnesium level.

▶187. A client is admitted to the high-risk unit in preterm labor. A loading dose of 6 g of magnesium sulfate over 20 minutes is prescribed to be followed by 2 g/hr. Premixed stock is available with 40 grams of magnesium sulfate in 1000 mL of D5W. At how many milliliters should a nurse set the infusion pump to complete the loading dose? **Indicate your answer in a whole number.**

Answer: _____ mL

188. A client admitted with preeclampsia is receiving magnesium sulfate. Which assessment indicates that a therapeutic level of the medication has been reached?

1. Respiratory rate of 12
2. Increased fetal activity
3. Decreased urine output
4. Deep tendon reflexes of +2

189. Despite medication, a client's preterm labor continues, her cervix dilates, and birth appears to be inevitable. Which medication does the nurse anticipate will be prescribed to increase the chance of the newborn's survival?

1. Ritodrine (Yutopar)
2. Misoprostil (Cytotec)
3. Terbutaline (Brethine)
4. Betamethasone (Celestone)

190. A client at 9 weeks' gestation asks the nurse in the prenatal clinic if she can have her chorionic villi sampling (CVS) done at this visit. At what week gestation should the nurse respond is the **best** time for this test?

1. 8 weeks and less than 10 weeks
2. 10 weeks and less than 12 weeks
3. 12 weeks and less than 14 weeks
4. 14 weeks and less than 16 weeks

191. A nurse is assessing a client with a tentative diagnosis of hydatidiform mole. Which clinical finding should the nurse anticipate?

1. Hypotension
2. Decreased fetal heart rate
3. Unusual uterine enlargement
4. Painless, heavy vaginal bleeding

192. A nurse is obtaining the health history from a client with a diagnosis of a ruptured tubal pregnancy. At what point in the pregnancy does the nurse expect the client to state when the low abdominal pain and vaginal bleeding started?

1. At the end of the first trimester
2. About the sixth week of pregnancy
3. Midway through the second trimester
4. When the first menstrual period was missed

193. Which sign or symptom leads a nurse to suspect that a client has a tubal pregnancy?

1. A painful mass centered in the abdomen
2. Lower abdominal cramping for one week
3. A sharp lower right or left abdominal pain radiating to the shoulder
4. Leukorrhea or dysuria a few days after the first missed menstrual period

194. A nurse is caring for a client who had a spontaneous abortion. For what complication should the nurse assess this client?

1. Hemorrhage
2. Dehydration
3. Hypertension
4. Subinvolution

195. A nurse is caring for a client who had a spontaneous abortion. The client asks why spontaneous abortions occur. The nurse responds that they are **most** commonly caused by:

1. physical trauma.
2. unresolved stress.
3. congenital defects.
4. embryonic defects.

196. A client tells a nurse in the prenatal clinic that she has vaginal staining but no pain. Her history reveals amenorrhea for the last 2 months and pregnancy confirmation after her first missed period. She is admitted to the high-risk unit because she may be having a spontaneous abortion. What type of abortion is suspected?

1. Missed
2. Inevitable
3. Threatened
4. Incomplete

197. A few hours after being admitted to the hospital with a diagnosis of inevitable abortion, a client, at 16 weeks' gestation, begins to experience bearing-down sensations and suddenly expels the products of conception in bed. What should the nurse do **first**?

1. Notify the health care provider.
2. Administer the prescribed sedative.
3. Take the client to the operating room.
4. Check the client's fundus for firmness.

198. After an incomplete abortion, a client tells a nurse that although her health care provider explained what an incomplete abortion was, she did not understand. What is the nurse's **best** response?

1. "I don't think you should focus on this anymore."
2. "This is when the fetus dies but is retained in the uterus for at least two months."
3. "I think it is best if you asked your health care provider for the answer to that question."
4. "This is when the fetus is expelled but other parts of the pregnancy remain in the uterus."

199. A client asks the nurse at the prenatal clinic whether she can continue to have sexual relations while pregnant. What is an indication that the client should refrain from intercourse during pregnancy?

1. Fetal tachycardia
2. Presence of leukorrhea
3. Premature rupture of membranes
4. Being close to expected date of birth

200. An expectant couple asks the nurse about the cause of low back pain in labor. The nurse replies that this pain occurs most often when the position of the fetus is:

1. breech.
2. transverse.

3. occiput anterior.

4. occiput posterior.

201. A laboring client reports low back pain. What should a nurse recommend to the client's coach that will promote comfort?

1. Instruct her to flex her knees.
2. Place her in the supine position.
3. Apply pressure to her back during contractions.
4. Perform neuromuscular control exercises with her.

202. What position should a nurse teach a client to avoid when the client is experiencing back pain during labor?

1. Sims
2. Sitting
3. Supine
4. Side-lying

203. A client arrives at the hospital in the second stage of labor. The head of the fetus is crowning, the client is bearing down, and birth appears imminent. What should the nurse tell the client to do?

1. Pant while pushing gently.
2. Breathe with her mouth closed.
3. Hold her breath while bearing down.
4. Pant while resisting the urge to bear down.

204. A client tells a nurse that she does not want an episiotomy and would rather tear naturally. What information should be offered regarding each birthing method?

1. Lacerations are more painful than an episiotomy.
2. Lacerations are easier to repair than an episiotomy.
3. An episiotomy causes less posterior trauma than lacerations.
4. An episiotomy is preferred over lacerations according to evidence-based practice.

205. A client who had a postpartum hemorrhage is to receive 1 unit of packed red blood cells (RBCs). The nurse manager observes a staff nurse administering the packed RBCs without wearing gloves. What does the nurse manager conclude?

1. Client does not have an infection.
2. Donor blood is free of bloodborne pathogens.
3. Nurse should have worn gloves for self-protection.
4. Nurse was skilled enough to prevent exposure to the blood.

206. Sitz baths are ordered for a client with an episiotomy during the postpartum period. A nurse encourages her to take the sitz baths because they aid the healing process by:

1. promoting vasodilation.
2. cleansing perineal tissue.
3. softening the incision site.
4. tightening the rectal sphincter.

207. An infant is born precipitously in the emergency department. What should the nurse do **first**?

1. Tie and cut the umbilical cord.
2. Establish an airway for the newborn.
3. Ascertain the condition of the uterine fundus.
4. Arrange transport for mother and infant to the birthing unit.

▶208. Women who become pregnant for the first time at a later reproductive age (35 years of age or

older) are at risk for what complications? **Select all that apply.**

1. Preterm labor
2. Multiple gestation
3. Development of seizures
4. Chromosomal anomalies
5. Bleeding in the first trimester

209. A primigravida is concerned about the health of her baby and asks the nurse, "What is the most common cause of death of babies?" The nurse explains that the cause of more than half of the neonatal deaths in the United States is due to:

1. atelectasis.
2. preterm births.
3. congenital heart disease.
4. respiratory distress syndrome.

▶210. A health care provider orders a contraction stress test (CST) for a client whose nonstress test (NST) was nonreactive. Which maternal complications should alert the nurse to question the order? **Select all that apply.**

1. Hypertension
2. Preterm labor
3. Drug addiction
4. Incompetent cervix
5. Premature rupture of membrane

211. When caring for a woman who had a positive contraction stress test (CST), what complication does the nurse suspect?

1. Preeclampsia
2. Placenta previa
3. Imminent preterm birth
4. Uteroplacental insufficiency

212. What is the **initial** responsibility of a nurse when teaching the pregnant adolescent?

1. Instructing her about the care of an infant
2. Informing her of the benefits of breastfeeding
3. Advising her to watch for danger signs of preeclampsia
4. Encouraging her to continue regularly scheduled prenatal care

213. A nurse is counseling a woman who was just diagnosed with a multiple gestation. Why does the nurse consider this pregnancy as high risk?

1. Postpartum hemorrhage is an expected complication.
2. Perinatal mortality is 2 to 3 times greater in multiple than in single births.
3. Maternal mortality is higher during the prenatal period with a multiple gestation.
4. Optimum adjustment following a multiple birth requires 6 months to 1 year of time.

214. A nurse in the birthing unit is caring for several clients. Which factor should the nurse anticipate will increase the risk for hypotonic uterine dystocia?

1. Twin gestation
2. Gestational anemia
3. Hypertonic contractions
4. Gestational hypertension

215. A client at 28 weeks' gestation has a sonogram. The results reveal a small for gestational age

(SGA) fetus and a low-lying placenta. For what complication should the nurse assess this client during the last trimester of pregnancy?

1. Preterm labor
2. Placenta previa
3. Premature separation of the placenta
4. Premature rupture of the membranes

216. A client who is at 26 weeks' gestation tells a nurse at the prenatal clinic that she has pain when urinating, back tenderness, and pink-tinged urine. A diagnosis of pyelonephritis is made. What is the **most** important nursing intervention at this time?

1. Limiting fluid intake
2. Examining her urine for protein
3. Observing for signs of preterm labor
4. Maintaining her on a moderate sodium diet

217. Why does a nurse encourage continued health care supervision for a pregnant woman with pyelonephritis?

1. Preeclampsia frequently occurs after pyelonephritis.
2. Antibiotic therapy should be administered until the urine is sterile.
3. Pelvic inflammatory disease can occur with untreated pyelonephritis.
4. Nutritional needs change to accommodate the prescribed low-protein diet.

218. Sonography of a primigravida who is at 15 weeks' gestation reveals a twin pregnancy. The nurse reviews with the client the risks of a multiple pregnancy that were explained by the health care provider. Which condition does the client identify that indicates the need for further instruction about complications associated with a multiple gestation?

1. Preterm birth
2. Down syndrome
3. Twin to twin transfusion
4. Gestational hypertension

219. A client is scheduled for a sonogram at 36 weeks' gestation. Shortly before the test she tells the nurse that she has severe abdominal pain. Assessment reveals heavy vaginal bleeding, a drop in blood pressure, and an increased pulse rate. What complication does the nurse suspect?

1. Hydatidiform mole
2. Vena caval syndrome
3. Marginal placenta previa
4. Complete abruptio placentae

220. A client at 37 weeks' gestation arrives at the emergency department stating that she has abdominal pain but no vaginal bleeding. The health care provider diagnoses abruptio placentae. The client asks the nurse why it is so painful. What should the nurse consider is the **initial** cause of the abdominal pain before responding in language the client will understand?

1. Hemorrhagic shock
2. Concealed hemorrhage
3. Blood in the myometrium
4. Disseminated intravascular coagulation

221. A client at 37 weeks' gestation is admitted to the birthing unit from the emergency department. She had arrived by ambulance following a motor vehicle accident. Her vital signs are BP: 90/60; P: 108; R: 24. She is reporting sharp abdominal pain. What is the **priority** nursing intervention at this

time?

1. Apply an electronic fetal monitor.
2. Prepare for a possible cesarean birth.
3. Draw blood for a type and crossmatch.
4. Assess the amount of vaginal bleeding.

222. A client who had a severe abruptio placentae asks the nurse why there was so much bleeding. What should the nurse consider is the cause of the heavy bleeding before responding in language the client will understand?

1. Polycythemia
2. Thrombocytopenia
3. Hyperglobulinemia
4. Hypofibrinogenemia

223. A nurse is reviewing the obstetric history of a client who had an abruptio placentae. What prenatal condition does the nurse expect the client to have had?

1. Cardiac disease
2. Hyperthyroidism
3. Gestational hypertension
4. Cephalopelvic disproportion

224. A client arrives at the hospital at 38 weeks' gestation with profuse vaginal bleeding. She states that it occurred suddenly without any contractions. Which condition may the client be experiencing that requires immediate notification of the health care provider?

1. Placenta previa
2. Placenta accreta
3. Ruptured uterus
4. Concealed abruptio

225. What nursing intervention should be included when caring for a client with placenta previa?

1. Vital signs at least once per shift
2. Tap water enema before the birth
3. Documentation of the amount of bleeding
4. Limited ambulation until the bleeding stops

226. A pregnant woman who is in the third trimester arrives in the emergency department with vaginal bleeding. She states that she snorted cocaine approximately 2 hours ago. Which complication does the nurse suspect is the cause of the bleeding?

1. Placenta previa
2. Tubal pregnancy
3. Abruptio placentae
4. Spontaneous abortion

227. A nurse is counseling a client who is experiencing preterm contractions in the 35th week of gestation and whose cervix is dilated 2 cm. What should the nurse teach this client about sexual intercourse at this time?

1. Should be limited to once a week
2. Is prohibited because it may stimulate labor
3. Should be restricted to the side-lying position
4. Is permitted as long as penile penetration is shallow

228. A client pregnant with twins is told by the health care provider that she is at risk for postpartum

hemorrhage. Later, the client asks the nurse why she is at risk for hemorrhage. What should the nurse consider is the cause of the postpartum hemorrhage before responding in language the client will understand?

1. Uterine atony
2. Mediolateral episiotomy
3. Lacerations of the cervix
4. Retained placental fragments

229. A client in labor at 39 weeks' gestation is told by the health care provider that she will need a cesarean birth. The nurse reviews the client's prenatal history. What preexisting condition is the **most** likely reason for the cesarean birth?

1. Gonorrhea
2. Chlamydia
3. Chronic hepatitis
4. Active genital herpes

230. A nurse notifies the health care provider that a client has been admitted to the high-risk unit in her 36th week of gestation. She is bleeding, has severe abdominal pain and a rigid fundus, and is demonstrating signs of shock. For what intervention should the nurse prepare?

1. A high-forceps birth
2. An immediate cesarean birth
3. The insertion of an internal fetal monitor
4. The administration of an oxytocin infusion

231. A nurse in the birthing suite has just admitted four clients. Which client should the nurse anticipate will need to be prepared for a cesarean birth?

1. Multipara with a shoulder presentation
2. Multipara with a documented station of "floating"
3. Primigravida with a fetus presenting in the occiput posterior position
4. Primigravida with a twin gestation with the lowermost in the vertex presentation

232. During the first hour after a cesarean birth, a nurse observes that the client's lochia has saturated one perineal pad. Based on the knowledge of expected lochial flow, what should the nurse conclude that this indicates?

1. Scant lochial flow
2. Postpartum hemorrhage
3. Retained placental fragments
4. Lochial flow within expected limits

233. Which client should the nurse identify is at risk for developing a hypertensive disorder of pregnancy?

1. Primigravida who is obese
2. Multipara who is 31 years old
3. Multipara who had more than six previous pregnancies
4. Primigravida who took oral contraceptives within 3 months of conception

234. A client in the prenatal clinic is diagnosed with preeclampsia. What clinical findings support this diagnosis?

1. Elevated blood pressure of 150/100 mm Hg
2. Elevated blood pressure that is accompanied by a headache
3. Blood pressure above the baseline while fluctuating at each reading

4. Blood pressure more than 140 mm Hg systolic accompanied by proteinuria

▶235. A client is admitted to the birthing suite with a blood pressure of 150/90 mm Hg, 3+ proteinuria, and edema of the hands and face. A diagnosis of severe preeclampsia is made. What other clinical findings support this diagnosis? **Select all that apply.**

1. Headache
2. Constipation
3. Abdominal pain
4. Vaginal bleeding
5. Visual disturbances

236. A nurse is monitoring a client with severe preeclampsia for the onset of eclampsia. What clinical finding indicate an impending seizure?

1. Persistent headache with blurred vision
2. Epigastric pain with nausea and vomiting
3. Spots with flashes of light before the eyes
4. Rolling of the eyes to one side with a fixed stare

237. A client with the diagnosis of severe preeclampsia is admitted to the hospital from the emergency department. What precaution should the nurse initiate?

1. Pad the side rails on the bed.
2. Place the call button next to the client.
3. Have oxygen with face mask available.
4. Assign a nursing assistant to stay with the client.

238. When does a nurse caring for a client with eclampsia determine that the risk for another seizure has subsided?

1. After birth occurs
2. After labor begins
3. 48 hours postpartum
4. 24 hours postpartum

239. During an emergency birth the fetal head is crowning on the perineum. How should a nurse support the head as it is being born?

1. Apply suprapubic pressure
2. Place a hand firmly against the perineum
3. Distribute the fingers evenly around the head
4. Maintain pressure against the anterior fontanel

240. What is the safest position for a woman in labor when a nurse observes a prolapsed cord?

1. Prone
2. Fowler
3. Lithotomy
4. Trendelenburg

241. A nurse in the prenatal clinic is caring for a client with heart disease who is in the second trimester. What hemodynamic of pregnancy may affect the client at this time?

1. Decrease in the number of RBCs
2. Gradually increasing size of the uterus
3. Heart rate acceleration in the last half of pregnancy
4. Increase in cardiac output during the third trimester

242. A pregnant client with class II heart disease is concerned that her pregnancy will be an added

burden on her already compromised heart. A nurse explains that during pregnancy the cardiac system is **most** compromised during the:

1. first trimester.
2. third trimester.
3. transitional phase of labor.
4. first two days after the birth.

▶243. A pregnant client with a history of rheumatic heart disease since childhood is concerned about the birth of her baby and asks what to expect. What should a nurse explain about the birth? **Select all that apply.**

1. Labor may be induced.
2. Birth may be midforceps assisted.
3. Birth may be vacuum extraction assisted.
4. Regional anesthesia may be administered.
5. Inhalation anesthesia may be administered.

244. A client with class I heart disease is admitted to the birthing suite in active labor. In what position should the nurse place the client?

1. High Fowler
2. Semi Fowler
3. Left lateral with head elevated
4. Right lateral with head elevated

245. What nursing intervention is specific for clients with cardiac problems who are in active labor?

1. Encouraging frequent voiding
2. Monitoring the blood pressure hourly
3. Auscultating the lungs for crackles every 30 minutes
4. Helping to turn from side to side at 15-minute intervals

246. The nurse is counseling a pregnant client with type 1 diabetes about medication changes as pregnancy progresses. Which medication will be needed in increased dosages during the second half of her pregnancy?

1. Insulin
2. Antihypertensives
3. Pancreatic enzymes
4. Estrogenic hormones

247. What should a nurse anticipate about the insulin requirements of a client with diabetes on her first postpartum day?

1. A rapid increase
2. Will remain unchanged
3. A sharp and sudden decrease
4. Will decrease slowly and steadily

248. During the second postpartum hour after a long labor and birth, a nurse identifies that the client has heavy vaginal bleeding that does not diminish after fundal massage. The client states, “I am so thirsty. Can I have some ginger ale?” How should the nurse reply?

1. “It is good to regain your fluids. I will bring some for you right now.”
2. “I can imagine how thirsty you are. However, I must get an order before giving you any fluid.”
3. “Your fluid level should return to normal as quickly as possible. The blood loss can begin to balance if you drink enough fluids.”

4. “As difficult as it is, it is best for you to wait for the bleeding to subside. I can give you a moisturizer for your lips to relieve the dryness.”

249. A client who has six living children has just given birth. After the expulsion of the placenta, an infusion of lactated Ringer solution with 10 units of oxytocin (Pitocin) is prescribed. What should the nurse explain to the client when asked why this infusion is needed?

1. “You had a precipitous birth.”
2. “This is required for an extramural birth.”
3. “It will help expel the retained placental fragments.”
4. “Your uterus may have a relaxed tone after multiple pregnancies.”

▶250. A nurse is assessing several postpartum clients. Which clients are at risk for developing postpartum hemorrhage? **Select all that apply.**

1. Twin birth
2. Overdistended bladder
3. Hypertonic uterine dystocia
4. Retained placental fragments
5. Mild gestational hypertension

251. A nurse is reviewing a client’s history. What two predisposing causes of puerperal (postpartum) infection should alert the nurse to monitor this client?

1. Malnutrition and anemia
2. Hemorrhage and trauma during labor
3. Preeclampsia and retention of placental fragments
4. Organisms in the birth canal and trauma during labor

252. A nurse is assessing the apical and radial pulses of a postpartum client 3 hours after the birth of her second child. Which clinical finding does the nurse expect?

1. Thready pulse
2. Slow heartbeat
3. Bounding pulse
4. Irregular heartbeat

253. During the postpartum period it is expected for women to have an increased cardiac output with tachycardia. This knowledge should motivate a nurse who is caring for a client with cardiac problems to monitor for:

1. an irregular pulse.
2. respiratory distress.
3. hypovolemic shock.
4. an increase in vaginal bleeding.

254. How should a nurse screen a newborn of a diabetic mother for hypoglycemia?

1. Test for glucose tolerance.
2. Draw blood for a serum glucose level.
3. Arrange for a fasting blood glucose level.
4. Test heel blood with a glucose-oxidase strip.

255. What does a nurse anticipate will be provided for a newborn of a mother with a history of long-standing diabetes?

1. Fast-acting insulin
2. Special high-risk care
3. Routine newborn care

4. Limited glucose intake

256. A nurse anticipates that newborns of mothers who have diabetes often have tremors, periods of apnea, cyanosis, and poor sucking ability. With what complication are these signs associated?

1. Hypoglycemia

2. Hypercalcemia

3. Central nervous system edema

4. Congenital depression of the islets of Langerhans

Nursing Care of the Newborn

257. An infant is born with a bilateral cleft palate. Plans are made to begin reconstruction immediately. What nursing intervention should be included to promote parent-infant attachment?

1. Demonstrating a positive acceptance of the infant
2. Placing the infant in a nursery away from view of the general public
3. Explaining to the parents that the infant will look normal after the surgery
4. Encouraging the parents to limit contact with the infant until after the surgery

258. After an 8 hour, uneventful labor, a client gives birth. After an airway is ensured and the neonate is dried and wrapped in a blanket, the nurse places the newborn in the mother's arms. The mother asks, "Is my baby normal?" What is the nurse's **best** response?

1. "Most babies are normal; of course your baby is."
2. "Your baby must be all right; listen to that strong cry."
3. "Yes, because your entire pregnancy has been so normal."
4. "We will unwrap your baby; now you can see for yourself."

259. What should supportive nursing care in the beginning mother-infant relationship include?

1. Suggesting the mother choose breastfeeding instead of formula feeding
2. Encouraging the mother to assist with simple aspects of her newborn's care
3. Advising the mother to participate in rooming-in with the newborn at the bedside
4. Observing the mother/infant interaction unobtrusively to evaluate the relationship

260. Which behavior indicates to a nurse that a new mother is in the taking-hold phase?

1. Calling the baby by name
2. Talking about the labor and birth
3. Touching the baby with her fingertips
4. Being involved with her need to eat and sleep

261. What is the **most** important factor for a nurse to consider when selecting nursing measures to help parent-child relationships during the immediate postpartum period?

1. Physical status of the infant
2. Duration and difficulty of the labor
3. Anesthesia during the labor process
4. Health and emotional status during the pregnancy

262. When caring for a family on a postpartum unit, a nurse must consider that parenting includes all the tasks, responsibilities, and attitudes that make up child care and that either parent can exhibit these qualities. Which factor is the **most** important influence on parenting ability?

1. Inborn instincts
2. Marriage with flexible roles
3. Childhood roles and concepts
4. Education about growth and development

263. A pilot program is being developed to assist new mothers who are at risk for mother-infant relationship problems. Which mother's situation would make her a candidate for the program?

1. The pregnancy was not planned.
2. There are negative feelings about the birth experience.
3. The pregnancy elicited ambivalent feelings during the first trimester.
4. There was a preference for one sex, but she gave birth to a baby of the other sex.

264. A mother is concerned that her newborn may be exposed to communicable diseases when she

goes home. When teaching the mother ways to decrease the risk of infection, what type of immunity should the nurse explain was transferred to her baby through the placenta?

1. Active natural
2. Passive natural
3. Active artificial
4. Passive artificial

265. A client is rooming-in with her newborn. A nurse observes the infant lying quietly in the bassinet with eyes opened wide. What action should the nurse take in response to the infant's behavior?

1. Brighten the lights in the room.
2. Wrap and then turn the infant to the side.
3. Encourage the mother to talk to her baby.
4. Begin the physical and behavioral assessments.

▶266. A nurse who is assessing a newborn 1 minute after birth determines that the cry is lusty, the heart rate is 150 beats/ min, and the extremities are flexed, but the bottoms of the feet have a marked bluish tinge. What Apgar score does the nurse assign to the neonate? **Record your answer using a whole number.**

Answer: _____

267. What is a nurse's **primary** critical observation when performing an assessment for determining an Apgar score?

1. Heart rate
2. Respiratory rate
3. Presence of meconium
4. Evaluation of Moro reflex

268. A nurse who is assessing a newborn 3 minutes after birth takes into consideration that the heart rate of a healthy, alert neonate may range between:

1. 120 and 180 beats/min.
2. 130 and 170 beats/min.
3. 110 and 160 beats/min.
4. 100 and 130 beats/min.

269. In a noisy room a sleeping newborn initially startles and has rapid movements but soon goes back to sleep. What is the **most** appropriate nursing action in response to this behavior?

1. Accept the infant's behavior.
2. Assess the infant's vital signs.
3. Test the infant's ability to hear.
4. Stimulate the infant's respirations.

▶270. Neonates have difficulty maintaining their body temperature. However, they have several mechanisms to help them maintain it. Which ones should a nurse consider when caring for a newborn? **Select all that apply.**

1. Flexed fetal position
2. Hepatic insulin stores
3. Brown fat metabolism
4. Peripheral vasoconstriction
5. Parasympathetic nervous system

271. A nurse is assessing a newborn's respirations. What clinical findings indicate that the respirations are within the expected range?

1. Regular, thoracic, 40 to 60/min
2. Irregular, thoracic, 30 to 60/min
3. Regular, abdominal, 40 to 50/min
4. Irregular, abdominal, 30 to 60/min

272. At the beginning of the first formula feeding a newborn begins to cough and choke, and the lips become cyanotic. What is the immediate nursing action?

1. Stimulate crying.
2. Suction and then oxygenate.
3. Substitute the formula with sterile water.
4. Stop the feeding momentarily and then restart.

273. At 10 hours of age a neonate's oral cavity is filled with mucus and cyanosis develops. What should the nurse do **first**?

1. Suction.
2. Administer oxygen.
3. Record the incident.
4. Insert a nasogastric tube.

274. Which behavior should a nurse identify as the Moro reflex response?

1. Extension and adduction of the arms
2. Abduction and then adduction of the arms
3. Adduction of the arms and fanning of the toes
4. Extension of the arms and curling of the fingers

275. A newborn has small, whitish, pinpoint spots over the nose that are caused by retained sebaceous secretions. When documenting this observation, a nurse identifies them as:

1. milia.
2. lanugo.
3. whiteheads.
4. mongolian spots.

276. A nurse observes a healthy newborn lying in the supine position with the head turned to the side and legs and arms extended on the same side and flexed on the opposite side. Which reflex does the nurse identify?

1. Moro
2. Babinski
3. Tonic neck
4. Palmar grasp

277. An infant's intestines are sterile at birth, thus lacking the bacteria necessary for the synthesis of:

1. bilirubin.
2. bile salts.
3. prothrombin.
4. intrinsic factor.

278. Which should the nurse explain to a new mother will be delayed until her newborn is 36 to 48 hours old?

1. Vitamin K injection
2. Test for blood glucose level
3. Test for necrotizing enterocolitis
4. Screening for phenylketonuria

279. A nurse teaches a group of postpartum clients that all their newborns will be screened for phenylketonuria (PKU) to:

1. assess protein metabolism.
2. reveal potential retardation.
3. detect chromosomal damage.
4. identify thyroid insufficiency.

280. When assessing a 9-lb neonate 2 hours after birth, a nurse identifies jitteriness, apneic episodes, tachycardia, and temperature instability. What complication do these findings indicate to the nurse?

1. Hyponatremia
2. Hypoglycemia
3. Cardiac defect
4. Immature CNS

281. The practice of separating parents and their newborn immediately after birth and limiting their time with their newborn in the first few days contradicts studies based on:

1. early rooming-in.
2. taking-in behaviors.
3. taking-hold behaviors.
4. parent-child attachment.

282. After birth, when inspecting her newborn, a mother notices a discharge from the nipple of both of her infant's breasts. She asks why this is happening. How should the nurse respond?

1. "It is an effect from maternal hormones."
2. "It is caused by Monilia contracted during birth."
3. "There may be a congenital hormonal imbalance."
4. "There was a uterine infection during the pregnancy."

283. While a mother is inspecting her newborn she expresses concern that her baby's eyes are crossed. How should the nurse respond?

1. "Take another look. They seem fine to me."
2. "It's all right. Most babies have crossed eyes."
3. "This is expected. Your baby is trying to focus."
4. "You're right. I'll contact your health care provider."

284. A nurse decides on a teaching plan for a new mother and her infant. What should the plan include?

1. Schedule for teaching infant care
2. Demonstration and explanation of infant care
3. Discussion of mothering skills in a nonthreatening manner
4. Emotional support and dependence on the nurse's expertise

285. A client asks the nurse what advantage breastfeeding has over formula feeding. What major group of substances in human milk are of special importance to the newborn and cannot be reproduced in a bottle formula?

1. Amino acids
2. Gamma globulins
3. Essential electrolytes
4. Complex carbohydrates

►286. A nurse is testing a newborn's heel blood for the level of glucose. Which newborns does the nurse anticipate will experience hypoglycemia? **Select all that apply.**

1. Preterm infants
2. Infants with Down syndrome
3. Small-for-gestational-age infants
4. Large-for-gestational-age infants
5. Appropriate-for-gestational-age infants

287. Which newborn assessment identified immediately after birth will probably necessitate prolonged follow-up care?

1. Apgar score of 5
2. Weight of 3500 grams
3. Blood glucose level of 50 mg/dL
4. Umbilical cord with 2 blood vessels

▶288. A neonate at 1 minute after birth has a weak cry, a heart rate of 90 beats/min, some flexion of the extremities, grimacing, and acrocyanosis. What is the Apgar score for this neonate? **Record your answer using a whole number.**

Answer: _____

289. A newborn's Apgar score at 5 minutes is 5. With what condition does a low Apgar score at 5 minutes after birth correlate that requires intensive monitoring of this neonate?

1. Cerebral palsy
2. Genetic defects
3. Mental retardation
4. Neonatal morbidity

▶290. During the initial assessment of a newborn the nurse suspects a congenital heart defect. Which clinical manifestations support this suspicion? **Select all that apply.**

1. Nasal flaring
2. Sternal retractions
3. Grunting respirations
4. Short periods of apnea
5. Cyanotic hands and feet
6. Heart rate of 160 beats/min

291.▶ An infant born in the 36th week of gestation weighs 4 lb 3 oz (2062 g) and has Apgar scores of 7/9. What nursing actions will be performed upon admission to the nursery? **Select all that apply.**

1. Recording vital signs
2. Administering oxygen
3. Offering a bottle of dextrose in water
4. Evaluating the neonate's health status
5. Supporting the neonate's body temperature

292. A nurse is teaching a group of new mothers about breastfeeding. Which factor that influences the availability of milk in the lactating woman should the nurse include in the teaching?

1. Age of the woman at the time of the birth
2. Distribution of erectile tissue in the nipples
3. Amount of milk products consumed during pregnancy
4. Viewpoint of the woman's family toward breastfeeding

293. While teaching a prenatal class about infant feeding, the nurse is asked a question about the relationship between the size of breasts and breastfeeding. How should the nurse respond?

1. "Breast size is not related to milk production."

2. "Motivated women tend to breastfeed successfully."
3. "You seem to have some concern about breastfeeding."
4. "Glandular tissue in the breasts determines the amount of milk produced."
294. A woman learning about infant feedings asks a nurse how anyone who is breastfeeding gets anything done with a baby on demand feedings. Which is the **best** response by the nurse?
1. "Most mothers find that feeding the baby whenever the baby cries works out fine."
 2. "Perhaps a schedule might be better because the baby is already accustomed to the hospital routine."
 3. "Babies on demand feedings eventually set a schedule, so there should be time for you to do other things."
 4. "Most breastfeeding mothers find that their babies do better on demand because the amount of milk ingested may vary at each feeding."
295. A nurse is caring for four clients who each have one of the following conditions. Which client should the nurse anticipate will be instructed not to breastfeed by the health care provider?
1. Mastitis
 2. Inverted nipples
 3. Herpes genitalis
 4. Human immunodeficiency virus
296. A nurse is teaching breast care to a client who is breastfeeding. Which client statement indicates that the teaching was effective?
1. "I should air dry my nipples after each feeding."
 2. "Mild soap is appropriate for washing my breasts."
 3. "My breast pads should be lined with plastic shields."
 4. "I will remove my brassiere before I go to bed at night."
297. A client who is breastfeeding is being discharged. The client tells the nurse that she is worried because her neighbor's breasts "dried up" when she got home and she had to discontinue breastfeeding. What should the nurse reply?
1. "Once lactation is established, this rarely happens."
 2. "You have little to worry about because you already have a good milk supply."
 3. "This can happen with the excitement of going home, but putting the baby to breast more often should reestablish lactation."
 4. "This commonly happens, so we will give you a bottle of formula to take home then the baby won't go hungry until your milk supply returns."
298. A nurse is teaching breastfeeding to a client. Which client statement indicates the need for further instructions?
1. "I will try to empty my breasts at each feeding."
 2. "I will start with an alternate breast at each feeding."
 3. "My breasts should be washed with soapy water before I breastfeed."
 4. "My baby's cheek should be stroked gently when I am ready to breastfeed."
299. What should be included in a plan of care to limit the development of hyperbilirubinemia in the breastfed neonate?
1. Encouraging more frequent breastfeeding during the first 2 days
 2. Instituting phototherapy for 30 minutes every 6 hours for 3 days
 3. Substituting breastfeeding with formula feeding on the second day
 4. Supplementing breastfeeding with glucose-water during the first day
300. Two days after being discharged a new mother calls the clinic stating that she is not sure if her

baby is receiving enough breast milk. What information does the nurse need to determine if the infant is being fed adequately?

1. Voids 4 times before 2 PM
2. Sleeps $3\frac{1}{2}$ to 4 hours between feedings
3. Has at least 2 or more bowel movements a day
4. Nurses 5 minutes on the first breast and 10 on the other

301. What client behavior indicates to the nurse that a woman needs further teaching about breastfeeding her newborn?

1. When she leans forward to place her breast into the infant's mouth
2. If she holds the infant level with her breast while in a side-lying position
3. If she touches her nipple to the infant's cheek at the beginning of the feeding
4. When she puts her finger in the infant's mouth to break the suction after the feeding

302. A 2-day-old infant who weighs 6 lb (2722 g) is fed formula every 4 hours. Newborns need about 73 mL of fluid per pound of body weight each day. Based on this information, approximately how much formula should the infant receive at each feeding?

1. 1 to 2 oz
2. 2 to 3 oz
3. 3 to 4 oz
4. 4 to 5 oz

303. A client asks about the difference between cow's milk and breast milk. The nurse should respond that cow's milk differs from human milk in that it contains:

1. less protein, less calcium, and more carbohydrates.
2. less protein, more calcium, and more carbohydrates.
3. more protein, less calcium, and fewer carbohydrates.
4. more protein, more calcium, and fewer carbohydrates.

304. While performing bag and mask ventilation on a newborn, a nurse does not see the newborn's chest rise. Place the following interventions in order of their priority.

1. _____ Reposition the head.
2. _____ Open the mouth slightly.
3. _____ Apply the mask for a better seal.
4. _____ Suction the mouth if there are secretions.
5. _____ Assess the neonate's response to these measures.

305. At 12 weeks' gestation, a client who is Rh negative expels the total products of conception. What is the nursing action after it has been determined that she has not been previously sensitized?

1. Administer RhoGAM within 72 hours.
2. Make certain that RhoGAM is administered at the first clinic visit.
3. Withhold the RhoGAM, because the gestation lasted only 12 weeks.
4. Withhold the RhoGAM, because it is not used after the birth of a stillborn.

306. A client who has type O Rh-positive blood gives birth. The neonate has type B Rh-negative blood. When the nurse assesses the neonate 11 hours after birth, the infant's skin appears yellow. What is the **most** likely cause?

1. Neonatal sepsis
2. Rh incompatibility
3. Physiologic jaundice
4. ABO incompatibility

307. A nurse in the newborn nursery observes a yellowish skin color of an infant whose mother had a cesarean birth. What is the **immediate** nursing action?

1. Notify the health care provider.
2. Ascertain how many hours ago the neonate was born.
3. Take a heel blood sample and send it to the laboratory.
4. Cover the eyes and place the neonate under high-intensity light.

308. A primigravida has just given birth. The nurse is aware that she has type AB Rh-negative blood. Her newborn's blood type is B positive. What should the plan of care include?

1. Determining the father's blood type
2. Preparing for a maternal blood transfusion
3. Observing the newborn for signs of ABO incompatibility
4. Obtaining an order to administer RhoGAM to the mother

309. A nurse is assessing a newborn for signs of hyperbilirubinemia (pathologic jaundice). What clinical finding confirms this complication?

1. Neurologic signs during the first 24 hours
2. Muscular irritability within 1 hour after birth
3. Jaundice developing between the first 12 and 24 hours
4. Jaundice developing between 48 and 72 hours after birth

310. The nurse is differentiating between cephalohematoma and caput succedaneum. What finding is unique to caput succedaneum?

1. Scalp over the area is tender.
2. Edema crosses the suture line.
3. Edema increases during the first day.
4. Scalp over the area becomes ecchymosed.

311. For what complication should a nurse assess a newborn after a precipitate birth?

1. Brachial palsy
2. Dislocated hip
3. Fractured clavicle
4. Intracranial hemorrhage

312. A preterm neonate admitted to the neonatal intensive care nursery (NICU) has muscle twitching, seizures, cyanosis, abnormal respirations, and a short, shrill cry. What complication does the nurse suspect?

1. Tetany
2. Spina bifida
3. Hyperkalemia
4. Intracranial hemorrhage

313. An infant is born in the breech position and assessment of the newborn indicates the presence of Erb palsy (Erb-Duchenne paralysis). What clinical manifestation supports this conclusion?

1. Absent grasp reflex on the affected side
2. Negative Moro reflex on the unaffected side
3. Inability to turn the head to the unaffected side
4. Flaccid arm with the elbow extended on the affected side

314. What should nursing care for the affected arm of an infant born with Erb-Duchenne paralysis (brachial palsy) include?

1. Keeping it immobilized

2. Measuring the length of the arm daily
 3. Teaching the parents to manipulate the arm muscles
 4. Starting passive range of motions exercises immediately
315. A newborn has a diagnosis of Erb palsy (Erb-Duchenne paralysis). What does a nurse identify as the cause of this complication?
1. A disease acquired in utero
 2. An X-linked inheritance pattern
 3. A tumor arising from muscle tissue
 4. An injury to the brachial plexus during birth
316. A newborn has an asymmetric Moro reflex. What does a nurse identify as a cause of this problem?
1. Down syndrome
 2. Cranial nerve damage
 3. Cerebral or cerebellar birth injuries
 4. Brachial plexus, clavicular, or humeral birth injuries
317. A nurse suspects that a newborn is experiencing opioid withdrawal. Which assessment supports this suspicion?
1. Lethargy and constipation
 2. Grunting and low-pitched cry
 3. Irritability and nasal congestion
 4. Watery eyes and rapid respirations
318. For what should a nurse assess in a newborn of a mother who is known to abuse opioids?
1. Dehydration
 2. Hyperactivity
 3. Hypotonicity of muscles
 4. Prolonged periods of sleep
319. A nurse in the clinic assesses that a 4-day-old neonate who was born at home has a purulent discharge from the eyes. What condition does the nurse suspect ?
1. A *Chlamydia trachomatis* infection
 2. Human immunodeficiency virus (HIV)
 3. Retinopathy of prematurity (retrolental fibroplasia)
 4. A reaction to the ophthalmic antibiotic instilled after birth
320. An infant develops purulent conjunctivitis on the fourth day of life and is brought to the emergency department. What is the **priority** nursing action?
1. Assess for signs of pneumonia.
 2. Secure an order for allergy testing of the infant.
 3. Bathe the infant's eyes with tepid boric acid solution.
 4. Teach the mother to wash her hands before touching the infant.
321. What should the care of a newborn infant whose mother has had untreated syphilis since the second trimester of pregnancy include?
1. Examining for a cleft palate
 2. Testing for congenital syphilis
 3. Assessing for muscle hypotonicity
 4. Observing for maculopapular lesions of the soles
322. A nurse must continuously monitor a preterm infant's temperature and provide appropriate

nursing care because unlike the full-term infant, the preterm infant:

1. cannot use shivering to produce heat.
2. cannot break down glycogen to glucose.
3. has a limited supply of brown fat available to provide heat.
4. has a limited amount of pituitary hormones to control internal heat.

323. A nurse must meet the hydration needs of a preterm infant. What should the nurse consider about the preterm infant's kidney function?

1. Large amounts of urine are excreted.
2. It is the same as in a full-term newborn.
3. Urine is concentrated with an elevated specific gravity.
4. Acid-base and electrolyte balance are adequately maintained.

324. What is the **most** common complication for which a nurse must monitor preterm infants?

1. Hemorrhage
2. Brain damage
3. Respiratory distress
4. Aspiration of mucus

325. A nurse is caring for preterm infants with respiratory distress in the neonatal intensive care unit (NICU). What is the **priority** nursing action?

1. Limit caloric intake to decrease metabolic rate.
2. Maintain the prone position to prevent aspiration.
3. Limit oxygen concentration to prevent eye damage.
4. Maintain a high-humidity environment to promote gas exchange.

Answers and Rationales

Nursing Care to Promote Childbearing and Women's Health

1. 2 Nurses who counsel clients about abortion should know what services are available and the various methods that are used to induce abortion. Nurses who cannot control their negative feelings toward abortion should not counsel women who are thinking of undergoing the procedure.

1 Nursing practice necessitates knowledge of research results; statements must be based on fact, not personal feelings or beliefs. **3** The nurse should give the client only the information requested and should not state personal feelings. **4** The nurse is responsible for giving information about abortion and need not defer to the health care provider.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 23, Induced Abortion, Nursing Care

2. 3 This response is a positive negotiation to be reassigned to an area where the nurse's personal values will not pose a problem.

1 This is an ineffective way to resolve value conflict; undoubtedly, a client would sense this conflict. **2** The nurse may not have the legal, ethical, or professional right to refuse this assignment if employed by the facility. **4** Imposing this kind of advice is unethical and unprofessional.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Nursing Care

3. 4 The client must feel comfortable enough to verbalize her feelings; this helps to complete the grieving process.

1 This is a false assumption. **2** Induced abortion is a sterile procedure and should not predispose the client to postoperative infection. **3** Studies show that contraceptive counseling at this time is most important, because the client may not return after the abortion.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 23, Induced Abortion, Nursing Care

4. 2 Because mothering is not an inborn instinct in humans, almost all mothers, including multiparas, report some ambivalence and anxiety about their mothering ability.

1 Frequently maternal feelings are nurtured by the sight of the infant. **3** The length of time it takes to develop these feelings is specific for each individual. With some mothers it may take a much longer time. **4** Ambivalent feelings are universal in response to a neonate.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

5. 3 Although support may help minimize guilt, it will not eliminate it; however, support will sustain family cohesion and unity.

1 Support may help, but it does not completely alleviate guilt feelings. **2** Support does not affect the legal responsibility of the parents. **4** This may help, but it cannot completely relieve pressure.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Induced Abortion, Nursing Care

6. 2 Some type of a barrier contraceptive (condom with foam or jelly or a diaphragm) is usually recommended for the client with diabetes and heart disease.

1 Oral contraceptives are not recommended for this client because of their tendency to alter glucose

tolerance. **3** An IUD is not recommended because it may predispose this client to infection. **4** Clients with heart disease can become pregnant again in the future.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Nursing Care

7. 4 Subsequent to IUD insertion there may be an excessive menstrual flow for several cycles; because the IUD is a foreign body, there is an increase in the blood supply as a result of the inflammatory process.

1 There is no documentation of this. **2** This may occur on insertion but is uncommon. **3** This may occur, but it is not classified as a side effect.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Data Base

8. 2 The IUD may cause irritability of the myometrium, inducing contraction of the uterus and expulsion of the device.

1 This is a rare, rather than a common, occurrence. **3** Clients do not report discomfort during coitus when an IUD is in place. **4** Increased vaginal infections are not reported with the use of an IUD.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Data Base

9. 4 Intrauterine devices produce a spermicidal intrauterine environment; a copper IUD (ParaGard T380A) inflames the endometrium, damaging or killing sperm and preventing fertilization and/or implantation; a Mirena IUD (LNG-IUS) releases levonorgestrel, damaging sperm and causing the endometrium to atrophy, thus preventing fertilization and/implantation.

1 A diaphragm blocks the cervical os. **2** This is not the action of an IUD. **3** This is the function of a condom.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Data Base

10. 3 The ovum is capable of being fertilized for 24 to 36 hours following ovulation; after this time it travels a variable distance between the fallopian tube and uterus, and if not fertilized, disintegrates and is phagocytized by leukocytes.

1, 2 The ovum is viable a longer time. **4** The ovum is not fertilizable after 36 hours.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Menstrual Cycle

11. 1 As ovulation approaches there may be a drop in the basal temperature because of an increased production of estrogen; when ovulation occurs there will be a rise in the basal temperature because of an increased production of progesterone.

2 At ovulation the temperature rises after a slight drop. **3** At ovulation the temperature drop is slight, not marked. **4** At ovulation the temperature drops slightly and then rises.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Data Base

12. 3 Breakthrough bleeding commonly occurs when clients begin taking oral contraceptives; it

is midcycle bleeding, and if it persists, the dosage should be changed.

1 Cervicitis is unrelated to oral contraceptive use. **2** At this time there is no evidence that ovarian cysts are related to oral contraceptive use. **4** Fibrocystic breast disease is unrelated to oral contraceptive use.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Data Base

13. 4 Some spermatozoa will remain viable in the vas deferens for a variable time after vasectomy.

1 There has been some success in reversing this procedure. **2** Precautions must be taken to prevent fertilization until absence of sperm in the semen has been verified. **3** The procedure does not affect sexual functioning.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Nursing Care

14. 1 Although unusual, conception can occur during menses.

2 The pill prevents ovulation and therefore conception. However, the pill does not protect a female from being exposed to a sexually transmitted microorganism. **3** Sperm do not survive in a large body of water. **4** Condoms provide the lowest risk of developing an STI. The risk of pregnancy when using a male condom is about 14%, and when used correctly and consistently it is 3%; the risk of pregnancy if a female condom is used is 21%.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 23, Family Planning, Contraceptive Methods

15. Answer: 1, 5, 6.

1 Oral agents have a hormonal component. **2** Diaphragms act as a barrier. **3** Cervical caps act as a barrier. **4** Female condoms act as a barrier. **5** Foam spermicides kill the sperm; there is no hormonal effect. **6** Transdermal agents have a hormonal component.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 23, Contraceptive Methods, Data Base

16. 1 Stress or infection can alter the body's metabolism, causing an elevation in temperature; a rise in temperature from these causes may be misinterpreted as ovulation.

2 This may increase sperm volume but does not affect the female's basal temperature. **3** Age is not a factor concerning efficiency of the basal body temperature method of contraception in premenopausal woman. **4** Frequency of intercourse may affect the volume of sperm but does not alter the female's basal temperature.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Data Base

17. 1 Antiovulatory drugs suppress menstruation. Breakthrough bleeding is not expected with biphasic drugs. The drug is given for 21 days, and a menstrual flow does not occur during this time.

2 Sexual activity is not restricted when one is taking oral contraceptives. **3** There is no indication for increased Pap smears; once a year is sufficient. **4** Increasing calcium intake is not relevant to the administration of oral contraceptives.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Nursing Care

18. 4 Excessive bleeding should be reported because it is an indication that all of the products of conception have not been evacuated.

1 The client may shower daily. **2** Tampons should be avoided for at least 3 days, although some protocols stress avoidance of tampons for 3 weeks. **3** Depending on the protocol, sexual intercourse should be avoided for at least 1 week and up to 2 weeks.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Induced Abortion, Nursing Care

19. 3 A follow-up visit 4 to 8 days later should confirm that the abortion has occurred.

1, 4 This is too soon. **2** This is too late.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Induced Abortion, Data Base

20. 3 A laparoscopic tubal ligation takes about 20 minutes to perform. The client is admitted as an outpatient and goes home the same day after she recovers from the anesthesia.

1 Menstruation will continue because there is no trauma to the ovaries or the endocrine glands involved with reproduction. **2** Sterility is immediate; a waiting period is not required as with a vasectomy. **4** Microsurgery to reverse the procedure is not guaranteed or easily accomplished.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Contraceptive Methods, Data Base

21. 3 Ovulation occurs 14 days before the onset of menses.

1 Midway between cycles is appropriate only if the client has a 28-day cycle. **2** This means that ovulation occurs on approximately day 5 of the menstrual cycle, which is not factual. **4** Variations in the cycle occur in the preovulation period; it is not as accurate as counting 14 days before the next expected menses.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Menstrual Cycle

22. 4 At this time, because of increased estrogen levels, the cervical mucus is abundant, and its quality changes in such a way as to optimize sperm survival time.

1 Cervical mucus at this time is no longer receptive to spermatozoa. **2** Cervical mucus is destructive to spermatozoa and sperm penetration at this time. **3** The cervical mucus at this time is not yet receptive to spermatozoa.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Menstrual Cycle

23. 2 Past pelvic infections may result in tubal occlusions, most of which are caused by postinfection adhesions.

1 Although a tubal injury is possible, tubal infections are more common. **3** This is a benign tumor of the uterus and does not affect the tube. **4** Tubal congenital anomalies are rare; uterine anomalies are more common.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 23, Infertility and Sterility

24. 1 A strategy for increasing the chances of conceiving requires the couple to plan intercourse only while the woman is ovulating; this removes spontaneity and is often stressful.

2 Obtaining and delivering the necessary specimens may be inconvenient but should not be stressful. **3** The number of office visits and examinations that are required may be cumbersome but should not be stressful. **4** Although taking daily temperatures may be annoying, it should not be stressful.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Infertility and Sterility

25. 2 This is an accurate, objective statement that should be included in a discussion of genetic factors that influence fertility.

1 This is not the role of the nurse; based on the objective data imparted by the nurse, the couple should make the decision whether or not to be tested. **3, 4** This information is not relevant at this time and might cause unnecessary concern.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Infertility and Sterility

26. 2 When the testes are twisted, a decrease in their blood supply occurs. This can result in gangrene.

1 Medication can be given to relieve pain. **3** The testes do not rupture if edema occurs. **4** Sperm are continually produced, so their destruction is not the concern.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Infertility and Sterility

27. 4 This test enables the examiner to visualize the uterus and fallopian tubes and the pelvic organs of reproduction.

1 A biopsy is the surgical excision of tissue for diagnostic purposes. **2** A cystogram is used to visualize the urinary bladder. **3** A culdoscopy is the direct examination of female pelvic viscera using an endoscope introduced through a perforation in the vagina.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Infertility and Sterility

28. 1 Providing factual information decreases fear and fosters further communication.

2 Cervical cancer is asymptomatic in the early stages. **3** This offers false reassurance. **4** At this time the client may not be able to focus on written instructions; also, the anxiety may be related to the potential implications of the results of the test rather than the actual procedure.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Related Procedures, Pelvic Examination

29. 2 January 16. The time between ovulation and the next menstruation is relatively constant. Within a 30-day cycle the first 15 days are preovulatory, ovulation occurs on day 16, and the next 14 days are postovulatory.

1, 3, 4 This answer reflects an inaccurate calculation of the date of ovulation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 23, Menstrual Cycle

Nursing Care Related to Major Disorders Affecting Women's Health

30. 2 Leuprolide (Lupron) is administered once a month via IM injection; it decreases LH and FSH levels, as well as hormone-dependent tissue. One of its side effects is hot flashes.

1 Estrogen (Premarin) affects the release of pituitary gonadotropins and inhibits ovulation; it is contraindicated because the goal of treatment is to suppress the action of estrogen on the endometrial tissue. **3** Diclofenac (Voltaren) is used for primary dysmenorrhea; it is an NSAID that inhibits prostaglandin synthesis. **4** Ergonovine (Ergotrate) is used to contract the postpartum uterus.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 24, Endometriosis, Data Base

31. 1 Ceftriaxone (Rocephin) is a broad-spectrum antibiotic and is preferred during pregnancy.

2 Levofloxacin (Levaquin), although listed as an unlabeled use for gonococcal infection, should not be prescribed during pregnancy. **3** Sulfonamides may cause hemolysis in the fetus. **4** Trimethoprim/sulfamethoxazole (Bactrim) contains a sulfonamide and is contraindicated during pregnancy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 24, Vaginitis, Data Base

32. 2 Persistent pain of any kind during menstruation (dysmenorrhea) usually indicates a problem, and the client should seek medical attention.

1 Although diversion is a method to alter pain perception, the presence of pain requires investigation of possible causes. **3** Although a nutritious diet is beneficial, iron does not prevent the pain of dysmenorrhea. **4** Voluntary relaxation of the abdominal muscles does not result in cessation of dysmenorrhea.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Endometriosis, Data Base

33. Answer: 3, 4.

1 This is not related to endometriosis. **2** This is not related to endometriosis. **3** Endometriosis is the presence of aberrant endometrial tissue outside the uterus. The tissue responds to ovarian stimulation and bleeds during menstruation, which causes rectal pressure. **4** Endometriosis is the presence of aberrant endometrial tissue outside the uterus. The tissue responds to ovarian stimulation and bleeds during menstruation, which causes abdominal pain. **5** This is not related to endometriosis. **6** Pelvic infections are not caused by endometriosis; they most frequently are sexually transmitted.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 24, Endometriosis, Data Base

34. 4 The nurse must determine the client's feelings concerning loss of fertility; if she is childless, the client must cope with the knowledge that unless ova are removed and frozen before the surgery, her genes will not be passed to the next generation, even with in vitro fertilization.

1 Laparoscopic surgery is relatively painless. **2** Since the abdominal cavity is not entered, there is minimal risk of hemorrhage. **3** There is no evidence to indicate that a chronic illness is related to the need for the surgery.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 24, Endometriosis, Nursing Care

35. Answer: 1, 3.

1 The posterior vaginal wall is pushed forward by the herniation of the rectum; this protrusion causes painful intercourse. **2** A rectocele is not accompanied by abdominal pain. **3** The posterior vaginal wall is pushed forward by the herniation of the rectum; this protrusion increases rectal pressure and causes the bearing-down sensation. **4** This is the primary sign of a cystocele. **5** A cystocele, not a rectocele, is associated with urinary tract infections.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 24, Cystocele and/or Rectocele, Data Base

36. 4 As the uterus drops, the vaginal wall relaxes. When the bladder herniates into the vagina (cystocele) and the rectal wall herniates into the vagina (rectocele), the individual feels pressure or pain in the lower back and/or pelvis. When there is an increase in intraabdominal pressure in the presence of a cystocele, incontinence results.

1 A white vaginal discharge (leukorrhea) and vaginal itching (pruritus) do not indicate cystocele and rectocele; they are common with a vaginal infection. **2** Sporadic bleeding is not expected with cystocele and rectocele. **3** These are not expected with cystocele and rectocele; a fever would indicate an infection; constipation, not diarrhea, is more likely to occur.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 24, Cystocele and/or Rectocele, Data Base

37. Answer: 1, 3, 4.

1 Distention causes discomfort; this is avoided because the catheter prevents retention. **2** Because the bladder is continually empty when an indwelling catheter is in place, it loses tone; this is an expected side effect. **3** The effects of anesthesia and the inflammatory process may impede voiding, leading to urinary retention; an indwelling catheter empties the bladder. **4** Distention places pressure on the suture line; this is avoided because the indwelling catheter prevents retention. **5** This is not necessary; hourly urine outputs reflect kidney function.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Cystocele and/or Rectocele, Nursing Care

38. 1 Immediately after this type of surgery, pain is associated with bearing down; the client should be instructed to increase fluid, fiber, and activity to prevent constipation.

2 Exercise is encouraged. **3** The anterior colporrhaphy is expected to reduce incontinence; urinary retention is not expected. **4** The colporrhaphy involves only the vaginal wall; the rectum should not be involved.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Cystocele and/or Rectocele, Nursing Care

39. 4 Ulcerations may occur when the vagina and uterus are displaced and exposed.

1 Edema is not usually the problem. **2** Fistulas are not associated with procidentia. **3** Exudate is not present with procidentia.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 24, Prolapsed Uterus, Nursing Care

40. 3 Moist compresses may be ordered to prevent ulcerations.

1 Ambulation is contraindicated; it will predispose to the development of ulcerations. **2** This is ineffective because gravity alone does not correct the prolapse. **4** This may cause irritation and

should be avoided.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Prolapsed Uterus, Nursing Care

41. 2 The Fowler position facilitates localization of the infection by pooling exudate in the lower pelvis.

1, 3 This position does not use gravity to promote pooling of exudate in the lower pelvis. **4** This position does not use gravity to promote pelvic drainage despite an elevated head.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Pelvic Inflammatory Disease, Nursing Care

42. 1 Erosion of the cervix frequently occurs at the columnosquamous junction, the most common site for carcinoma of the cervix.

2 Treatment of cervical erosions does not prevent pelvic inflammatory disease; early onset of sexual intercourse (before 16 years of age), multiple sexual partners, and history of human papillomavirus (HPV) infection are risk factors for cancer of the cervix rather than consequences of precervical cancer. **3** Metrorrhagia, abnormal bleeding from the uterus, may be present as erosion develops into carcinoma; however, spotting may be the earliest sign and will be eliminated when the cancer is treated. **4** The goal of treatment of the erosion is to prevent cancer.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Cancer of the Cervix, Data Base

43. 3 Polyps are usually benign, but a biopsy should be done because epidermoid cancer occasionally arises from cervical polyps.

1 Polyps usually are benign. **2** Polyps rarely are the precursors of uterine cancer. **4** Bleeding may occur whether they are benign or malignant.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 24, Uterine Neoplasms, Data Base

44. 4 Any sign of abnormal vaginal bleeding may indicate cervical cancer and must be investigated.

1 Discomfort is a late sign of cervical cancer because there are few nerve endings in this area. **2** The cancer must be extensive to cause pressure. **3** Discharge becomes foul-smelling after there is necrosis and infection; it is not an early sign.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 24, Cancer of the Cervix, Data Base

45. 1 According to the International Federation of Gynecology and Obstetrics, stage 0 is indicative of preinvasive cancer. When the cancerous cells are completely confined within the epithelium of the cervix without stromal invasion, it is stage 0 and called carcinoma in situ.

2 This is stage IA; there is minimal stromal invasion. **3** This is stage II and involves the area around the broad ligaments but not the pelvic wall; there is extension to the corpus of the uterus. **4** This is stage I.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 24, Cancer of the Cervix, Data Base

46. 4 Rare cell adenoma of daughters is associated with mothers who took DES or DES-type drugs during pregnancy.

- 1** Although DES was prescribed between 1941 and 1971 to reduce the risk for spontaneous abortion in high-risk women, this question will not elicit specific information about DES. **2** Use of oral contraceptives is not associated with DES exposure. **3** The client with DES-related problems may exhibit abnormal bleeding or a heavy mucoid vaginal discharge, not lesions on the perineum. **Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 24, Cancer of the Cervix, Data Base
- 47. 2 The physical trauma of the procedure will result in a blood-tinged vaginal discharge for several days.**
- 1** Vaginal packing will be in place for 2 to 3 days; intercourse and tampon use should be delayed until total healing occurs. **3** Conization does not involve an external incision or dressing. **4** Conization affects only the cervix and does not alter reproductive ability. **Client Need:** Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 24, Cancer of the Cervix, Nursing Care
- 48. 3 Aprons do not protect the posterior side of the caregiver; therefore, the nurse should always keep the front of the apron facing the source of radiation.**
- 1** This is unnecessary. Body fluids of clients with unsealed, not sealed, implants may be contained in a specially marked container, while others are allowed to use a toilet followed by several flushes. **2** Client receiving radioactive sealed or unsealed therapy should be in a private room with a private bath. This protects other clients receiving internal radiation from excessive exposure. **4** Visiting should be limited to those individuals who are 16 years of age and older. Visits should last no longer than 30 minutes daily. Visitors should be taught to maintain a 6-foot distance from the source of the radiation. **Client Need:** Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Cancer of the Cervix, Nursing Care
- 49. 1 An panhysterectomy in the premenopausal woman produces artificial onset of menopause.**
- 2, 3, 4** Because the uterus is removed, there will be no uterine endometrial proliferation and no desquamation. **Client Need:** Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Uterine Neoplasms, Data Base
- 50. 4 A hysterectomy involves only removal of the uterus. The ovaries, which secrete estrogen and progesterone, are not removed. Therefore, menopause will not be precipitated but will occur naturally.**
- 1** Surgical menopause is precipitated by the removal of the ovaries, not the uterus. **2** When the ovaries are removed, older women might have less severe symptoms than younger women; however, in this instance the ovaries are not removed. **3** This does not answer the question. The nurse should serve as a resource person. **Client Need:** Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Uterine Neoplasms, Data Base
- 51. 4 The nurse cannot prescribe medication. In addition, the use of hormones is controversial and depends on the health care provider's beliefs and the client's needs.**
- 1, 3** This is advice the nurse is not legally licensed to provide. **2** This is an evasive response; it does

not answer the client's question.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Uterine Neoplasms, Data Base

52. 1 During an abdominal hysterectomy the urinary bladder may be nicked accidentally.

2 The client is not likely to develop an infection with bleeding so soon. **3** Bleeding would be present from other sites, such as the incision, as well as in the urinary bag. **4** The uterus is removed with a hysterectomy; therefore, there is no uterine bleeding.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 24, Uterine Neoplasms, Nursing Care

53. 4 Estrogen receptor protein (ERP)–positive tumors have a more dramatic response to hormonal therapies that reduce estrogen.

1 Estrogen contributes to tumor growth; supplements are not indicated. **2** This does not influence breast reconstruction. **3** ERP-positive is unrelated to metastasis.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Cancer of the Breast, Data Base

54. 3 Postoperatively the arm on the operated side is elevated on pillows, with the hand higher than the arm to prevent muscle strain and edema.

1 Total immobilization should be avoided, and adduction may put undue pressure on the operative site. **2** Although the arm is slightly abducted, sandbags are not used because complete immobility should be prevented. **4** This will impair venous return and increase edema.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Cancer of the Breast, Nursing Care

55. 1 Deep breathing aids in expanding lung tissue and prevents stasis of pulmonary secretions.

2 Although empathetic, delay could compromise the client's respiratory status. **3** This may result in atelectasis and retained respiratory secretions. **4** This only states a fact and provides no option to meet the need to limit pain or the need to prevent atelectasis.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Caring; Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Cancer of the Breast, Nursing Care

56. 4 This defect in bone matrix formation weakens the bones, making them unable to withstand usual functional stresses.

1 Avascular necrosis is death of bone tissue that results from reduced circulation to bone. **2** Pathologic fractures can result from osteoporosis. **3** Hyperplasia of osteoblasts is not related to osteoporosis. This occurs during bone healing.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Osteoporosis, Data Base

57. 1 This regimen limits bone demineralization and reduces bone pain, which promote increased activity.

2 This is unrelated to osteoporosis; it would be an expected outcome if the client were receiving calcium for hypocalcemia. **3** This is unrelated to osteoporosis or its therapy. **4** This is unrelated to osteoporosis; it would be expected if the client were receiving vitamin C for capillary fragility.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 24, Osteoporosis, Nursing Care

58. 3 Prolonged immobility results in bone demineralization because there is decreased bone production by osteoblasts and increased resorption by osteoclasts.

1 Estrogen helps prevent bone demineralization. **2** Hypoparathyroidism decreases mobilization of calcium from the bones, and thus serum calcium level is lowered. **4** Decreased calcium intake or absorption may precipitate osteoporosis.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 24, Osteoporosis, Data Base

59. 3 Turnip greens are high in calcium and vitamins.

1 High levels of nitrogen from protein breakdown may increase the release of calcium from bone to serve as a buffer of the nitrogen. **2** Soft drinks that are high in phosphorus may interfere with calcium absorption from the gastrointestinal (GI) tract. **4** Enriched grains that are high in phosphorus may interfere with calcium absorption from the GI tract.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 24, Osteoporosis, Nursing Care

60. 3 A diet high in calcium and exercise, which helps deposit calcium into bone, are the most important factors in limiting the extent of osteoporosis.

1 Weight gain should be discouraged to limit stress on the client's bones. **2** Increased, not decreased, urine calcium should be monitored because it reflects demineralization of bone. **4** Opioids usually are not prescribed; other analgesics are used for pain.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 24, Osteoporosis, Nursing Care

61. Answer: 3, 5.

1 Weight loss should be slow and reasonable; restricting calories promotes production of the hormone leptin, which stimulates bone loss. **2** Eight hundred or more (up to 2,000), international units (IU), not 400 IU, of vitamin D are the recommended daily intake for a postmenopausal woman. **3** This is the recommended daily intake of calcium for a postmenopausal woman. **4** These activities may promote overall health and vigor; they will not increase the strength or mass of bone. **5** Weight-bearing activities (e.g., walking, dancing, weight lifting, and aerobic exercise) are best for building bone mass.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 24, Osteoporosis, Nursing Care

62. 4 Teriparatide (Forteo) is a 34–amino acid polypeptide that represents the biologically active part of human parathyroid hormone; it enhances bone microarchitecture and increases bone mass and strength.

1 Supplemental intake of vitamin A should not exceed recommended daily requirements; too much vitamin A has been associated with bone loss and an elevated rate of fractures. **2** Alendronate sodium (Fosamax), a regulator of bone metabolism, not teriparatide (Forteo), inhibits osteoclast-mediated bone resorption, minimizing loss of bone density. **3** Sunscreen should be avoided to promote exposure to the sun so that vitamin D can be converted in the skin; vitamin D helps the body absorb calcium. Sunscreen should be used after 5 to 20 minutes of exposure to prevent the negative effects of prolonged exposure to ultraviolet rays.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Nursing Process: Planning/Implementation; **Reference:** Ch 24, Osteoporosis, Data Base

63. 3 Although not 100% effective, a condom is the best protection against gonorrhea in a sexually active person.

1 Douching has no proven protective effect against sexually transmitted infections; excessive douching can alter the natural environment of the vagina and may even promote an ascending infection. **2** Although this is the best way to prevent a sexually transmitted infection, it is not the most realistic response for a sexually active person. Once people become sexually active, they usually remain sexually active. **4** Spermicidal creams do not have a protective effect against sexually transmitted infections; spermicides kill sperm and limit the risk for pregnancy.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 24,

Vaginitis, Nursing Care

64. 4 Metronidazole (Flagyl) is a potent amebicide. It is effective in eradicating the protozoan *Trichomonas vaginalis*.

1 Penicillin is administered for its effect on bacterial, not protozoal, infections. **2** Gentian violet is a local antiinfective that is applied topically; it may cause discoloration of the skin. Gentian violet is effective against *Candida albicans*. **3** This is an antifungal for infections caused by *C. albicans*.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Nursing Process: Planning/Implementation; **Reference:** Ch 24, Vaginitis, Data Base

65. 3 This is the anatomic direction of the vaginal tract in the back-lying position.

1, 2, 4 The vaginal tract may be injured when the douche nozzle is directed without considering the vagina's anatomy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

Ch 24, Vaginitis, Nursing Care

Nursing Care of Women during Uncomplicated Pregnancy, Labor, Childbirth, and the Postpartum Period

66. 2 Expected periods of marked change and adjustment are called developmental crises.

1 These are transient; they are similar to previous mood changes and should not affect the client's ability to cope. **3** These occur throughout the life cycle of a mature woman and should not now be classified as a crisis. **4** Pregnancy becomes a crisis if the client's partner withdraws support.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

67. 3 Nonsteroidal antiinflammatory drugs (NSAIDs), as well as other over-the-counter (OCT) drugs taken during pregnancy, may cause problems in the newborn during the neonatal period.

1 This is not a cause for concern; if the membranes ruptured more than 24 hours before birth, infection may be a concern. **2** Hemophilia affects males; this fetus is known to be a female. A female may be a carrier but will not have hemophilia. **4** A history of a placenta previa in an earlier pregnancy will not have implications for this newborn.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

68. 4 This is a genetic disorder transmitted as an autosomal recessive trait that occurs primarily among Ashkenazi Jews.

1, 2, 3 This disease does not have a higher prevalence in the Jewish population.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

69. 1 During the eighth week of pregnancy the organ systems and other structures are developed to the extent that they take the human form; at this time the embryo becomes a fetus and remains so until birth.

2 At this time the developing cells are called an embryo. **3** At the time of implantation the group of developing cells is called a blastocyst. **4** The embryo can be visualized on a sonogram before it becomes a fetus.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Development of the Embryo/Fetus

70. 2 The pressure of the enlarging fetus causes upward displacement of the diaphragm, which results in thoracic breathing; this limits the descent of the diaphragm on inspiration.

1 The lower rib cage expands. **3** There is no change in the size of the lung during pregnancy. **4** The thoracic cage enlarges; it does not rise.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

71. 3 By this time the fetus and placenta have grown, expanding the size of the uterus. The enlarged uterus extends into the abdominal cavity.

1, 2 At this time the uterus is still within the pelvic area. **4** At this time the uterus has already risen out

of the pelvis and is extending farther into the abdominal area.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

72. **Answer: 2, 5, 4, 1, 3.**

2 Sickle cell screening, particularly for black women, should be done on the initial visit. **5** Alpha-fetoprotein (AFP) testing for neural tube defects should be done between 14 and 16 weeks. **4** Serum glucose testing for gestational diabetes should be done between 26 and 28 weeks. **1** Fetal movement tests can begin at 28 weeks gestation because the fetus' pattern of movement becomes stabilized at this time. **3** Group B streptococcus culture should be done between 36 and 38 weeks.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

73. **Answer: 1, 2, 5.**

1 Understanding risks of transmission along with treatment options if the client is HIV positive will help her make appropriate decisions regarding testing. **2** Some women are confused about what positive or negative means when receiving test results. Explaining this in pretest counseling and again when results are given decreases unnecessary stress and misunderstanding. **3** Although it may be helpful for health care providers to know if a client is at risk for HIV, the client is not required to disclose this information. **4** HIV testing of pregnant women is not required; however, it is recommended by health care providers. **5** Because of the stigma of the disease and possible effects on insurance and medical care, clients should receive adequate counseling regarding implications.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

74. **1 This is the period in which the fetus stores deposits of fat.**

2 There is growth, but fat deposition does not occur in this period. **3** The first 8 weeks is the period of organogenesis, when cells differentiate into major organ systems. **4** This is the period of the blastocyst, when initial cell division takes place.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period, Development of the Embryo/Fetus

75. **2 April 29, 2011. The Nägele rule is an indirect, noninvasive method for estimating the date of birth: EDB = last menstrual period + 1 year – 3 months + 7 days.**

1 This is beyond the expected date of birth. **3, 4** This is before the expected date of birth.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

76. **4 Increasing the client's knowledge of physical and psychologic changes resulting from pregnancy prepares the client for expected changes as pregnancy continues; it is most effective when taught during the first trimester.**

1 This is too early; this should be done in the last trimester. **2** The client should be alerted to danger signs and symptoms; however, primary teaching is directed toward increasing her knowledge of expected physiologic changes. **3** Concerns about role transition to parenthood should be addressed in the third trimester.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

77. 2 Crown to rump measurement is used to determine the age of the embryo until 11 weeks.

1 Occipital frontal diameter is not an ultrasound measurement used at term. **3** Biparietal diameter at term will be approximately 9.8 cm. **4** Diagonal conjugate is not used as an ultrasound measurement; it is the estimated size of the maternal pelvic outlet. The actual size of the pelvis, as it relates to fetal size, is best determined with ultrasonography.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

78. 2 The blood volume increases by approximately 50% during pregnancy. Peak blood volume occurs between 30 and 34 weeks' gestation.

1 The hematocrit decreases as a result of hemodilution. **3** The sedimentation rate increases because of a decrease in plasma proteins. **4** WBC values remain stable during the antepartum period.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

79. 3 A purplish color results from the increased vascularity and blood vessel engorgement of the vagina.

1 This is softening of the lower uterine segment. **2** This is softening of the cervix. **4** After the fourth month of pregnancy, uterine contractions can be felt through the abdominal wall. They are irregular and painless, and they increase blood flow to the placenta.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

80. 2 There is a 30% to 50% increase in maternal plasma volume at the end of the first trimester, leading to a decrease in the concentrations of hemoglobin and erythrocytes.

1 Erythropoiesis increases after the first trimester. **3** Iron utilization is unrelated to the development of physiologic anemia of pregnancy. **4** Detoxification demands are unchanged during pregnancy.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

81. 2 The hemoglobin level of a healthy individual is 12 to 16 g/dL. During pregnancy it may decrease as a result of an increased blood volume, especially during the second trimester. The hemodilution is greater than a concomitant increase in RBC production, causing physiologic anemia. If the hemoglobin decreases to less than 11 g/dL, the client is diagnosed with anemia, probably due to a deficiency of iron or folic acid. Iron supplementation may need to be increased.

1 The expected platelet level is 150,000 to 400,000 mm^3 . There should be no significant change in this level throughout pregnancy. **3** The expected fasting blood glucose is 70 to 105 mg/dL; there should be no significant change in this level throughout pregnancy. **4** The expected WBC count is 5,000 to 10,000 mm^3 and during pregnancy it is 5,000 to 15,000 mm^3 ; it begins to rise in the second trimester and peaks in the third trimester.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

82. 3 Before health teaching is instituted, the nurse should ascertain the client's past experiences; they will influence the teaching plan.

1 This does not give the client a chance to discuss her feelings about the examination. **2** This presupposes that the client is fearful and does not address the client's question. **4** This does not give the client a chance to discuss her feelings about the examination; the nurse is assuming that the client's concerns are related to discomfort.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

83. 3 The acronym GTPAL reflects G, gravidity; T, term birth; P, preterm births; A, abortions; and L, living children; G5 T2 P1 A1 L4 indicates that there were 5 pregnancies, twins count as 1 pregnancy and the present pregnancy counts as 1; **2** term births; twins count as 1 preterm birth; **1** abortion; **4** living children.

1 G4 T3 P2 A1 L4: this indicates that there were 4, not 5, pregnancies; 3, not 2, term births; twins count as 1, not 2, preterm birth; 1 abortion; 4 living children. **2** G5 T2 P2 A1 L4: this indicates that there were 5 pregnancies; 2 term births; twins count as 1, not 2, preterm birth; 1 abortion; 4 living children. **4** G4 T3 P1 A1 L4: this indicates that there were 4, not 5, pregnancies; 3, not 2, term births; twins count as 1 preterm birth; 1 abortion; 4 living children.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

84. 4 This is an expected cardiopulmonary adaptation during pregnancy caused by an increased ventricular rate and elevated diaphragm.

1, 2, 3 This is pathologic, a sign of impending cardiac decompensation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

85. 4 Chorionic gonadotropin, secreted in large amounts by the placenta during gestation, and the metabolic changes associated with pregnancy can precipitate nausea and vomiting in early pregnancy; usually the manifestations of morning sickness disappear after the first trimester.

1 Estrogen is elevated throughout pregnancy, but it is not the instigator of the nausea and vomiting. **2** Progesterone is elevated throughout pregnancy, but it is not the instigator of the nausea and vomiting. **3** The luteinizing hormone is present only during ovulation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

86. 2 Sodium is needed to maintain body water balance; sodium requirements increase slightly during pregnancy to accommodate the increased blood volume. A healthy pregnant woman should not limit her sodium intake.

1 This could be detrimental to the client's health. **3** Sodium, although essential, is not a nutrient but a mineral. **4** There are no restrictions on salt intake during pregnancy.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

87. 1 Maintaining the sitting position for prolonged periods may constrict the vessels of the legs,

particularly in the popliteal spaces, as well as diminish venous return. Walking contracts the leg muscles and applies gentle pressure to the veins, thus promoting venous return.

2 A better means of improving circulation is to walk around several times each morning and afternoon; the legs can be elevated while sitting at her desk. 3 If the client is feeling well, there are no contraindications to working throughout her pregnancy. 4 Adequate nourishment can be obtained during mealtimes; the client does not require extra nutrition breaks.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

88. 1 **More information is needed before the nurse can give a professional response.**

2 Although the client's feelings are important, at this time she is seeking information. 3 Although this is true, more information is needed before the nurse should respond. 4 This is misinformation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

89. 2 **The nurse should become informed about the cultural eating patterns of clients so that foods containing the essential nutrients that are part of these dietary patterns will be included in the diet.**

1 Fluid retention is only one component of weight gain; growth of the fetus, placenta, breasts, and uterus also contributes to weight gain. 3 Calories and nutrients are increased during pregnancy. 4 Pregnancy diets are not specific; they are composed of the essential nutrients.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

90. 2 **Asking what she usually eats enables the nurse to assess the woman's level of nutritional knowledge and gain clues for appropriate methods of counseling.**

1 A "regular" diet does not indicate that the client is eating a nutritious diet; also, the client will need increased protein and calories. 3 These foods may be too expensive and different from her usual choices, leading to nonadherence to a healthy diet. 4 If the client's diet includes highly seasoned foods and they are well tolerated, they need not be excluded.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

91. **Answer: 4, 5.**

1 Beef and fish do not contain an adequate amount of folate. 2 Milk and cheese do not contain an adequate amount of folate. 3 Fowl does not contain an adequate amount of folate. 4 Legumes contain large amounts of folate. 5 Enriched grain products contain large amounts of folate.

Client Need: Health promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

92. 2 **The uterus and bladder occupy the pelvic cavity and lie closely together; as the uterus enlarges with the growing fetus, it impinges on the space occupied by the bladder and thereby diminishes bladder capacity.**

1 Atony does not cause frequency; more likely, it may lead to retention. 3 This will lead to incontinence rather than frequency. 4 This is an unlikely occurrence; the uterus does not impinge

on this area.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

93. **Answer: 1, 3, 4.**

1 During pregnancy, batterers may concentrate their anger at the pregnancy itself and focus their assaults on the breasts, buttocks, and abdomen. **2** Control is a primary concern of the abuser, so it would be highly unlikely for him to leave the client alone with the care provider. **3** It is common for the abuser to control the conversation by answering for the client. **4** Women who are battered are at risk for stress illnesses such as GI distress and chest pain. They are more likely to suffer from frequent headaches and depression. **5** This is not typical behavior of an abusive person.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

94. **2 A rubella titer of 1 : 2 is inadequate immunization. A titer of 1 : 8 is considered immune. Rubella immunization protects the fetuses of future pregnancies from significant birth defects caused by a rubella infection. These laboratory results are borderline for pregnancy but were taken during the prenatal period and do not represent the woman's current status.**

1 There is no evidence that the neonate needs a transfusion. **3** A RhoGAM injection is not needed because the infant also is Rh negative. **4** This is an expected glucose level for a neonate.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

95. **1 Nausea and vomiting in the morning occur in almost 50% of all pregnancies. Eating dry crackers before getting out of bed in the morning is a simple remedy that may provide relief.**

2 Increasing fat intake does not relieve the nausea. **3** This is not helpful; separating fluids from solids at mealtime is more advisable. **4** Eating two small meals a day and a snack at noon does not meet the nutritional needs of a pregnant woman, nor will it relieve nausea. Some women find that eating five or six small meals daily instead of three large ones is helpful.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

96. **1 Nausea and vomiting in early pregnancy can be relieved with a small snack of protein before bedtime to slow digestion.**

2 An antacid may affect electrolyte balance; also this will not help morning sickness. **3** This is contraindicated, because both fetus and mother need nourishment. **4** Medications in the first trimester are contraindicated because this is the period of organogenesis, and congenital anomalies could result.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

97. **3 This is the recommended caloric increase for adult women to meet the increased metabolic demands of pregnancy.**

1, 2 This will not meet the metabolic demands of pregnancy and may harm the fetus. **4** This is the recommended caloric increase for breastfeeding mothers.

Client Need: Basic Care and Comfort; **Cognitive Level:** Knowledge; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

98. 1 The average weight gain during pregnancy is 25 to 35 lb (11.3 to 15.8 kg); of this, the fetus accounts for 7 to 8 lb (3.2 to 3.6 kg), or approximately 30% of weight gain.

2 Fluid retention accounts for about 20% to 25% of weight gain. **3** Metabolic alterations do not cause a weight gain. **4** Increased blood volume accounts for about 12% to 16% of weight gain.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

99. 2 Because of a decrease in chorionic gonadotropin, morning sickness seldom persists beyond the first trimester.

1, 3 Morning sickness usually ends at the end of the third month, when the chorionic gonadotropin level falls. **4** Morning sickness is still present at this time; it is related to the high level of chorionic gonadotropin.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

100. 2 This allows the client to discuss her feelings and participate in her care.

1 This is not relevant at this time; the client needs help with the alterations that occur in early pregnancy. **3** This cuts off communication and does not address the client's concerns. **4** This cuts off communication; also it may cause the client to worry that something is seriously wrong.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

101. 1 When an Rh-negative woman carries an Rh-positive fetus, there is a risk for maternal antibodies against Rh-positive blood; antibodies cross the placenta and destroy the fetal RBCs.

2 Determination of the lecithin/sphingomyelin ratio or the phosphatidylglycerol test, not the Rh factor, may provide information about the risk for developing respiratory distress syndrome (RDS). **3** Testing for the Rh factor will not provide information about protein metabolism deficiency. **4** Physiologic bilirubinemia is a common occurrence in newborns; it is not associated with the Rh factor.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

102. 2 The first trimester is the period when all major embryonic organs are forming; drugs, alcohol, and tobacco may cause major defects.

1 Cutting down on these substances is insufficient; they are teratogens and should be eliminated. **3** Even 1 ounce of an alcoholic drink is considered harmful; baby aspirin may be prescribed to some women who are considered at risk for pregnancy-induced hypertension, but not during the first trimester. **4** Medications, unless absolutely necessary, should be avoided throughout pregnancy, but the first trimester is most significant.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

103. 1 With spontaneous or stimulated activity, the fetal heart rate (FHR) is usually between 110

and 160 beats/min. This is to be expected, and the client should be made aware of this.

2 The heart rate for a fetus is 110 to 160 beats/min, not twice the mother's heart rate. **3** This implies that the heart rate is too rapid; this is misinformation that may cause more concerns. **4** The heart rate is rapid to accommodate the metabolic, not nutritional, needs of the fetus.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Development of the Embryo/Fetus

104. 2 Increased estrogen production during pregnancy causes hyperplasia of the vaginal mucosa, which leads to increased production of mucus by the endocervical glands. The mucus contains exfoliated epithelial cells.

1 Increased metabolism leads to systemic changes but does not increase vaginal discharge. **3** The amount of secretion from the Bartholin glands, which lubricates the vagina during intercourse, remains unchanged during pregnancy. **4** There is no additional supply of sodium chloride to the vaginal cells during pregnancy.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

105. 3 Dependent edema is common during the last trimester; there is no need to lower the salt content of the client's diet. Teaching should be based on optimum nutrition as well as the caloric content of the diet.

1 Not all preferences can be included; the diet should contain normal sodium, high protein, and sufficient calories. **2** Immediate planning based on the nurse's knowledge of dietary needs is sufficient **4** Unless the nurse thought there was a need for medical intervention, the nurse may discuss care related to human responses.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

106. 3 Elevation of the extremities several times daily is recommended to decrease the dependent edema.

1 Fluid intake should be encouraged because adequate hydration maintains fluid and electrolyte balance. **2** Sodium intake should not be restricted because it is needed to balance the increased fluid volume during pregnancy. **4** Diuretics can be harmful and are not used during a healthy pregnancy.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

107. 3 The alpha-fetoprotein test can detect not only neural tube defects, but Down syndrome, and other congenital anomalies. It is a screening test that affords a tentative diagnosis; confirmation requires more definitive testing.

1, 2, 4 These are not detected by the alpha-fetoprotein test.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

108. 4 The nonstress test evaluates the response of the fetus to movement and activity. A reactive test indicates that the fetus is healthy.

1 No injections of any kind are used during a nonstress test; this test involves only the use of a fetal

monitor to record the fetal heart rate during periods of activity. **2** This test will not influence the activity of the fetus because no exogenous stimulus is used. **3** This is unlikely because it is a noninvasive test.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

109. 3 A full bladder is required for effective visualization of the uterus in early pregnancy.

1 The GI tract is not involved; this is a noninvasive procedure. **2** The procedure is not done via the colon and will not cause fecal contamination. **4** This procedure is noninvasive; it cannot irritate the uterus and initiate labor.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

110. 3 When the membranes rupture, the potential for infection is increased, and when the contractions are 5 to 8 minutes apart, they are usually of sufficient force to warrant professional supervision.

1 These may be early signs of labor or signs of posterior fetal position; it is too early to notify the health care provider. **2, 4** This is too early; the client should remain with her family and keep moving around at home.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

111. 2 The supine position results in pressure on the vena cava by the gravid uterus; this impedes venous return, causing hypotension and decreased systemic perfusion.

1 This may or may not happen. **3** Even if this occurs, it is not the reason for discouraging the supine position. **4** It can lead to hypotension, not hypertension.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

112. 4 Alpha-fetoprotein in amniotic fluid is elevated in the presence of a neural tube defect.

1 Lung maturity cannot be determined until after 35 weeks' gestation. **2** Diabetes cannot be detected via an amniocentesis. **3** Cardiac disorders cannot be detected via an amniocentesis.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

113. 2 The leg cramps may be related to low calcium intake; cheese and broccoli both have a high calcium content.

1, 3, 4 Although these foods are recommended to maintain quality nutritional intake, they are inadequate sources of calcium.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

114. 3 The greatest danger of drug-induced malformations is in the first trimester of pregnancy during the period of organogenesis; because a woman may not know she is pregnant, she should be aware of this before becoming pregnant.

1 Although adolescent girls may be aware of this, it is not a priority concern at this age. **2** Drugs should be avoided throughout pregnancy, but the first trimester (period of organogenesis) is the most critical. **4** If the client is not aware of her pregnancy, it may be too late to start discontinuing drugs.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period, Development of the Embryo/Fetus

115. 2 Cigarette smoking or continued exposure to secondary smoke causes both maternal and fetal vasoconstriction, resulting in fetal growth retardation and increased fetal and infant mortality.

1 There is no clinical evidence that smoking relieves tension or that the fetus is more relaxed. **3** Smoking causes vasoconstriction; permeability of the placenta to smoke is irrelevant. **4** Although the fetal and maternal circulations are separate, vasoconstriction occurs in both mother and fetus.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

116. 3 High levels of chorionic gonadotropin frequently are associated with severe vomiting during pregnancy and may result in hyperemesis gravidarum. These high levels also occur if there is a hydatidiform mole or a multiple pregnancy.

1 Cholecystitis is unrelated to this problem. **2** Hydramnios (excessive amniotic fluid) is associated with a multiple gestation and some fetal abnormalities. **4** There are no data to indicate that there is decreased gastric acid secretion during the first trimester; this is not the cause of hyperemesis gravidarum.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period, Nursing Care During the Prenatal Period

117. Answer: 2, 4, 5.

1 Systemic vasodilation is not expected. **2** Blood volume is increased to meet the metabolic demands of pregnancy. **3** There is little variation in blood pressure with a slight decrease during the second trimester. **4** An increased cardiac output is necessary to accommodate the increased blood volume needed to meet the demands of the growing fetus. **5** Cardiac hypertrophy is a result of the demands made by the increased blood volume and cardiac output. **6** Erythrocyte production increases; because the plasma volume increases more than the RBCs, the hematocrit is lower.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes During Pregnancy

118. 2 Both the father and the mother need additional support during the transition phase of the first stage of labor.

1 This statement is judgmental; it suggests that the father will be failing his wife. **3** The husband should be present throughout labor to support his wife; he should be assisted in this role. **4** This does not encourage the husband to fulfill his role of supporting his wife during labor.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base

119. 1 Epidural anesthesia during the first stage of labor decreases metabolic and respiratory demands and is preferred for obese clients.

- 2, 4** Obese women are sensitive to systemic opioids, which predispose them to respiratory depression; oral medications do not have a uniform rate of absorption and are not recommended during labor. **3** A pudendal block does not reach the uterus, so contractions are felt; it is used during the second stage of labor.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base
- 120. 1 Maternal hypotension is a common complication of this anesthesia during labor, and nausea is one of the first clues that this has occurred. Turning the client onto her side will deflect the uterus from putting pressure on the inferior vena cava, which causes a decrease in blood flow.**
- 2** If signs and symptoms do not abate after turning on the side, the health care provider should be notified. **3** This is not a specific observation after epidural anesthesia; it is part of the general nursing care during labor. **4** If the FHR is being monitored, it is a constant process and should be recorded every 15 minutes; if not, the FHR should be checked and recorded every 15 minutes.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base
- 121. 1 Respiratory depression may occur in the newborn because the duration of action of Butorphanol (Stadol) is 3 to 4 hours and circulating blood levels will be high if birth occurs within that time.**
- 2, 3, 4** These are antihistamines that have a sedative effect and are administered early in labor to promote sleep and decrease anxiety.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Intrapartum Period, Data Base
- 122. 4 Nalbuphine (Nubain) is classified as an opioid analgesic and is effective for the relief of pain; there is little or no newborn respiratory depression.**
- 1** Nalbuphine does not induce amnesia. **2** Nalbuphine acts as an analgesic, not an anesthetic. **3** Nalbuphine does not induce sleep.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base
- 123. 2 Ambulation relieves the discomfort of preparatory (Braxton Hicks) contractions.**
- 1** These contractions will increase when the client is resting. **3** These contractions are not indicative of true labor and need not be timed. **4** Aspirin may be harmful to the fetus because it can hemolyze RBCs.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base
- 124. 1 Progressive cervical dilation is the most accurate indication of true labor.**
- 2** With true labor, contractions will increase with activity. **3** Contractions of true labor persist in any position. **4** Contractions may not begin until 24 to 48 hours later.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Data Base
- 125. 2 Fatigue will influence other coping strategies, such as distraction.**
- 1** The progesterone level is decreased at this time. **3** The client does not push during the first stage of labor; pushing is done during the second stage. **4** This may decrease the quality of the contractions.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base

126. 1 Determining fetal well-being takes priority over all other measures. If the FHR is absent or persistently decelerating, immediate intervention is required.

2, 3, 4 Although this is important, the determination of fetal well-being is the priority.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

127. 2 A station of +1 indicates that the fetal head is 1 cm below the ischial spines.

1 The head is now past the points of engagement, which are the ischial spines. **3** This is designated as 0 station. **4** The head must be at +3 to +4 station to be visible at the vaginal opening.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Data Base

128. 3 Fetal heart tones are best auscultated through the fetal back; because the presenting part is in the right occiput posterior (ROP) position, the back is below the umbilicus and on the right side.

1 This location should be used when the fetus is lying in the midline in a breech position. **2** This location is appropriate when the fetus is in the left sacrum anterior (LSA) position. **4** This location is appropriate when the fetus is in the left occiput anterior (LOA) or left occiput posterior (LOP) position.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

129. 3 The contractions become stronger, last longer, and are erratic during this stage; the intervals between contractions become shorter than the contractions themselves; the client needs to apply much concentration and effort to pace her breathing with each contraction.

1 Even clients who have been adequately prepared will experience these behaviors during the transition phase of the first stage of labor. **2** Administration of an analgesic at this time may reduce the effectiveness of labor and depress the fetus. **4** There is no indication that the contractions are hypertonic.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Data Base

130. 4 This is the accepted way to determine the frequency of the contractions.

1 This does not determine the length of a contraction. **2** This does not indicate the frequency of contractions. **3** This identifies the end of a contraction, but it is not the accepted way of timing the frequency of contractions.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

131. 2 By 36 weeks' gestation, amniotic fluid should be pale yellow with small particles of vernix caseosa present.

1 Dark amber-colored fluid suggests the presence of bilirubin, an ominous sign. **3** Greenish yellow fluid may indicate the presence of meconium and suggests fetal compromise. **4** Cloudy fluid suggests the presence of purulent material, and greenish yellow may indicate the presence of

meconium.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Data Base

132. 3 Electronic fetal monitoring provides a continuous graphic printout of rate patterns and periodic changes; on this FHR strip the baseline heart rate is 150 beats/min.

1 Contractions are not sustained; there is uterine relaxation between contractions. **2** FHR variability is minimal, not marked. **4** Contractions are lasting 100 seconds.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

133. 1 Because the client is attached to a machine and movement may alter the tracings, movement is discouraged.

2 Placement of the external monitor leads does not interfere with the administration of sedatives. **3** An external monitor does not interfere with breathing techniques. **4** An external monitor does not necessitate more frequent vaginal examinations.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

134. 1 Variable decelerations usually are seen as a result of cord compression; a change of position will relieve the pressure on the cord.

2 Variable decelerations are not related to the mother's blood pressure. **3** Variable decelerations are not oxytocin related. **4** This is premature; other nursing measures should be tried first.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

135. Answer: 2, 1, 3, 4, 5.

2 Repositioning to the side increases uterine blood flow, improves cardiac output, and moves pressure of the uterus off of the vena cava. **1** Increasing IV fluids augments uterine blood flow and improves cardiac output. **3** Reassessing the FHR pattern enables the nurse to determine if the FHR has returned to a safe level without reflex late decelerations. **4** Persistent late decelerations is a nonreassuring fetal sign; the health care provider should be informed. **5** Documentation of interventions and client responses includes the information in the client's legal clinical record and provides communication to other care providers.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

136. 1 When the membranes rupture, there is always the possibility of a prolapsed cord leading to fetal compromise, which will manifest itself in a slow FHR.

2 This is regularly done before and after the membranes rupture; however, fetal status takes priority. **3** This is unnecessary unless there is a marked change in the FHR. **4** This is done routinely throughout the labor process; at this time fetal status takes priority.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care during the Intrapartum Period

137. 3 The client is in the first stage of labor; she and the fetus were assessed earlier and both

are stable. At this time the priority of care is to establish a trusting relationship with her and her partner. This will help to allay their anxiety.

1 This may be necessary later; however, it is not the priority. **2** The history should be taken from the client as long as she is capable of providing it. **4** This is not a priority; the health care provider may have been notified already.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

138. 3 The priority is to assess for a prolapsed umbilical cord. This is a life-threatening emergency for the fetus and must be ruled out first.

1 This is done after verifying that the umbilical cord is not visible in the vaginal introitus.

2, 4 This is not the priority; this can be done after confirming fetal well-being.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

139. 4 Artificial rupture of the membranes (amniotomy) allows for more effective pressure of the fetal head on the cervix, enhancing dilation and effacement.

1 Vaginal bleeding may increase because of the progression of labor. **2** An amniotomy does not directly affect the fetal heart rate. **3** Discomfort may become greater because contractions usually increase after an amniotomy.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Intrapartum Period, Data Base

140. 3 The client is experiencing the expected discomforts of labor; the nurse should initiate measures that will promote relaxation.

1 The client is in early first-stage labor; pushing commences during the second stage. **2** This breathing technique should be used in the transition phase, not the early phase of the first stage of labor. **4** There is no evidence that the client's bleeding is excessive.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

141. Answer: 2, 1, 6, 3, 4, 5.

2 The nurse should first stop the oxytocin infusion when tetanic contractions occur; this should relax the uterus and prevent uterine tetany and rupture. **1** The FHR should be checked to determine the effect of the tetanic contractions on the fetus. **6** After the FHR is assessed then the maternal response to the interruption of the infusion should be assessed. **3** Following these measures, the primary care giver should be notified. **4** Fetal well-being will be improved when oxygen is administered. **5** After emergency measures have been taken, the maternal/fetal responses should be documented.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Induction or Stimulation of Labor; Nursing Care During the Intrapartum Period

142. 1 An acceleration is an abrupt elevation above the baseline of 15 beats/min for 15 seconds; if the acceleration persists for more than 10 minutes, it is considered a change in baseline rate.

2 Early decelerations, not elevations, occur. An early deceleration starts before the peak of the uterine contraction and returns to the baseline when the uterine contraction ends. **3** A sonographic motion is not a fetal monitoring descriptive term. **4** A tachycardic FHR is above 160 beats/min.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

143. 1 This slow, deep breathing expands the spaces between the ribs and raises the abdominal muscles, allowing room for the uterus to expand and preventing painful pressure of the uterus against the abdominal wall.

2 Pelvic rocking is used to relieve pressure from back labor. **3** Panting is used to halt or delay the expulsion of the infant's head before complete dilation. **4** This breathing technique is used during the transition phase of the first stage; the client has not yet reached this phase.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

144. 2 Gastric peristalsis often ceases during periods of stress. Abdominal contractions put pressure on the stomach and can cause nausea and vomiting, increasing the risk for aspiration.

1 Although this is true, it is not the reason for withholding food or oral fluids during labor. **3** Although food may cause dyspepsia, the primary reason for withholding it is to prevent aspiration. **4** Gastric peristalsis is decreased, not increased, during the stress of labor and birth.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

145. 2 This is the most difficult part of labor, and the client needs encouragement and support to cope.

1 IV fluids may need to be increased because of the increase in metabolism. **3** Medication at this time will depress the newborn and is contraindicated. **4** Breathing patterns should be complex and require a high level of concentration to distract the client.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base

146. 2 Blowing forcefully through the mouth controls the strong urge to push and allows for a controlled birth of the head.

1 This breathing pattern does not help to control expulsion of the fetus. **3** This is used during the latent phase of the first stage of labor; it is not helpful in overcoming the urge to push. **4** This is used during active labor when the cervix is 3 to 7 cm dilated; it is not helpful in overcoming the urge to push.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

147. 4 As the uterus rises into the abdominal cavity, the uterine ligaments become elongated and hypertrophied; raising both legs at the same time limits the tension placed on these ligaments.

1 Lifting the legs simultaneously does not affect circulation in the legs. **2** There is already pressure on the perineum from the head of the fetus; this maneuver eases tension on the uterine ligaments. **3** There is no effect on the fascia with this maneuver.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

148. 2 The bulging perineum indicates that the fetal head is on the pelvic floor and birth is imminent.

1, 3 This occurs during the transition phase or at the beginning of the second stage. **4** This describes the progress of labor; it is not a sign that birth is imminent.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

149. 2 Because oxytocin (Pitocin) promotes powerful uterine contractions, uterine tetany may occur. The oxytocin infusion must be stopped to prevent uterine rupture and fetal compromise.

1 Intense pain can be associated with strong uterine contractions; this is not a complication. **3** This is unrelated to uterine contractions. **4** This is not likely to occur when induction of labor is initiated.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Intrapartum Period, Data Base

150. 2 The contractions in the second stage of labor are expulsive in nature; having the client push or bear down with the glottis open will hasten expulsion.

1 Contractions are now intense and the client will be unable to relax; relaxation occurs between contractions. **3, 4** These breathing patterns prevent pushing and should not be encouraged until the fetal head crowns (+4 station) and a controlled birth is desired.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

151. 2 A pudendal block provides anesthesia to the perineum.

1 This block affects only the perineum, not the bladder. **3** This block does not affect muscle control. **4** This block anesthetizes only the perineum, not the cervix or body of the uterus.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Data Base

152. 3 These are the classic signs and symptoms of a vaginal hematoma.

1, 2 The signs and symptoms do not indicate this infection; the temperature would be elevated in the presence of infection. **4** This condition would reveal persistent vaginal bleeding with a decreasing blood pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

153. 3 When the placenta separates from the uterine wall, it tears blood vessels and results in a gush of blood from the vagina.

1 The uterus should become firm when the placenta begins to separate. **2** The fundus rises in the abdomen when the placenta separates. **4** The reverse occurs; as the placenta separates it descends into the vaginal introitus, and the umbilical cord appears longer and protrudes from the vagina.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Data Base

154. 4 Immediately after birth the fundus is palpated midway between the symphysis pubis and the umbilicus.

1 The gradual descent of the uterus into the pelvic cavity takes about 2 weeks after the birth. **2** The fundus is never elevated this high. **3** The fundus is not this high until 1 hour after birth; when the

uterus is deviated to the right, it usually indicates bladder distention.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Data Base

155. 1 Bradycardia (baseline FHR below 110 beats/min) indicates the fetus may be compromised, requiring medical intervention.

2 This may be dangerous; the fetus may be compromised, and time should not be spent on monitoring. **3** This not the priority at this time. **4** The expected FHR is 110 to 160 beats/min between contractions.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

156. 2 A displaced and boggy uterus usually is caused by a full bladder; if the bladder is distended, the nurse should have the client void and then reassess the fundus, and if still boggy, massage until firm.

1 The oxytocin (Pitocin) infusion may need to be increased if voiding and fundal massage are ineffective; however, the health care provider must be notified to change the prescription. **3** This is necessary if the fundus remains boggy after the client has voided. **4** This is unnecessary at this time; correcting the boggy fundus is the priority.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

157. 3 Before any other action is taken, the client must empty her bladder. If she is unsuccessful despite measures to promote urination, such as running water, she will need to be catheterized.

1, 4 This action is useless and may be dangerous unless the bladder is empty. **2** The health care provider should be notified if the uterus remains boggy and above the umbilicus after the bladder has been emptied and the fundus massaged, if necessary.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Intrapartum Period, Nursing Care During the Intrapartum Period

158. 4 Esophageal atresia is associated with hydramnios.

1 Cardiac defects are not associated with hydramnios. **2** Kidney disorders are associated with oligohydramnios, not hydramnios. **3** Diabetes in the newborn is not associated with hydramnios.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Intrapartum Period, Data Base

159. 1 This opens up an area of communication to determine what really is troubling the mother about feeding her baby.

2 The nurse is aware that this is not the best method when using a bottle to feed an infant; the problem of time should be explored with the mother. **3** Holding can be accomplished at times other than feeding periods; this response does not explore the client's feelings. **4** Although this is true, the mother should not be challenged so directly; a more gentle explanation should be offered.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

160. 2 Rooming-in provides time for the mother and newborn to be together; the mother can become acquainted with the infant more quickly.

1 It is possible that the client does not want to breastfeed; attachment can be furthered by a variety of methods. **3** This will not promote bonding and attachment. **4** Although visiting in the nursery is unlimited for the parents, rooming-in is preferable.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

161. 2 Family-centered childbearing should adapt care to the client's cultural system whenever possible.

1 This is the nurse's responsibility. **3** This may be useful, but the primary intervention is to address the client's cultural needs. **4** This does not address the underlying problem.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

162. 4 Family-centered care focuses on the whole family, including the relatives; visiting hours in the birthing unit are flexible.

1 This is an inappropriate intervention; family-centered care focuses on the whole family, and the sister should be permitted to remain. **2** Written permission is not required. **3** There is no need for the nursing supervisor to be summoned.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

163. 3 Heparin is the medication of choice during the acute phase of a deep vein thrombosis; it prevents conversion of fibrinogen to fibrin and of prothrombin to thrombin.

1 Clopidogrel (Plavix) is a platelet aggregate inhibitor and is used to reduce the risk of a brain attack (CVA). **2** Warfarin (Coumadin) is a long-acting oral anticoagulant and is started after the acute stage has subsided; it is continued for 2 to 3 months. **4** A low molecular weight heparin (e.g., enoxaparin [Lovenox]) is not administered during the acute stage; it may be administered later to prevent future deep vein thromboses.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Data Base

164. 2 This action prevents the transfer of microorganisms from the hands to the genital tract or from the genital tract to the hands.

1 This is an inadequate number of changes; soiled pads promote the growth of microorganisms because they are warm and moist and provide a medium for growth. **3** This action interferes with the analgesic action of the spray and does not prevent infection. **4** This action promotes contamination of the vagina and urethra by organisms from the perianal area.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

165. 1 Retention of urine with overflow will be manifested in small, frequent voidings. The bladder should be palpated for distention.

2 An elevated temperature with urinary alterations would indicate impending infection. **3** More circulating fluid is present, causing an increased output. **4** The client usually is thirsty and fluid intake increases.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 25, Postpartum Period, Data Base

166. 3 A distended bladder will displace the fundus upward and laterally to the right.

1 This is manifested by slow contraction and uterine descent into the pelvis. **2** If this were true, in addition to being displaced, the uterus would be boggy and vaginal bleeding would be heavy. **4** From this assessment the nurse cannot make a judgment about overstretched uterine ligaments.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

167. 3 The fundus descends one fingerbreadth per day from the first postpartum day.

1, 2 If the fundus were at this level, the nurse should suspect that involution has been delayed and further investigation is required. **4** Although this is not expected, it is a benign occurrence.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

168. 4 There is extensive activation of the blood clotting factors after a birth; this, together with immobility, trauma, or sepsis, encourages thromboembolization, which can be limited through activity.

1 This can be accomplished by encouraging the client to turn from side to side and to deep breathe and cough. **2** Bladder tone is improved by the regular emptying and filling of the bladder. **3** Exercise during the next 6 weeks can strengthen the abdominal muscles.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

169. 1 Kegel exercises can be resumed immediately and should be done for the rest of the client's life because they help strengthen muscles needed for urinary continence and may enhance sexual intercourse.

2 Episiotomy sutures do not have to be removed. **3** Bowel movements should spontaneously return in 2 to 3 days after giving birth; a delay of bowel movements promotes constipation, perineal discomfort, and trauma. **4** The usual postpartum examination is 6 weeks after birth; menses can return earlier or later than this and should not be a factor when scheduling a postpartum examination.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

170. 1 Covered ice packs promote comfort by decreasing vasocongestion.

2, 3 Nipple stimulation precipitates the release of prolactin, which leads to more milk production and further engorgement and discomfort. **4** Emptying the breasts stimulates lactation, leading to further engorgement and discomfort.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

171. 1 Although thrombophlebitis is suspected, before a definitive diagnosis the client should be confined to bed so that further complications may be avoided.

2 This may cause vasodilation, which could allow a thrombus to dislodge and circulate freely. **3, 4** If

a thrombus is present, this may dislodge it and lead to a pulmonary embolism.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

172. **2 The uterus responds rapidly to touch, and this involves the mother in her care.**

1 The uterus must be massaged before there are signs of bleeding. **3** Although this may be beneficial, the client should be taught to massage the uterus to cause it to contract. **4** This does not actively involve the mother in her own care and could be unsafe if the uterus becomes boggy between the 15-minute time periods.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 25,

Postpartum Period, Nursing Care During the Postpartum Period

173. Answer: 2, 3, 4, 1, 5.

2 The culture should be obtained before antibiotics are given to ensure that the antibiotic does not interfere with accurate culture results. **3** The antibiotic is the most important of these orders and should be given as soon as possible to counteract any infective processes, but it should not be administered before obtaining the specimen for the culture. **4** The acetaminophen (Tylenol) is a comfort measure that can be administered at any time, but does not take precedence over the antibiotic. **1** Arranging for a chest radiograph will not interfere with implementing any of the other orders; it may take time to schedule a radiograph. **5** The client's response to the acetaminophen should have lowered the client's temperature within 30 minutes.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 25, Postpartum Period, Nursing Care During the Postpartum Period

Nursing Care of Women at Risk during Pregnancy, Labor, Childbirth, and the Postpartum Period

174. 3 This response points out reality and allows the client to elaborate.

1 Although this is true, it does not allow for further communication. **2** This response implies that the nurse does not believe the client; it would probably cut off further communication. **4** This abdicates the nurse's responsibility; also, it may cut off further communication

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, The Pregnant Adolescent, Nursing Care

175. 4 This indicates failure to resolve conflicting feelings about pregnancy that should have been resolved in the first trimester.

1 This response is an expected feeling in the third trimester. **2** This response is expected in the third trimester as the enlarging uterus limits the number of comfortable positions that can be assumed during sleep. **3** Concerns about the expected infant having physical abnormalities are common in the third trimester.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Assessment/Analysis; **Reference:** Ch 26, The Pregnant Adolescent, Nursing Care

176. 4 Fraternal twins may occur as a result of a hereditary trait, but it is related to the ovaries releasing two eggs during one ovulation; the fact that the father is a fraternal twin would not influence the female's ovaries to release two eggs during one ovulation.

1 Although this response is true, it does not answer the client's question. **2, 3** If there is no maternal family history of twin pregnancies, it would be a chance occurrence that is equal to the probability found in the general population.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, The Woman with a Multifetal Pregnancy, Data Base

177. 2 This fundal height indicates a hydatidiform mole, a multiple gestation, or a fetal congenital anomaly; at 16 weeks' gestation the fundus is below the umbilicus. It does not rise to the umbilicus until 20 to 22 weeks.

1 Foot and ankle edema is common as pregnancy reaches term; the enlarged uterus presses on the femoral veins, impeding the flow of venous blood from the extremities. **3, 4** This heart rate is within the expected range during pregnancy.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, Hydatidiform Mole or Trophoblastic Disease, Nursing Care

178. 4 In an emergency surgical situation when invasive techniques are necessary, it is important to have a consent signed as well as a history of the client's known allergies.

1 This is not a priority in an emergency such as this. **2, 3** In an emergency these procedures, except for the enema, are done in the operating room; an enema usually is not given before a cesarean, especially to a bleeding client, because it may stimulate contractions and further bleeding.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 26, Cesarean Birth, Data Base

179. 2 This statement offers comfort measures while giving the client an opportunity to verbalize her concerns further if she desires.

1 This cuts off communication with the client. **3** The client's focus is on her prolonged discomfort; there is no indication that she has other concerns at this time. **4** The nurse should focus on the client, not on how other women may feel; this may cut off communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring, Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Dystocia, Nursing Care

180. 1 Antenatal glucocorticoid therapy is contraindicated when the client has an infection because the antiinflammatory effect may exacerbate the infection.

2 An available IV line should be maintained as well as monitoring the intake and output (I&O). **3** This is the usual protocol for monitoring the vital signs during preterm labor. **4** Measures to halt labor should be started.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Preterm Labor, Data Base

181. 4 Oxytocin (Pitocin) increases the intensity and duration of contractions; prolonged (tetanic) contractions will jeopardize the safety of the fetus and necessitate discontinuing the drug.

1 A bulging perineum indicates that there is complete cervical dilation and birth is imminent; because cervical dilation is only 2 to 3 cm, a bulging perineum is not expected. **2** This is important throughout labor. **3** There is no indication at this time that a cesarean birth is necessary.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Dystocia, Nursing Care

182. 1 Oxytocin (Pitocin) is a small polypeptide hormone synthesized in the hypothalamus and secreted from the neurohypophysis (posterior pituitary gland) during parturition or suckling; it promotes powerful uterine contractions and thus is used to induce labor.

2 Estrogen (Premarin) suppresses the follicle-stimulating and luteinizing hormones, thus helping to maintain the pregnancy. **3** Ergonovine (Ergotrate) can lead to sustained contractions, which is contraindicated during labor; it may be prescribed in the postpartum period to promote or maintain a contracted uterus. **4** Progesterone (Prometrium) causes hyperplasia of the endometrium in preparation for implantation of the fertilized ovum; later it helps to maintain the pregnancy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Induction or Stimulation of Labor, Data Base

183. Answer: 1, 2, 5.

1 Oxytocin (Pitocin) is an oxytocic that initiates or augments uterine contractions; it is used for labor induction. **2** Misoprostol (Cytotec) is a prostaglandin used for cervical ripening and labor induction. **3** Ergonovine (Ergotrate) is an oxytocic used for postpartum or postabortion hemorrhage. **4** Carboprost (Hemabate) is a prostaglandin used for postpartum hemorrhage; also used to induce abortion. **5** Dinoprostone (Prepidil) is used for cervical ripening to induce labor; also used to induce abortion.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Induction or Stimulation of Labor, Data Base

- 184. 4 Terbutaline sulfate (Brethine) is a beta-mimetic that acts on the smooth muscles of the uterus to reduce contractility, which in turn inhibits dilation and the frequency and duration of contractions.**
- 1** Although terbutaline may increase blood pressure and pulse, this is a side, not a therapeutic, effect requiring frequent assessments. **2** Terbutaline is not an analgesic. **3** Terbutaline should stop cervical dilation, rather than increase it.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Preterm Labor, Data Base
- 185. 3 Magnesium sulfate has a CNS depressant effect; therefore, toxic levels will be reflected by the loss of the knee-jerk reflex.**
- 1** The level of consciousness is decreased with excessive magnesium sulfate. **2** There is a deceleration in the respiratory rate with magnesium sulfate toxicity. **4** This may be caused by increased potassium, not magnesium sulfate.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care
- 186. 2 The client's slow pulse and respirations and the flushed face are signs of magnesium sulfate toxicity. The infusion should be stopped and the IV site should be maintained with an infusion of D5W because an antagonist (calcium gluconate) may be prescribed.**
- 1** This is unsafe because continuing the infusion will make the CNS depression more severe. The health care provider should be notified after the infusion has been stopped. **3** These actions are unsafe. The client's clinical manifestations indicate a life-threatening condition. **4** It is unsafe to decrease the rate of the infusion because the CNS depression will worsen. The magnesium level should be obtained, but not before stopping the infusion.
- Client Need:** Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care
- 187. Answer: 450 mL. Use the "Desire over Have" formula to solve the problem by using ratio and proportion.**

$$\frac{\text{Desire}}{\text{Have}} \frac{6 \text{ g}}{40 \text{ g}} = \frac{x \text{ mL}}{1000 \text{ mL}}$$

$$40 x = 6000$$

$$x = 6000 \div 40$$

An infusion pump is set at milliliters per hour. 150 mL is needed in 20 minutes. There are 60 minutes in an hour; therefore, $3 \times 150 = 450$ mL/hr.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

188. 4 Hyperreflexia of severe preeclampsia is 3+ to 4+; therefore, a deep tendon reflex of 2+, which is an active, expected reflex, indicates that a therapeutic level of the drug has been reached. A diminished or absent reflex indicates that the serum magnesium level is too high.

1 Because magnesium sulfate is a CNS depressant, a respiratory rate of 12 indicates that the serum magnesium level is too high. **2** Alterations in fetal activity are not indicators of a therapeutic magnesium sulfate level. **3** Oliguria is a sign of severe preeclampsia; diuresis is a therapeutic effect of magnesium sulfate administration.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care

189. 4 This steroid enhances fetal lung maturity when administered before a preterm birth.

1, 3 These are tocolytic agents used to prevent preterm birth; this birth is inevitable. **2** Misoprostol (Cytotec) is used for labor induction.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Preterm Labor, Data Base

190. 2 This is the ideal time for chorionic villi sampling (CVS); this allows the client time to consider other options if a problem is discovered.

1 CVS is no longer done this early because it has been associated with digit reduction. **3** This is too late for CVS. **4** This is when a genetic amniocentesis is done.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Tests to Identify and/or Monitor High-Risk Pregnancy

191. 3 The proliferation of trophoblastic tissue filled with fluid causes the uterus to enlarge more quickly than if a fetus were in the uterus.

1 Hypertension, not hypotension, often occurs with a molar pregnancy. **2** There is no fetus within an hydatidiform mole. **4** There may be slight painless vaginal bleeding.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Hydatidiform Mole or Trophoblastic Disease, Data Base

192. 2 At this time the products of conception are too large for the tube to accommodate them, and rupture occurs.

1, 3 Tubal pregnancies cannot advance to this stage because of the tube's inability to expand to accommodate a pregnancy of this size. **4** The embryo is recognizable at this time (about 2 weeks after fertilization), but it is too small to cause the tube to rupture.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Ectopic Pregnancy, Data Base

193. 3 A fallopian tube is unable to contain and sustain a pregnancy to term; as the fertilized ovum grows, there is excessive stretching or rupture of the affected fallopian tube, causing pain.

1 At this stage the products of conception are too small to form a mass; the pain is lateral, not

centered. **2** The pain is sudden, intense, and knifelike, not prolonged or cramping. **4** Leukorrhea and dysuria may be indicative of a vaginal or bladder infection.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Ectopic Pregnancy, Data Base

194. 1 Hemorrhage may result from retained placental tissue or uterine atony.

2 There is no indication that the client has been deprived of fluids. **3** Hypotension, not hypertension, may occur with postabortion hemorrhage. **4** Subinvolution is more likely to occur after a full-term birth.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Spontaneous Abortion, Nursing Care

195. 4 About 75% of all spontaneous abortions take place between 8 and 12 weeks' gestation and show embryonic defects.

1 Though possible, physical trauma rarely causes an abortion. **2** Unresolved stress is rarely associated with spontaneous abortions. **3** Congenital defects are asymptomatic during pregnancy and do not usually cause an abortion.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Spontaneous Abortion, Data Base

196. 3 Spotting in the first trimester may indicate that the client is having a threatened abortion; any client with the possibility of hemorrhage should not be left alone; therefore, her admission to the hospital ensures her safety.

1 A missed abortion may not cause any outward signs or symptoms, except that the signs of pregnancy disappear. **2** An inevitable abortion can be confirmed only if vaginal examination reveals cervical dilation. **4** With an incomplete abortion some, but not all, of the products of conception have been expelled.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Spontaneous Abortion, Data Base

197. 4 After a spontaneous abortion the uterine fundus should be palpated for firmness, which indicates effective uterine tone. If the uterus is not firm or appears to be hypotonic, hemorrhage may occur; a soft or boggy uterus also may indicate retained placental tissue.

1 The nurse would do this if necessary after checking for fundal firmness. **2** This is not the priority; the potential for hemorrhage must be monitored. **3** This is unnecessary; fetal and placental contents are small and expelled easily.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Spontaneous Abortion, Nursing Care

198. 4 A correct and simple definition answers the question and fulfills the client's need to know.

1 This denies the client's right to know. **2** This is the definition of a missed abortion. **3** This abdicates the nurse's responsibility; the nurse can independently reinforce information and correct misconceptions.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Spontaneous Abortion, Data Base

199. 3 Ruptured membranes leave the products of conception exposed to bacterial invasion.

Intact membranes act as a barrier against organisms that may cause an intrauterine infection.

1 This may occur during sex, but there is no evidence indicating that it is harmful for the fetus. **2** This

is common because of increased production of mucus containing exfoliated vaginal epithelial cells; intercourse is not contraindicated. **4** Intercourse is not contraindicated if membranes are intact; modification of sexual positions may be needed because of the enlarged abdomen.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Premature Rupture of Membranes, Nursing Care

200. 4 A persistent occiput posterior position causes intense back pain because of fetal compression of the maternal sacral nerves.

1 Breech positions are not associated with back pain. **2** The transverse position usually does not cause back pain. **3** This is the most common fetal position and does not cause back pain.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Dystocia, Nursing Care

201. 3 The application of back pressure combined with frequent positional changes will help alleviate the discomfort.

1 Although this may be comfortable for some individuals, rubbing the back and alternating positions usually are more effective. **2** The supine position places increased pressure on the back and often aggravates the pain. **4** Neuromuscular control exercises are used to teach selective relaxation in childbirth classes; they will not relieve back pain during labor.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Dystocia, Nursing Care

202. 3 Low back pain is aggravated when the mother is in the supine position because of increased pressure from the fetus.

1, 2, 4 This position helps relieve back pain.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Dystocia, Nursing Care

203. 4 Panting prevents the mother from putting pressure on the fetal head. The nurse applies gentle pressure against the fetus's head as it emerges to prevent a precipitous birth, which could result in CNS injury to the fetus and vaginal lacerations to the mother.

1 It is impossible to pant and push at the same time. **2** Breathing with the mouth closed promotes the bearing down reflex. **3** Bearing down during the birth is unsafe because both fetus and mother can be injured.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Precipitate Birth, Nursing Care

204. 2 Lacerations require less suture time and cause less perineal trauma, which can have lifelong implications such as rectal-vaginal fistulas.

1 Lacerations are less painful than an episiotomy and tend to heal more quickly. **3** An episiotomy causes more posterior trauma than lacerations. **4** Evidence indicates that a routine episiotomy policy results in more perineal trauma, more suturing time, and more complications than lacerations.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Episiotomy, Data Base

205. 3 The Centers for Disease Control and Prevention (CDC) recommends that gloves should be worn when there is potential contact with blood or other body fluids.

1 Even if the client does not have an infection, gloves are always worn when exposure to blood or other body fluids is a possibility. **2** All blood is considered to be potentially infectious. **4** Nurses are required to take precautions that limit exposure; gloves must be worn.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Postpartum Bleeding, Nursing Care

206. 1 Heat causes vasodilation and an increased blood supply to the area.

2 Cleansing is done with a perineal bottle and cleansing solution immediately after voiding and defecating. **3** Sitz baths do not soften the incision site. **4** Neither relaxation nor tightening of the rectal sphincter will increase healing of an episiotomy.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Episiotomy, Nursing Care

207. 2 The nurse should position the newborn with head slightly lower than the chest to allow mucus to flow by gravity and then rub the back to stimulate crying, which promotes oxygenation.

1 This is not the priority; there is no need for haste in cutting the cord. **3** This is not the priority; the uterus still contains the placenta and will not contract. **4** This is not the priority; the well-being of the newborn and mother must be confirmed before moving them.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Precipitate Birth, Nursing Care

208. Answer: 1, 2, 4, 5.

1 Increased risk for developing preterm labor is age associated; it occurs more commonly in older primigravidas and adolescents. **2** Mature women have an increased incidence of multiple gestation secondary to fertility drug use and in vitro fertilization. **3** This is not seen more frequently in mature gravidas. **4** After 35 years of age, mature women have an increased risk of having children with chromosomal abnormalities. **5** Bleeding in the first trimester as a result of spontaneous abortion occurs more frequently in mature gravidas.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, The Older Pregnant Woman, Data Base

209. 2 About two thirds of neonatal deaths are associated with preterm births; there appears to be a correlation with teenage and older age pregnancies, lack of prenatal care, women who are nonwhite, and those who have chronic health problems.

1 Atelectasis may occur from respiratory distress, which in turn is associated with preterm births, the leading cause of death. **3** Most infants who die from congenital heart disease die after the neonatal period. **4** This is one complication of a preterm birth.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Preterm Labor, Data Base

210. Answer: 2, 4, 5.

1 The contraction stress test (CST) is indicated to assess the influence of hypertension on the placental circulation. **2** The CST could trigger a preterm birth in a woman who is in preterm labor or has a history of preterm births. **3** The CST is indicated to determine the response of the compromised fetus to labor. **4** The CST could trigger a preterm birth in a woman who has had the Shirodkar procedure for an incompetent cervical os because it would exert pressure on the sutures and may

cause them to rupture. **5** The CST could trigger a preterm birth in a woman whose membranes have ruptured prematurely; the woman is at risk for a preterm birth already.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, Tests to Identify and/or Monitor High-Risk Pregnancy

211. 4 A positive contraction stress test (CST) indicates a compromised fetus with late decelerations during contractions; this is associated with uteroplacental insufficiency.

1 Preeclampsia does not cause a positive CST unless the fetus is compromised. **2** Ultrasonography demonstrates placenta previa; a CST is contraindicated because it may induce labor. **3** A CST is contraindicated for a woman with a suspected preterm birth or a pregnancy of less than 33 weeks' gestation because it may induce labor.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 26, Tests to Identify and/or Monitor High-Risk Pregnancy

212. 4 It is not uncommon for adolescents to avoid prenatal care; many do not recognize the deleterious effect that lack of prenatal care can have on them and their infants.

1 This can be done in the later part of pregnancy and reinforced during the postpartum period. **2** This should come later in pregnancy, but not before ascertaining the client's feelings about breastfeeding. **3** This will have to be done, but it is not the priority intervention at this time.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, The Pregnant Adolescent, Nursing Care

213. 2 Perinatal morbidity and mortality rates are higher with a multiple-gestation pregnancy because the greater metabolic demands and the possibility of malpositioning of one or more fetuses increases the risk for complications.

1 Although postpartum hemorrhage does occur more frequently after multiple births, it is not an expected occurrence. **3** Maternal mortality during the prenatal period is not increased in the presence of a multiple gestation. **4** Adjustment to a multiple gestation and birth is individual; the time needed for adjustment does not place the pregnancy at high risk.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, The Woman with a Multifetal Pregnancy, Data Base

214. 1 A multiple gestation thins the uterine wall by overstretching; thus, the efficiency of contractions is reduced.

2 Gestational anemia is physiologic anemia that is benign; although anemia may cause fatigue during labor, it does not affect uterine contractility. **3** Hypertonic contractions will cause increased discomfort, fatigue, dehydration, and increased emotional distress, not hypotonic uterine dystocia. Therapeutic interventions include rest and sedation. **4** Gestational hypertension may trigger preterm labor; it does not cause hypotonic uterine dysfunction.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, The Woman with a Multifetal Pregnancy, Data Base

215. 2 Placenta previa is defined as an abnormally implanted placenta in the thin, lower-uterine segment (i.e., low-lying, partially covering, or completely covering the cervical os).

1 This can occur at any time; it is not specific to a low-lying placenta. **3** This can occur with a normally implanted placenta. **4** This can occur at any time with or without a low-lying placenta.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, Placenta Previa, Data Base

216. 3 Pyelonephritis often causes preterm labor, leading to increased neonatal morbidity and

mortality.

1 Fluids should be increased; the inflammatory process may lead to fever, dehydration, and an accumulation of toxins. **2** Proteinuria occurs with preeclampsia; the client's signs and symptoms are indicative of a kidney infection. **4** This is not relevant to the client's problem.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Preterm Labor, Data Base

217. 2 Health care supervision requires treatment with an appropriate antibiotic until two cultures of urine are negative; recurring pyelonephritis often leads to preterm birth.

1 Preeclampsia is not preceded by specific infections. **3** Pelvic inflammatory disease (PID) is associated with infections of the genital, not the urinary, tract. **4** A low-protein diet inhibits fetal development and is contraindicated during pregnancy.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Preterm Labor, Data Base

218. 2 Chromosomal anomalies are not associated with a multiple gestation; therefore, the client needs further instruction.

1 Preterm birth with multiple gestation occurs for a variety of reasons such as spontaneous rupture of the membranes, abruptio placentae, and marked uterine distention. **3** Shunting of blood between placentas can occur with a multiple gestation if there are multiple placentas. **4** The increased blood volume and metabolism necessary to sustain a multiple gestation predispose the client to hypertension.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, The Woman with a Multifetal Pregnancy, Data Base

219. 4 Severe pain accompanied by bleeding at term or close to it is symptomatic of complete premature detachment of the placenta (abruptio placentae).

1 A hydatidiform mole is diagnosed before 36 weeks' gestation; it is not accompanied by severe pain. **2** There is no bleeding with vena caval syndrome. **3** Bleeding caused by placenta previa should not be painful.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Abruptio Placentae, Data Base

220. 2 The blood cannot escape from behind the placenta; thus, the abdomen becomes boardlike and painful because of the entrapment of blood.

1 Signs and symptoms of hemorrhagic shock do not include pain. **3** This is not related to the initial pain of abruptio placentae; eventually blood at the site of placental separation may seep into the uterine muscle (Couvelaire uterus). **4** This is not related to the initial pain of abruptio placentae; it is a life-threatening complication.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Abruptio Placentae, Data Base

221. 1 The client's clinical manifestations suggest abruptio placentae, and her vital signs indicate that shock may be occurring; the priority is to determine fetal viability so that appropriate treatment may be instituted immediately.

2 Preparing for a cesarean birth is premature until fetal viability is determined. **3** Obtaining a blood sample before assessing the status of the fetus is unsafe. **4** The amount of vaginal bleeding is not relevant because there may be hidden bleeding.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 26, Abruptio Placentae, Nursing Care

222. 4 Clotting defects are common in moderate and severe abruptio placentae because of the loss of fibrinogen caused by copious internal bleeding.

1 An excessive amount of RBCs is not related to the depletion of fibrinogen. **2** The bleeding with abruptio placentae is caused by depletion of fibrinogen, not thrombocytes (platelets). **3** Excessive globulin in the blood is unrelated to clotting.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, Abruptio Placentae, Data Base

223. 3 Hypertension during pregnancy leads to vasospasms; this in turn causes the placenta to tear away from the uterine wall (abruptio placentae).

1 Generally cardiac disease does not cause abruptio placentae. **2** This may cause an endocrine disturbance in the infant but does not affect the blood supply to the uterus. **4** This may affect the birth of the fetus but does not affect the placenta.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, Abruptio Placentae, Data Base

224. 1 Placenta previa is classically painless bleeding; the placenta partially or completely covers the cervical os, and as the cervix dilates, the placenta separates and bleeds.

2 Placenta accreta is an abnormally adherent placenta; the placenta attaches through the endometrium to the myometrium. **3** A ruptured uterus is a painful occurrence; the fetus may be expelled from the uterus into the abdomen. **4** There is no visible bleeding if the abruptio is concealed; abruptio placentae is painful because the blood accumulates between the placenta and the uterine muscle.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, Placenta Previa, Data Base

225. 3 Observation and documentation of bleeding are necessary for implementing safe care because hemorrhage and shock can be life-threatening.

1 Vital signs should be checked more often while there is bleeding. **2** This is contraindicated because it may cause further separation of the placenta. **4** The client should be restricted to complete bed rest until bleeding stops.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:**

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Placenta Previa, Nursing Care

226. 3 Abruptio placentae is associated with cocaine use; it occurs in the third trimester.

1 Placenta previa is seen in the third trimester but is not associated with cocaine use. **2** A tubal pregnancy is identified in the first trimester. **4** Spontaneous abortion occurs in the first 2 trimesters.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 26, Abruptio Placentae, Data Base

227. 2 Prostaglandins in semen may stimulate labor, and penile contact with the cervix may increase myometrial contractility.

1 Sexual intercourse may cause labor to progress; it is contraindicated for the rest of the pregnancy. **3** The position is irrelevant; sexual intercourse is contraindicated for the rest of the pregnancy. **4** Regardless of the extent of penile penetration, sexual intercourse may precipitate labor; it is contraindicated for the rest of the pregnancy.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Preterm Labor, Nursing Care

228. 1 Uterine atony often results from an overdistended uterus; uterine contractions do not occur readily and the uterus fills with blood.

2 This might cause a hematoma to form, but not a hemorrhage. **3** This is unusual; it may cause some bleeding, but not a hemorrhage. **4** This can occur in single, not just multiple, births if the placenta has not been carefully inspected for tears.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, The Woman with a Multifetal Pregnancy, Data Base

229. 4 Once the membranes have ruptured, the active herpes infection ascends and can infect the fetus; since herpes does not cross the placenta, a cesarean birth prevents transfer of the virus to the fetus.

1, 2, 3 This is not an indication for a cesarean birth; treatment is pharmacological.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Cesarean Birth, Data Base

230. 2 This is the treatment of choice for complete placental separation (abruptio placentae). The risk for fetal and maternal mortality is too high to delay action.

1 A high-forceps birth rarely is used because the forceps may further complicate the situation by tearing the cervix. **3, 4** The fetus would probably expire if this course of action were taken.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Abruptio Placentae, Data Base

231. 1 A multipara with a shoulder presentation is indicative of a transverse lie; this necessitates a cesarean birth.

2 It is not uncommon for the fetus of a multipara to be high at the beginning of labor; early engagement occurs more often with a primigravida. **3** With an occiput posterior position the labor may be longer, but usually the mother can give birth vaginally. **4** If the first twin is in the vertex presentation, a vaginal birth will be attempted with a double setup; if possible, the birth of the second twin also will be attempted vaginally.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Cesarean Birth, Data Base

232. 4 It is expected that up to two perineal pads can be saturated in the first hour.

1 A scant flow probably would not saturate even one pad. **2** Hemorrhage would saturate more than two pads in 1 hour. **3** This would be accompanied by heavy bleeding and require more than two pads during the first hour.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Cesarean Birth, Nursing Care

233. 1 A first pregnancy and obesity are both documented risk factors for a hypertensive disorder of pregnancy.

2 The risk for a hypertensive disorder of pregnancy increases when the client is younger than 20 years of age and older than 35 years of age. **3, 4** This is not a documented risk factor.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Data Base

234. 4 A blood pressure more than 140 mm Hg systolic and 90 mm Hg diastolic along with proteinuria is diagnostic of preeclampsia; assessments should be done twice 4 to 6 hours apart.

1 Hypertension alone does not support a diagnosis of preeclampsia. **2** Hypertension accompanied by a headache is not necessarily indicative of preeclampsia. **3** This can occur at any time, not specifically in clients with gestational hypertension.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Data Base

235. **Answer: 1, 3, 5.**

1 Headache in severe preeclampsia is related to cerebral edema. **2** Constipation is not related to preeclampsia. **3** Abdominal pain in severe preeclampsia is related to decreased circulating blood volume and generalized edema. **4** Vaginal bleeding is not associated with preeclampsia. **5** Visual disturbances in severe preeclampsia are related to retinal edema.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Data Base

236. **4 This is a sign of CNS involvement that the nurse can observe without obtaining subjective data from the client. It is a sign of an impending seizure.**

1, 2, 3 These are clinical manifestations of severe preeclampsia, not eclampsia.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care

237. **1 Padded side rails prevent injury during the clonic-tonic phase of a seizure. The client must be protected from injury if there is a seizure.**

2 Although some clients have an aura before a seizure, there is not enough time to use a call button and wait for help. **3** Oxygen is useless during a seizure when the client is not breathing and/or is thrashing about. **4** Assigning a staff member to stay with the client in anticipation of a seizure is impractical and unproductive.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care

238. **3 The danger of a seizure in a woman with eclampsia subsides when postpartum diuresis has occurred, usually 48 hours after birth; however, the risk for seizures may remain for up to 2 weeks postpartum.**

1, 2, 4 This is too soon.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care

239. **3 Distribution of the fingers around the head will prevent a rapid change in intracranial pressure while the head is being born and keeps the head from “popping out,” causing maternal perineal trauma.**

1 This will not assist with the birth of the head. **2** This may interfere with the birth and harm the neonate. **4** This could injure the neonate.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Precipitate Birth, Nursing Care

240. **4 A position in which the mother’s head is below the level of the hips helps decrease compression of the cord and therefore maintains the blood supply to the fetus.**

1 This position is impossible to maintain and will not relieve the pressure of the oncoming head on the cord. **2** This will increase the pressure of the presenting part on the cord. **3** The pressure of the presenting part on the cord is not relieved in this position. Also, pressure on the vena cava will ultimately decrease placental perfusion.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Breech Birth, Nursing Care

241. **3 The heart rate increases by about 10 beats/min in the last half of pregnancy; this increase, plus the increase in total blood volume, can strain a damaged heart beyond the point at which it**

can efficiently compensate.

1 The number of RBCs does not decrease during pregnancy. **2** The increased size of the uterus is related to the growth of the fetus, not to any hemodynamic change. **4** Cardiac output begins to decrease by the 34th week of gestation.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Heart Disease, Data Base

242. 4 This is the most critical period because of the rapid shift of extravascular fluid as it returns to the bloodstream; this mobilization of fluid can compromise the heart and lead to cardiac decompensation.

1 During the first trimester the increased amount of circulating blood volume is minimal and occurs gradually; thus, it does not place an unusual burden on the heart. **2** The risk for cardiac decompensation increases as pregnancy progresses; however, the increase in blood volume occurs gradually, and the mother is monitored closely. **3** There is an increased risk for stress on the heart during labor; however, close monitoring and the use of agents to provide rest and pain relief have decreased these risks.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Heart Disease, Nursing Care

243. Answer: 1, 3, 4.

1 An oxytocin (Syntocinon) infusion is carefully monitored for the gentle induction or augmentation of labor. **2** A midforceps assisted birth is not needed. A low or outlet forceps may be used to reduce the need to push and to conserve energy. **3** The health care provider may prefer a vacuum extraction assisted birth to reduce the need to push and to conserve energy. **4** Regional anesthesia relieves the stress of pain, and it does not compromise cardiovascular function. **5** Inhalation anesthesia is contraindicated because it could compromise cardiovascular function.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Heart Disease, Nursing Care

244. 3 Elevating the client's head facilitates easier oxygen exchange, and the left side-lying position promotes venous return.

1 This is too uncomfortable; the gravid uterus will impede venous return from the legs. **2** Although this position is comfortable, the gravid uterus may inhibit venous return and result in placental congestion and supine hypotension. **4** At full term, the left side-lying position is preferred to the right side-lying position to enhance venous return.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Heart Disease, Nursing Care

245. 3 Clients with cardiac problems are prone to heart failure during active labor; crackles indicate the presence of pulmonary edema.

1, 2 This is done for all clients who are in labor. **4** This is not necessary; although clients who are in labor are maintained on the side to facilitate venous return, the sides do not have to be alternated every 15 minutes.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Heart Disease, Nursing Care

246. 1 Usually as pregnancy progresses, there are alterations in glucose tolerance and in the metabolism and utilization of insulin. The result is an increased need for exogenous insulin.

2 Antihypertensives are administered only to clients with severe hypertensive preeclampsia. **3** Pancreatic enzymes or hormones other than insulin are not taken by pregnant women with diabetes. **4** Estrogenic hormones are not administered during pregnancy.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Diabetes Mellitus, Data Base

247. 3 Insulin requirements may fall suddenly during the first 24 to 48 postpartum hours because the endocrine changes of pregnancy are reversed.

1 Insulin requirements do not suddenly increase at this time. **2** Insulin requirements do not remain unchanged at this time. **4** Insulin requirements do not slowly and steadily decrease at this time.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Diabetes Mellitus, Data Base

248. 4 The client should receive nothing by mouth while heavy bleeding continues because surgical intervention may become necessary.

1 Providing oral fluids at this time is inappropriate and could result in aspiration if surgery becomes necessary. **2** The nurse does not need an order to give fluids to a postpartum client; the nurse must make an independent judgment regarding the withholding of fluids. **3** Although oral fluids can increase the blood volume, it would be inappropriate to provide fluids while the client is bleeding.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Postpartum Bleeding, Nursing Care

249. 4 Multiple full-term pregnancies and births result in overstretched uterine muscles that do not contract efficiently, and bleeding may ensue. Oxytocin (Pitocin) promotes uterine contractions.

1 A precipitous birth does not predispose to uterine atony unless there is a complication. **2** Giving birth outside the birthing area does not predispose the client to uterine atony. **3** Multiparity does not predispose to retained placental fragments.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Postpartum Bleeding, Data Base

250. Answer: 1, 2, 4.

1 Overdistention of the uterus may lead to delayed or inadequate uterine contractions. **2** An overdistended bladder may inhibit uterine contractions. **3** Clients with ineffective uterine contractions are treated with rest and sedatives; although labor is prolonged, postpartum hemorrhage is not expected. **4** Retained placental fragments inhibit uterine contractions. **5** Mild gestational hypertension does not interfere with uterine involution.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Postpartum Bleeding, Data Base

251. 2 Blood loss depletes the cellular response to infection; trauma provides an excellent avenue for bacteria to enter.

1 These may create problems if hemorrhage occurs because the hemoglobin and hematocrit are already low. **3** Preeclampsia is not a predisposing cause of postpartum infection; retained placental fragments cause hemorrhage and if not removed immediately will result in hypovolemic shock, not infection. **4** Endogenous infections are rare; infections usually are caused by outside contamination. Trauma and the denuded placental site may contribute to the development of infection.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Postpartum Bleeding, Data Base

252. 2 The heartbeat can drop as low as 50 beats/min for up to 10 days after the birth. It occurs because of the decreased blood volume, and increased stroke volume after the pregnancy has terminated.

1 A thready pulse may be a sign of postpartum hemorrhage with impending shock. **3** A bounding pulse may be a sign of hypertension. Although there may be a slight rise in blood pressure for several days, hypertension is not expected. **4** An irregular heartbeat may be a sign of cardiac decompensation that requires further investigation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 25, Postpartum Period, Data Base

253. 2 With the mobilization of extravascular fluid and the rapid decrease in uterine blood flow, the heart of a client with a cardiac problem may begin to fail. As the heart fails, the respiratory rate and effort increase in an attempt to maintain oxygen to all body cells.

1 Although pulse rate is important, the primary assessment should be for respiratory distress. **3** Signs of heart failure, not hypovolemic shock, might develop if the respiratory distress is not treated. **4** Increased vaginal bleeding is not caused by alterations in cardiac status.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 26, Heart Disease, Nursing Care

254. 4 Glucose-oxidase strips are used by nurses to screen infants for hypoglycemia.

1, 2 This test is not used to screen for hypoglycemia. **3** Fasting blood glucose levels are not used routinely to screen newborns for hypoglycemia.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Diabetes Mellitus, Nursing Care

255. 2 The infant of a diabetic mother (IDM) is a newborn at risk because of the interaction between the maternal disease and the developing fetus.

1 A newborn of a mother with type 1 diabetes generally is hypoglycemic because of oversecretion of insulin by the newborn's hypertrophied pancreas. **3** A newborn of a mother with type 1 diabetes is at high risk and requires intensive care. **4** The newborn of a mother with type 1 diabetes is prone to hypoglycemia and probably will need increased glucose.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 26, Diabetes Mellitus, Nursing Care

256. 1 The pancreas of a fetus of a diabetic mother responds to the mother's hyperglycemia by secreting large amounts of insulin; this leads to hypoglycemia after birth.

2 Hypocalcemia, not hypercalcemia, occurs. **3** Edema may be generalized, not specific to the CNS. **4** In response to the increased glucose received from the mother, the islets of Langerhans in the fetus may have become hypertrophied; they are not congenitally depressed.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 26, Diabetes Mellitus, Nursing Care

Nursing Care of the Newborn

257. **1 By demonstrating acceptance of the infant, without regard for the defect, the nurse acts as a role model for the parents, thus enhancing their acceptance.**
- 2 Infants with cleft palates can remain in the newborn nursery; they should not be hidden. **3** This is false reassurance; it does not promote parent-infant attachment behaviors. **4** This will delay attachment; the parents should be encouraged to have frequent contact with their infant.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Nursing Care Common to All Newborns
258. **4 Mothers need to explore their infants visually and tactilely to assure themselves that their infants are healthy.**
- 1** This comment closes off communication with the mother at an opportune moment. **2** A strong cry is not indicative of a healthy newborn. **3** The “normalcy” of the mother’s pregnancy does not necessarily have a relationship to the health of the newborn.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Parent-Infant Relationships
259. **2 Holding, touching, and interacting with the newborn while providing basic care promotes attachment.**
- 1** The nurse’s infant feeding preference should not be forced upon the mother. **3** Although rooming-in helps promote attachment, not all women have the physical or emotional ability to provide 24 hour care to the newborn so early in the postpartum period. **4** Early observation is not adequate; this can be done only by allowing the mother ample time to interact with her baby.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Parent-Infant Relationships
260. **1 The mother has moved into the taking-hold phase when she takes control and becomes actively involved with her infant and calls the infant by name. She has completed the taking-in phase when her own needs no longer predominate.**
- 2** This occurs in the taking-in phase when she has the need to integrate the experience. **3** This is the initial early action of the taking-in phase. **4** This is part of the taking-in phase.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Parent-Infant Relationships
261. **1 Attachment between parent and infant is most successful when interaction is possible immediately after birth; if the infant is ill, contact is limited.**
- 2** Although the duration and difficulty of labor is a factor, the most important factor is the physical condition of the infant. **3** Although the effect of anesthesia is a factor, the most important one is the physical condition of the infant. **4** Health and emotional status during pregnancy may be factors, but the most important factor after the birth is the physical condition of the infant.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Parent-Infant Relationships
262. **3 Parenting is a learned behavior based on past experiences and current motivation to learn.**
- 1** Parenting is learned, not inborn. **2** Specific marital roles do not influence parenting behaviors. **4** Knowledge alone does not ensure the ability to parent.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Parent-Infant Relationships

263. 4 This mother is at risk for having difficulty with attachment because her baby did not meet her expectations.

1 Unplanned pregnancies usually do not pose a risk for attachment problems because the decision was made to continue the pregnancy, allowing time to accept it. **2** Reliving the birthing experience, whether it involves positive or negative feelings, occurs during the first few postpartum days during the taking-in phase. Unless there are other emotional problems, these feelings are resolved during this phase, and then the mother moves into the taking-hold phase, which initiates the attachment process. **3** Ambivalent feelings during the first trimester are common and usually resolve during the second trimester.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Parent-Infant Relationships

264. 2 This immunity is developed from an antigen-antibody response in the mother that is transmitted to the fetus.

1 This is acquired by an individual in response to a disease or an infection. **3** This is acquired by an individual in response to small amounts of antigenic material (e.g., vaccination). **4** This is conferred by the injection of antibodies already prepared in another host.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

265. 3 A quiet, alert state is an optimum time for infant stimulation.

1 Bright lights are disturbing to newborns and may impede mother-infant interaction. **2** This position is used for the sleeping infant. **4** Physical and behavioral assessments are not the priorities; they can be delayed.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Parent-Infant Relationships

266. Answer: 9. A value of 1 is assigned to the color category (acrocyanosis); a value of 2 is assigned to the heart rate that is within the expected range of 100 to 160 beats/min; the flexed extremities reflect healthy muscle tone; and a lusty cry represents the other two categories—reflex irritability and respiratory rate—each of which is assigned a value of 2. The Apgar score is 9, demonstrating a healthy newborn.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

267. 1 The heart rate is vital for life and is the most critical observation in Apgar scoring.

2 Respiratory effort rather than rate is included in the Apgar score; the rate is very erratic. **3** This may or may not be present at this time and is not a part of Apgar scoring. **4** This is not a part of Apgar scoring but should be assessed later.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

268. 3 The newborn's heart rate varies with activity; crying can increase it to 180 beats/min, whereas deep sleep may lower it to 80 to 100 beats/min; a rate between 110 and 160 beats/min is the average.

1, 2 The heart rate of an alert, noncrying newborn that is above 160 beats/min indicates tachycardia. **4** The heart rate of an alert, noncrying newborn that is below 110 beats/min indicates

bradycardia.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

269. **1 The initial response is a reflection of the startle reflex; when the stimulus is repetitive, the response to the stimulus decreases; this decrease in response is called habituation and is expected.**

2, 4 This is not necessary because the neonate's response is expected. **3** The infant is responding to noise and therefore hears.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 27, Adaptation to Extrauterine Life

270. **Answer: 1, 3, 4.**

1 Full-term neonates have a flexed fetal position, which conserves heat. **2** Insulin is not stored in the liver and is not involved with maintaining neonatal body temperature. **3** Brown fat is deposited at 28 weeks' gestation and continues for the rest of the pregnancy; when the newborn's body becomes cool, the sympathetic nervous system stimulates the breakdown of brown fat, which releases heat as a by-product. **4** Peripheral vasoconstriction helps to conserve heat by keeping the central core warm and preventing heat from dissipating. **5** The sympathetic, not parasympathetic, nervous system is involved in thermoregulation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

271. **4 The expected breathing patterns are abdominal and irregular in rhythm and depth (alternates between shallow and deep); the expected rate ranges from 30 to 60 breaths/min.**

1 Newborns' respirations are irregular and abdominal. **2** Newborns' respirations are abdominal. **3** Newborns' respirations are irregular.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

272. **2 Cyanosis, choking, and coughing are signs of aspiration and hypoxia. Suctioning and oxygenation are needed.**

1 Crying may add to the distress. **3** The water may be aspirated and intensify the problem. **4** This is unsafe; the newborn is showing signs of a blocked airway.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 27, Adaptation to Extrauterine Life

273. **1 The mucus must be removed to maintain a patent airway and promote respirations and gaseous exchange.**

2 Oxygenation is ineffective if the airway is obstructed. **3** Documentation is important, but it is not the priority. **4** This is done to aspirate stomach contents, not to clear the airway.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 27, Nursing Care Common to Newborns

274. **2 The Moro reflex is a sudden extension and abduction of the arms at the shoulders and spreading of the fingers. This is followed by flexion and adduction of the arms with the index finger and thumb forming the letter "C"; the infant may cry.**

1 Extension and abduction, not adduction, is the first part of the Moro reflex. **3** Although the reflex response includes adduction of the arms, the toes are not involved. **4** Although the reflex starts with extension of the arms, the fingers fan out before forming the "C" position.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Nursing Care Common to Newborns

275. **1 Milia are common, are not indicative of illness, and eventually disappear.**

2 Lanugo is fine, downy hair. **3** This is a lay term for milia; it is not used when documenting. **4** These are bluish black areas on the buttocks that may be present on dark-skinned infants.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Nursing Care Common to Newborns

276. **3 The tonic neck reflex (fencing position) is a spontaneous postural reflex of the newborn; it persists until the third month.**

1 The Moro reflex is exhibited when a sudden change in equilibrium causes extension and abduction of the extremities followed by flexion and adduction. **2** The Babinski reflex is exhibited when the examiner runs a finger up the lateral (small toe side) undersurface of the foot from the heel to the toes and then across the ball of the foot; the toes separate and flare out. **4** The palmar grasp reflex is exhibited when the fingers flex around a person's finger as it is placed in the infant's palm.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Nursing Care Common to Newborns

277. **3 Bacteria, especially *Escherichia coli*, produce substances necessary to synthesize prothrombin.**

1 This is an orange bile pigment produced by the breakdown of hemoglobin. **2** Bile salts are manufactured in the liver, not synthesized by bacteria. **4** This is secreted by the gastric glands, not synthesized by bacteria.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

278. **4 In 36 to 48 hours the newborn will have ingested an ample amount of the amino acid phenylalanine, which if not metabolized because of a lack of a specific liver enzyme, can result in excess levels of phenylalanine in the bloodstream and brain, resulting in mental retardation; early detection is essential to prevent this.**

1 The infant will have a vitamin K injection soon after birth to prevent bleeding problems. **2** Blood is withdrawn from the heel soon after birth to test for hypoglycemia. **3** Necrotizing enterocolitis is a disorder that can affect preterm infants. It is not identified by a test.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Adaptation to Extrauterine Life

279. **1 Phenylalanine is an essential amino acid necessary for growth that may be absent in infants with phenylketonuria (PKU); testing is done on all neonates born in the United States.**

2 Untreated PKU can lead to retardation; the test will not identify retardation. **3** PKU is a genetic, not a chromosomal, disorder. **4** This is done at the same time as PKU testing, but thyroid deficiency is a problem related to a hormone deficiency, not to PKU.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Adaptation to Extrauterine Life

280. **2 Hypoglycemia causes CNS and sympathetic nervous symptom responses.**

1, 3, 4 These are not signs of this problem.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

281. **4 There is a sensitive period in the first minutes or hours after birth during which it is**

important for later interpersonal development that the parents have close contact with their newborn.

1 Rooming-in may not be instituted immediately after birth. **2** Taking-in is a maternal psychologic behavior described by Reva Rubin that occurs during the first 2 postpartum days. **3** Taking-hold is a maternal psychologic behavior described by Reva Rubin that occurs after the third postpartum day.

Client Need: Psychosocial Integrity; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Parent-Infant Relationships

282. 1 Some maternal oxytocin crosses the placenta and induces the secretion of fluids that have accumulated in the fetal breasts (sometimes called “witch’s milk”).

2 This usually is manifested as white, adherent patches in the oral mucosa (thrush). **3** This is uncommon and usually undetectable in the newborn period. **4** Evidence of infection would not appear so rapidly after birth.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Nursing Care Common to Newborns

283. 3 Newborns’ eye movements are uncoordinated and the eyes appear crossed as they try to focus. As the eye muscles mature, the apparent strabismus disappears.

1 This discounts the mother’s concern and is demeaning. **2** Although this is true, the mother should be given an explanation for the apparent strabismus. **4** This is misinformation that will increase the mother’s anxiety.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Nursing Care Common to All Newborns

284. 2 Teaching the mother by example is a nonthreatening approach that allows her to proceed at her own pace.

1 Learning does not occur by schedule; questions must be answered as they arise. **3** Mothers need demonstration of appropriate mothering skills, not just a discussion. **4** Although emotional support is required, the plan should encourage independent caregiving.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Nursing Care Common to Newborns

285. 2 The antibodies in human milk provide the infant with immunity against all or most of the pathogens that the mother has encountered.

1, 3 These are present in commercial formulas. **4** Complex carbohydrates are not required by the infant.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Adaptation to Extrauterine Life

286. Answer: 1, 3, 4.

1 These infants have low glycogen stores. **2** These infants are not at risk for developing hypoglycemia. They are at risk for congenital cardiac defects. **3** These infants have low glycogen stores. **4** These infants are prone to hyperinsulinemia; often they have mothers who have diabetes, which exposes them to high circulating glucose levels while in utero. After prolonged exposure to high glucose levels, hyperplasia of the pancreas occurs, resulting in hyperinsulinemia. **5** These

infants are not at risk for developing hypoglycemia.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

287. **4** The congenital absence of a blood vessel in the umbilical cord is often associated with life-threatening congenital anomalies. There should be two arteries and one vein.

1 It is too soon to determine if the newborn needs prolonged follow-up care; the second Apgar score 5 minutes later determines this. **2** This is the average weight for a full-term newborn. **3** The expected glucose level in a healthy newborn is 40 to 69 mg/dL.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Nursing Care Common to Newborns

288. **Answer: 5**

Weak cry = 1; heart rate of 90 bpm = 1; some flexion of extremities = 1; grimacing = 1; and acrocyanosis = 1.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

289. **4 This is related to neonatal morbidity and mortality; by 5 minutes the healthy neonate is relatively stable with an Apgar score of 8 to 10 and requires routine care.**

1 The presence of cerebral palsy is not related to the Apgar score. It is rarely diagnosed in the newborn. **2** Genetic defects may or may not be apparent at this time. They are not related to the Apgar score. **3** This has not been proven, although research continues in this area.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Adaptation to Extrauterine Life

290. **Answer: 1, 2, 3.**

1 Nasal flaring occurs because of the stress of breathing; the flaring nostrils allow more air to enter the respiratory passages. **2** Sternal retractions occur when accessory muscles of respiration contract during the stress of breathing. **3** Grunting respirations occur as the glottis closes and reopens at the height of inhalation; this momentary closure of the glottis increases the length of time oxygen and carbon dioxide are exchanged in the alveoli. **4** Newborns have irregular respirations with periods of apnea. **5** Cyanosis of the hands and feet (acrocyanosis) is typical of all newborns at the time of birth. **6** This is within the expected range for heart rates of healthy infants.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 30, Cardiac Malformations, Data Base

291. **Answer 1, 4, 5.**

1 This is an important part of record keeping for all newborns. **2** The neonate's Apgar score (7/9) does not indicate a need for oxygen. **3** Newborns are either breastfed or formula fed. Glucose water is not offered first. **4** All newborns are evaluated upon admission to the nursery. **5** All newborns should be kept warm to maintain a stable body temperature.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 27, Nursing Care Common to Newborns

292. **4 If the woman perceives a negative viewpoint about breastfeeding from significant others, she may be tense and the let-down reflex may not occur; a positive attitude from significant others toward breastfeeding promotes relaxation and the let-down reflex.**

1, 2 This has no influence on lactation. **3** Milk or milk product intake during pregnancy has little influence on lactation.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Breastfeeding, Data Base

293. 1 The question should be answered directly in the class. However, the mother's statement indicates some concerns about breastfeeding that should be explored privately later.

2 This is false reassurance; successful breastfeeding requires mastery, and some women have difficulty. **3** Although the nurse perceives the client's concerns, this response is inappropriate in a class with others present. The nurse should elicit more information privately later. **4** The infant's suckling and emptying of the breasts will determine the amount of milk produced.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Breastfeeding, Nursing Care

294. 3 Most average-sized infants regulate themselves to an approximate 3- to 4-hour schedule. However, wide variations do exist.

1 Some of the episodes of crying do not indicate that the infant is hungry; the mother will learn the difference. **2** It is best to allow the infant to set the schedule. **4** Although this is true, this does not answer the mother's question concerning when she will have free time.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Breastfeeding, Nursing Care

295. 4 Breastfeeding by a mother with human immunodeficiency virus (HIV) is contraindicated because breast milk can transmit the virus to the infant.

1 Breastfeeding by a mother with mastitis is not always contraindicated; during antibiotic treatment lactation can be maintained by pumping the breasts and discarding the milk. When the infection has resolved, breastfeeding can resume. **2** Breastfeeding is not contraindicated with inverted nipples because a breast shield can provide mild suction to help evert a nipple. **3** Breastfeeding is not contraindicated for a client with genital herpes. The newborn may contract the infection during a vaginal birth, not via breast milk.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Breastfeeding, Data Base

296. 1 Air-drying nipples after feedings limits irritation and disruption of skin integrity.

2 Application of soap to breast tissue may result in drying and cracking. **3** Plastic liners trap moisture against tissue and may cause skin breakdown. **4** Wearing a brassiere continuously, except for bathing, is recommended for 2 to 3 weeks to provide support to breast tissue structures.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 27, Breastfeeding, Nursing Care

297. 3 Frequently the emotional excitement of going home will diminish lactation and/or the let-down reflex for a brief period. When the mother is aware that this may happen and knows how to cope with it, the problem is apt to be a minor one and easily overcome.

1 This is false reassurance. Many factors (stresses) inhibit lactation, and the client should be aware of this. **2** This is false reassurance. The milk supply may diminish or stop under stress. **4** This is contraindicated. Lack of breast stimulation during formula feeding could diminish lactation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27,

Breastfeeding, Nursing Care

298. 3 Soap irritates, cracks, and dries breasts and nipples, making it painful for the mother when the baby sucks; also, it increases the risk for mastitis.

1 The client should empty the breasts at each feeding to keep milk flowing. **2** This is a permissible and often-used technique of breastfeeding. **4** This elicits the rooting reflex, causing the infant's head to turn toward and touch the mother's breast.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 27, Breastfeeding, Nursing Care

299. 1 More frequent breastfeeding stimulates more frequent evacuation of meconium, thus preventing resorption of bilirubin into the circulatory system.

2 Phototherapy is the treatment for hyperbilirubinemia, and it is maintained continuously; it does not prevent the development of hyperbilirubinemia. **3** It is not necessary to formula feed. Early breastfeeding tends to keep the bilirubin level low by stimulating GI activity. **4** Increasing water intake does not limit the development of hyperbilirubinemia because only small amounts of bilirubin are excreted by the kidneys.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Breastfeeding, Data Base

300. 1 Typically six to eight wet diapers a day indicate adequate fluid intake.

2 This may be a sign of inadequate nutritional intake. A breastfeeding infant usually sleeps $1\frac{1}{2}$ to $2\frac{1}{2}$ hours between feedings because breast milk digests rapidly. **3** The number of bowel movements per day is not related to the amount of milk ingested, although breastfeeding infants do defecate more frequently than formula-fed infants. **4** The length of nursing time at each breast does not indicate the amount of milk being ingested.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Breastfeeding, Nursing Care

301. 1 When the breast is pushed into the infant's mouth, a typical response is for the mouth to close too soon, resulting in inadequate latching-on.

2 This facilitates latching-on and maintains the infant's head in correct alignment, which promotes sucking and swallowing. **3** This will stimulate the rooting reflex and promote latching-on. **4** This prevents trauma to the nipple when removing the infant from the breast.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 27, Breastfeeding, Nursing Care

302. 2 Infants require about 73 mL of fluid per pound and 60 calories a day per pound for growth. The infant's weight of 6 lb $\times$ 73 mL of fluid = 438 mL. If fed every 4 hours the infant will have 6 feedings; $438 \div 6 = 73$ mL; $73 \div 30$ (30 mL/oz) = 2.4 oz. Therefore, the infant should be offered 2 to 3 oz per feeding.

1 This amount of formula is inadequate for this newborn. **3, 4** This amount of formula is excessive for this newborn.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Formula Feeding, Nursing Care

303. 4 Cow's milk is more difficult to digest because it is meant to meet a calf's, not an infant's, nutritional needs. It is not recommended until after the infant is 1 year old. Formula is preferred

if the mother is not breastfeeding.

1 Cow's milk contains more protein and more calcium. **2** Cow's milk contains more protein and fewer carbohydrates. **3** Cow's milk contains more calcium.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Formula Feeding; Data Base

304. Answer: 4, 1, 2, 3, 5.

4 The bag should be removed, and the mouth checked for secretions and suctioned, if necessary, to clear the airway. **1** Repositioning the newborn's head may open the airway. **2** Opening the mouth slightly reduces resistance to the positive pressure of the pumped air. **3** Reapplying the mask may create a better seal when the bag is compressed again. **5** After nursing interventions are implemented, the neonate should be reassessed for a response.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Respiratory Distress Syndrome, Nursing Care

305. 1 RhoGAM must be given within 72 hours postpartum if the client has not been sensitized previously, irrespective of the length of the gestation.

2 It would be useless at this time because antibodies have been produced already. **3** RhoGAM is always indicated at the termination of a pregnancy, even with a short-term pregnancy. **4** RhoGAM is always indicated at the termination of a pregnancy, even with fetal demise.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Hemolytic Disorders, Data Base

306. 4 There is an apparent ABO incompatibility because the mother is O and the infant is B; incompatibility can cause jaundice within the first 24 hours.

1 The information provided does not indicate neonatal sepsis. **2** Rh incompatibility is not a factor because the mother is Rh positive. **3** Jaundice in the first 24 hours is not physiologic; it is pathologic.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Hemolytic Disorders, Data Base

307. 2 The neonate's age is critical because the development of jaundice before 24 to 48 hours after birth may indicate a blood dyscrasia (pathologic jaundice, hyperbilirubinemia), requiring immediate investigation. Jaundice occurring between 48 and 72 hours after birth (physiologic jaundice) is a consequence of the expected breakdown of fetal red cells and immaturity of the liver.

1 Unless the jaundice was pathologic (occurring in the first 24 hours of life), this is not necessary. **3** First, the age of the neonate must be ascertained to determine if this is physiologic or pathologic jaundice; then the nurse should obtain a sample of heel blood to determine the serum bilirubin level. **4** Bilirubin studies should be done first to determine whether the serum level warrants phototherapy. This therapy requires a health care provider's order.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Hemolytic Disorders, Data Base

308. 4 RhoGAM will prevent sensitization from Rh incompatibility that may arise between an Rh-negative mother and an Rh-positive newborn.

1 This is unnecessary because only the mother's and infant's Rh factors are relevant. **2** This is unnecessary; if a transfusion were needed, it would be for the newborn, not the mother. **3** There is no incompatibility; incompatibility might occur if the mother were O positive and the newborn had

type A, B, or AB blood.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Planning/Implementation; **Reference:** Ch 27, Hemolytic Disorders, Nursing Care

309. 3 Development of jaundice within the first 24 hours indicates hemolytic disease of the newborn.

1 These may or may not be present during the first 24 hours; they are dependent on the bilirubin level. **2** This may or may not be present during the first 24 hours; usually it develops later. **4** Serum bilirubin levels are expected to accumulate in the neonatal period because of the short life span of fetal erythrocytes, reaching levels of 7 mg/100 mL the second to third day when jaundice appears (physiologic jaundice).

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Hemolytic Disorders, Data Base

310. 2 This is the sign that differentiates between these two conditions; cephalohematoma does not extend beyond the suture line.

1 Pain is not associated with either condition. **3** This is unusual; it should decrease in size. **4** Bruising can occur with either condition.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Cranial Birth Injuries, Data Base

311. 4 A rapid birth does not give the fetal head adequate time for molding; therefore, pressure against the head is increased and blood vessels may burst.

1, 3 This results from excessive pulling on the head and shoulders during a difficult birth. **2** This is more likely to occur in a footling breech birth.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 27, Cranial Birth Injuries, Data Base

312. 4 Intracranial bleeding may occur in the subdural, subarachnoid, or intraventricular spaces of the brain, causing pressure on vital centers; clinical signs are related to the area and degree of cerebral involvement.

1 This is caused by hypocalcemia; it is manifested by exaggerated muscular twitching. **2** This is a defect of the spinal column that is observed at birth. **3** An elevated potassium level causes cardiac irregularities, not the irritable behavior observable with CNS involvement.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Cranial Birth Injuries, Nursing Care

313. 4 With Erb-Duchenne paralysis there is damage to spinal nerves C5 and C6, which causes paralysis of the arm.

1 The grasp reflex is intact because the fingers usually are not affected; if C8 is injured, paralysis of the hand results (Klumpke paralysis). **2** There would be a negative Moro reflex only on the affected side. **3** There is no interference with turning of the head; usually injury results from excessive lateral flexion of the head as the shoulder is born.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 27, Neuromusculoskeletal Birth Injuries, Data Base

314. 3 Gentle massage and manipulation of the arm muscles help prevent contractures. The parents can perform them at home.

1 This is dangerous because it may lead to permanent contractures. **2** The length of the arm will not change on a daily basis. **4** Passive range-of-motion exercises should be delayed for 10 days to prevent additional injury to the brachial plexus.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 27, Neuromusculoskeletal Birth Injuries, Nursing Care

315. 4 The brachial plexus is injured by excessive pressure during a difficult birth or during a vaginal breech birth.

1 Erb palsy is an injury that occurs during the birth process; it is not acquired before or after birth. **2** Erb palsy is a birth injury, not a genetic problem. **3** Erb palsy is a birth injury to nervous tissue, not a tumor arising from muscle tissue.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Neuromusculoskeletal Birth Injuries, Data Base

316. 4 Injury to the brachial plexus, clavicle, or humerus during birth prevents abduction and adduction movements of an upper extremity.

1 Children with Down syndrome exhibit the expected Moro reflex. **2** This is not considered a cause; however, if the cochlea were undeveloped or the eighth cranial (vestibulocochlear) nerve were injured, it would affect equilibrium and response to the test. **3** These injuries usually cause a symmetric loss of the Moro reflex.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Neuromusculoskeletal Birth Injuries, Nursing Care

317. 3 Opioid withdrawal affects the CNS and respiratory systems.

1 These may occur in a newborn with thyroid deficiency. **2** These may indicate that the newborn is experiencing cold stress or respiratory distress. **4** These may occur in a newborn affected with syphilis.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Substance Dependence, Nursing Care

318. 2 As the opioid is cleared from the newborn's body, signs of withdrawal become evident. Tremors, irritability, difficulty sleeping, twitching, and convulsions result.

1 Dehydration is secondary to inadequate feeding; it is not a direct result of opioid withdrawal. **3** Muscle hypertonicity, not hypotonicity, occurs. **4** Opioid withdrawal results in signs of excessive stimulation.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Substance Dependence, Nursing Care

319. 1 This conjunctivitis occurs about 3 to 4 days after birth; if it is not treated prophylactically with an antibiotic at birth or within 3 days, chronic follicular conjunctivitis with conjunctival scarring will occur.

2 Human immunodeficiency virus (HIV) in the newborn does not manifest itself with conjunctivitis. **3** High oxygen concentrations given to severely compromised preterm infants cause vasoconstriction of retinal capillaries, which can lead to blindness; there are no data to indicate that this infant was preterm, severely compromised, or received oxygen. **4** This chemical conjunctivitis occurs within the first 48 hours and is not purulent.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 27, Ophthalmia Neonatorum, Data Base

320. 1 Chlamydia trachomatis is associated with the development of pneumonia in the newborn.

2 Purulent conjunctivitis at this time suggests a chlamydia infection, not an allergic response. **3** Boric acid solution will not treat this problem; a prescribed antibiotic is required. **4** This would be done eventually; however, the priority is to monitor for signs of pneumonia.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Ophthalmia Neonatorum, Data Base

321. 2 Because physical signs of congenital syphilis are difficult to detect at birth, the infant should be screened immediately to determine if treatment is necessary.

1 This is a congenital defect that occurs in the first trimester; *Treponema pallidum* does not affect a fetus before the 16th week of gestation. **3** This is found in children with Down syndrome, not congenital syphilis. **4** This does not manifest in the infant with congenital syphilis until about 3 months of age.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 27, Syphilis, Nursing Care

322. 3 Because neonates are unable to shiver, they use the breakdown of brown fat to supply body heat; the preterm infant has a limited supply of brown fat available for this breakdown.

1 This is not specific to preterm neonates; all newborns are unable to use shivering to supply body heat. **2** The breakdown of glycogen into glucose does not supply body heat. **4** Pituitary hormones do not regulate body heat.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Preterm Infant, Data Base

323. 1 The preterm infant has a reduced glomerular filtration rate and reduced ability to concentrate urine or conserve water.

2 All systems of the preterm neonate are less developed than in the full-term neonate. **3** The opposite occurs; urine is very dilute. **4** The fluid and electrolyte balance of preterm infants is easily upset.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 27, Preterm Infant, Data Base

324. 3 Immaturity of the respiratory tract in preterm infants is evidenced by a lack of functional alveoli, smaller lumina with increased possibility of collapse of the respiratory passages, weakness of respiratory musculature, and insufficient calcification of the bony thorax, leading to respiratory distress.

1 This is not a common occurrence at the time of birth unless trauma has occurred. **2** This is not a primary concern unless severe hypoxia occurred during labor; it is difficult to diagnose at this time. **4** This may be a problem, but generally the air passageway is suctioned as needed.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 27, Preterm Infant, Data Base

325. 4 The moisture provided by the humidity liquefies the tenacious secretions, making gas exchange possible.

1 Caloric intake is increased; the amount, number, and type of feedings are related to the metabolic rate. **2** Infants should be positioned side-lying rather than prone; the prone position is associated with apnea and sudden infant death syndrome (SIDS). **3** This is not a routine action; the concentration of oxygen depends on the oxygen concentration of the neonate's blood gases.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 27 Preterm Infant; Nursing Care

UNIT 5

Child Health Nursing

Growth and Development of the Child

Principles of Growth

A Differences from adults: continuing physiologic, intellectual, emotional maturation evidenced by developmental milestones

B Influences

1. Physiologic: genetics, nutrition
2. Psychosocial: home and environment, parental attitudes, culture
3. Chronologic and developmental age

C Principles

1. Complex, with all aspects closely related
2. Measured quantitatively and qualitatively over time
3. Continuous and orderly although at uneven rate

D Stages

1. Infancy: most rapid period
2. Preschool to puberty: slower and uniform rate
3. Puberty: second most rapid period (growth spurt)
4. After puberty: decline in rate until death

E Developmental direction

1. Cephalocaudal: from head to toe
2. Proximodistal: from center of body to periphery
3. Different parts of body grow at different rates
 - a. Prenatal: head and brain grow fastest
 - b. First year: elongation of trunk dominates, continued rapid brain growth
4. Sequential; each individual proceeds at own rate

F Critical time: most vulnerable time in development

1. Rapid growth of organs and systems
2. Resolution of psychosocial crises at specific developmental stages

Characteristics of Growth

Circulatory System

A Heart rate: decreases with increasing age

1. Birth to 3 months: 100 to 160 beats/min
2. Three months to 2 years: 80 to 150 beats/min
3. Two years to 10 years: 70 to 110 beats/min
4. Preadolescence to adulthood: 55 to 90 beats/min
5. Sites for assessment: apical, femoral, brachial

B Blood pressure: increases with age

1. 50th percentile ranges from 55 to 70 mm Hg diastolic to 100 to 110 mm Hg systolic
2. Levels increase about 2 to 3 mm Hg/year starting at age 7 years
3. Systolic pressure in adolescence: higher in males than females
4. Appropriate size cuff is 45% to 70% of arm width
5. Sites for assessment: lower extremity for younger children; upper extremity for older children

C Hemoglobin

1. Birth: highest

- a. 17 g/100 mL of blood; then decreases to 10 to 15 g/100 mL by 1 year
- b. Fetal hemoglobin (60% to 90% of total hemoglobin) gradually decreases during first year to less than 5%

2. 1 to 12 years: gradual increase to 14.5 g/100 mL

3. After puberty: higher in males than in females

D Body fluid

1. Total body water (TBW): 80% of body weight at birth; 60%, with small variations, from 1 year of age to maturity

2. Extracellular fluid (ECF): 45% of body weight at birth, 25% at 2 years of age, 20% at maturity

3. Intracellular fluid (ICF): 35% of body weight from birth to 1 year, with small variations; increases to 40% from 5 years of age to maturity

Respiratory System

A Respiratory rate: decreases as age increases

1. Infancy: 30 to 40 breaths/min

2. Childhood: 20 to 24 breaths/min

3. Adolescence and adulthood: 16 to 18 breaths/min

B Vital capacity

1. Gradual increase throughout childhood and adolescence

2. Decreased with obesity; smoking; lung disorders; aging

C Basal metabolism

1. Newborn: highest rate

2. Rate declines with age

3. After puberty: higher in males than females

Urinary System

A Specific gravity

1. Newborn: 1.001 to 1.020; preterm and full-term newborns cannot concentrate urine effectively

2. Other age groups: 1.002 to 1.030

B Glomerular filtration rate: increases rapidly in first 6 months; reaches adult values between 1 and 2 years; gradually decreases after 20 years

Digestive System

A Stomach size: small at birth; rapidly increases during infancy and childhood

B Peristaltic activity decreases with age

C Blood glucose levels

1. Preterm infants: lower than full-term infants

2. Gradually increase from 75 to 80 mg/100 mL of blood in infancy to 95 to 100 mg/100 mL during adolescence

D Enzymes: present at birth to digest proteins, moderate amount of fat, simple sugars, amylase produced as starch is introduced

E Hydrochloric acid and salivary enzymes: secretion increases with age until adolescence; then

decreases with advancing age

Nervous System

A Brain: 90% of total size by 2 years of age

B Brain cells: all present by end of first year; size and complexity increase with age

C Maturation of brainstem and spinal cord: follows cephalocaudal and proximodistal principles of developmental direction

Play

Functions of Play

- A Natural medium for expression, communication, and growth
- B Educational: teaches about physical world; helps to associate names with objects
- C Recreational: helps to release surplus energy
- D Sensorimotor: stimulates muscle development, and tactile, auditory, visual, and kinesthetic senses
- E Social and emotional: aids in learning moral values; helps develop concept of sharing and cooperation with peers
- F Therapeutic: releases tension and stress; encourages manipulation of equipment used for treatment and procedures (e.g., syringe, stethoscope, otoscope, IV bag, incentive spirometer, bandages) to help gain control over threatening events; helpful to have appropriate size doll for “practicing”

Types of Play

- A Characteristic of developmental level
 1. Infancy: solitary
 - a. Use of senses to explore
 - b. Provides interpersonal contact, recreational and educational stimulation
 2. Toddler: parallel
 - a. Plays alongside, not with, other children
 - b. Less emphasis on exploration using senses
 - c. Imitation is distinguishing characteristic
 3. Preschooler: associative
 - a. Occurs in groups; consists of similar or identical activities without rigid organization or rules
 - b. Cooperative and imitative of life
 4. School age
 - a. Development of groups, teams, cliques; helps develop sense of belonging
 - b. Increased physical skills, intellectual ability, and fantasy
- B Types of play materials
 1. Active and physical: push-and-pull toys; riding toys; sports and gym equipment
 2. Manipulative, constructive, creative, or scientific: blocks, construction toys, drawing sets, microscope and chemistry sets, books, computer games, collections
 3. Imitative, imaginative, and dramatic: dolls, dress-up costumes, puppets
 4. Competitive and social: games, role playing

Suitability of Toys

Criteria for Judging Suitability

- A Safety
 1. Infants: should not be given toys with strings or cords 18 cm or longer or furry toys
 2. Infants, toddlers, and children who put objects in their mouths: should not be given toys with small parts that may present choking hazards (1.2 inches diameter can occlude airway); should be no smaller than infant’s fist

3. Safety labels should designate flame retardant/flame resistant, nontoxic

4. Toys should not be given to children under recommended age

B Compatibility: child's age; level of development; experience

C Usefulness

1. Challenges child's development; assists to achieve mastery

2. Supports social and personality development; increases motor and sensory skills; develops creativity; helps express emotions

3. Assists understanding of therapeutic procedures (therapeutic play)

The Family

Structure of the Family

- A Basic unit of society
- B Composition varies; one member usually recognized as head
- C Usually shares common goals and beliefs
- D Roles change within family and reflect individual's and family's needs
- E Status of members determined by position in family in conjunction with views of society

Functions of the Family

- A Reproduction
- B Maintenance to provide
 1. Basic needs: clothing, housing, food, health care
 2. Support: social, psychologic, emotional
 3. Protection: immaturity of young children necessitates adult care and supervision
 4. Status: child is member of family that is part of larger community
- C Socialization
 1. Child is acculturated by introduction to social situations; is guided to develop appropriate social behaviors
 2. Self-identity develops through relationships with other family members
 3. Child identifies appropriate sex roles and responsibilities
- D Growth and development of individual members toward maturity and independence

Nursing Care Related to Meeting the Needs of the Family of a Child with Special Needs

- A Recognize that members of family will exhibit a variety of responses (e.g., acute grief and mourning, chronic grief, excessive use of defense mechanisms)
- B Identify stages of chronic grief and parental behavior
 1. Shock and denial
 - a. Learn about problem but deny facts
 - b. Feel inadequate and guilty
 - c. Feel insecure in ability to care for child
 - d. "Shop for doctors" in hope of finding more acceptable answers
 2. Adjustment to special needs
 - a. Feel guilty and self-accuse
 - b. Envy well children (related to bitterness and anger)
 - c. Search for clues or reasons why this happened to them
 - d. Have special feelings toward child that may result in overprotectiveness, gradual acceptance, or rejection
 3. Reintegration and acknowledgment
 - a. See child's special needs in perspective
 - b. Function more effectively and realistically

c. Socially and emotionally accept child

d. Reintegrate family life without centering on child

C Help parents and siblings gain awareness of child's special needs

D Help parents understand child's potential

1. Assist to set realistic goals

2. Enhance ability to achieve sense of adequacy in parenting by emphasizing appropriate care

3. Teach family how to stimulate child's learning of new skills (e.g., sitting, walking, talking, toileting); keep record of child's progress

4. Teach parents how to help child cope with frustration

E Encourage parents to treat child equal to other children within family

1. Encourage to set limits, be consistent, avoid overprotection

2. Help to become aware of effects of child on siblings, who may resent excessive attention given to child

F Provide family with outlet for emotional tensions and needs

1. Explore parental concerns using interviewing techniques (e.g., reflection, paraphrasing, clarification)

2. Acquaint family with organizations, resources, self-help groups

3. Assist siblings, who may fear they have caused their sibling's special need

G Teach parents importance of continued health supervision

H Support parents' decisions about extent of health care interventions

I Evaluate family's responses and revise plan as necessary

Age-Related Responses to Pain

Infant

(Table 29-1: FLACC Scale)

Table 29-1
FLACC Scale

	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant frown, clenched jaw, quivering chin
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid, or jerking
Cry	No cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or talking to; distractible	Difficult to console or comfort

From Merkel SI, Voepel-Lewis T, Shayevitz JR et al: The FLACC: a behavioral scale for scoring postoperative pain in young children, *Pediatr Nurs* 23:293-297, 1997.

- A Total body response; arms and legs may tremor
- B Facial expressions: grimaces, surprise, frowns, facial flinching
- C Tense, harsh cry
- D Increased blood pressure and heart rate, decreased oxygen saturation

Toddler

- A Generalized restlessness; guards or rubs painful area
- B Loud crying; uses words to describe pain (e.g., boo-boo, ouch)
- C Tries to delay painful situations

Preschooler

- A Crying; able to locate pain
- B Regression to earlier stage of development; withdrawal
- C May believe pain is punishment for bad behavior
- D May have been told to be brave and deny pain; fear of injections may contribute to denial of pain
- E May hit or kick caregiver

School-Age Child

- A Able to describe pain
- B Stiff body posture; withdrawal
- C Afraid of bodily harm; may delay or bargain to avoid painful situations
- D Recognizes death exists

Adolescent

- A Describes location and intensity of pain

- B Increased muscle tension; decreased activity; withdrawal
- C Understands cause and effect
- D Perceives pain at physical, emotional, and mental levels

Nursing Care Related to Pain Assessment

A Use pain rating scales: children's pain is real and must be addressed

1. Behavioral scales: used for infants, toddlers, nonverbal children; assess facial expression, leg movement, activity, cry, and consolability (see [Table 29-1: FLACC Scale](#))
2. Face scales: used for children age 3 and older; pictures representing facial response to pain progress from "no hurt" to "hurts worst" ([Figure 29-1: Faces Pain Rating Scale](#))



FIGURE 29-1 Faces Pain Rating Scale. (From Hockenberry M, Wilson D: *Wong's essentials of pediatric nursing*, ed 8, St. Louis, 2009, Mosby.)

3. Numerical scales (0 to 10): used for older children and adolescents

B Address parental concerns about treatment of pain in children

1. Explore with parents their perceptions of child's behavioral responses and their concerns
 - a. Fear of addiction: clarify differences between physical dependence, tolerance, and addiction in relation to acute pain
 - b. Fear of respiratory depression: explain pain is natural antidote to respiratory depressant effects of opioids
 - c. Fear of adverse effects of opioids such as constipation: explain side effects are treatable
2. Help parents understand physiologic responses do not distinguish between physical responses to pain and other sources of stress to the body

Principles Related to Medications for Children

Overview

A Pediatric dosages differ from adult medication dosages as a result of differences in size and physiology

1. Immature liver and kidney function
2. More rapid metabolic rate
3. Lower plasma protein concentration
4. Different body composition: less fat; more fluid

B Most reliable method of calculating dosage is based on body surface area (m^2); ensures that child receives correct dose within safe therapeutic range

C Prescribed dosage based on kg of body weight; guideline is manufacturer's recommended daily dose (e.g., mg/kg of body weight)

D IV solutions administered via volume control devices; hourly rate, determined by dividing total volume to be infused by total number of hours for infusion to be completed

Nursing Care Related to Administration of Medication to Children

A Calculate to determine if prescribed dose is within safe limits

1. Determine amount child should receive (weight in kilograms multiplied by prescribed dose per kilogram)
2. Use ratio and proportion to calculate dose in relation to amount supplied

B Assess developmental level to determine whether suspension or pill form can be used; tablets may be crushed and mixed with half teaspoon of pureed fruit (time-released medications or enteric-coated tablets cannot be crushed)

C Use administration tools to ensure accurate dosage and to minimize loss of medication (e.g., calibrated dropper, needleless syringe, nipple); infusion pumps should be set at milliliters per hour; secure IV site to prevent dislodgment

D Avoid intramuscular administration when an alternative route is available.

E Monitor effectiveness, side effects, hypersensitivity reactions, toxicity

F Administer ear drops

1. Place in side-lying position with affected ear up
2. Age 3 years or younger: pull pinna down and back because eustachian tube is shorter, wider, and straighter than in older children; facilitates passage of fluid to tympanic membrane
3. Past age 3 years: pull pinna up and back

G Allow child to manipulate equipment (e.g., syringe, multidose inhaler); demonstrate use of equipment and assess return demonstration

H Follow procedures for safe administration of medications ([Chapter 2, Basics of Nursing Care Medication Administration, Nursing Responsibilities Related to Medication Administration](#))



CHAPTER 30

Growth and Development

Developmental Timetable

One Month

A Physical: first 6 months

1. Weight: gains 150 to 210 g (5 to 7 oz) weekly
2. Height: grows about 2.5 cm (1 inch)/month
3. Head circumference: grows about 1.5 cm ($\frac{1}{2}$ inch)/month

B Motor

1. Body: flexed position with pelvis high when prone; asymmetric posture (tonic neck reflex)
2. Head
 - a. Held parallel with body in prone position
 - b. Turns from side to side when prone; can lift momentarily from flat surface
3. Reflexes (e.g., grasp, tonic neck, Moro)

C Sensory

1. Eye movements coordinated most of time; follows light to midline
2. Visual acuity 20/100

D Socialization and vocalization

1. Watches face intently during interaction with others
2. Utters small, throaty sounds

Two to Three Months

A Physical: posterior fontanel closed

B Motor

1. Holds head erect for short time; can raise chest supported on forearms
2. Bears some weight on legs when held in standing position
3. Holds rattle when placed in hand
4. Grasp, tonic neck, and Moro reflexes fading; step or dance reflex disappears
5. Plays with fingers and hands

C Sensory

1. Follows light to periphery
2. Has binocular coordination (vertical and horizontal vision)
3. Listens to sounds

D Socialization and vocalization

1. Smiles in response to person or object; cries less
2. Laughs aloud; shows pleasure in making sounds

Four to Five Months

A Physical

1. Weight: gains 150 to 210 g/month (5 to 6 oz)
2. Insufficient coordination to swallow saliva

B Motor

1. Sits when back is supported; knees flexed and back rounded; balances head

2. Maintains symmetric body position
3. Sustains portion of own weight when held in standing position
4. Reaches for and grasps object with whole hand; misjudges distances
5. Moves own hand or object to mouth at will
6. Rolls over from abdomen to back
7. Lifts head and shoulders at 90-degree angle when prone
8. Early reflexes (e.g., grasp, tonic neck, Moro) have disappeared

C Sensory

1. Recognizes familiar objects and people
2. Eyes move together; developing focus to accommodate different distances

D Socialization and vocalization

1. Enjoys social interaction; coos and gurgles when given attention
2. Vocalizes displeasure when an object is removed

Six to Seven Months

A Physical

1. Weight: doubles birth weight by 6 months
2. Height: grows about 1.25 cm ($\frac{1}{2}$ inch)/month
3. Head circumference: grows about 0.5 cm ($\frac{1}{5}$ inch)/month
4. Teething begins with two lower central incisors, followed by upper incisors

B Motor

1. Turns over from stomach to back and back to stomach
2. Sits unsupported when placed in forward-leaning position
3. Lifts head when supine as if trying to sit up
4. Approaches toy and grasps it with one hand; can transfer toy from hand to hand and from hand to mouth
5. Plays with feet; puts them in mouth
6. Reflexes

- a. Landau (6 to 8 months to 12 to 24 months): when suspended in horizontal prone position, head is raised, legs and spine are extended
- b. Parachute (7 to 9 months, persists indefinitely): when suspended in horizontal prone position and suddenly thrust forward, hands and fingers extend forward as if to protect from falling

C Sensory

1. Has taste preferences; spits out disliked food
2. Develops object permanence: recognizes things are still present even though not seen (e.g., peek-a-boo)

D Socialization and vocalization

1. Begins to differentiate between strange and familiar faces; beginning stranger anxiety
2. Makes polysyllabic vowel sounds
3. Vocalizes “m-m-m-m” when crying; cries and laughs at slight provocation

Eight to Nine Months

A Motor

1. Sits steadily alone; pulls self to standing position; stands holding onto furniture

2. Develops hand-to-mouth coordination
3. Develops pincer grasp, hand preference
4. Crawls; may go backward at first

B Sensory

1. Improved depth perception
2. Displays interest in small objects

C Socialization and vocalization

1. Definite social attachment (e.g., stretches arms toward loved ones); stranger anxiety (e.g., turns or pushes away and cries)
2. Responds to own name; begins separating self from caregiver
3. Reacts to adult anger; cries when scolded
4. Develops imitative and repetitive speech; uses vowels and consonants, (e.g., Mama, Dada); comprehends words such as “bye-bye”

Ten to Twelve Months

A Physical

1. Weight: birth weight triples
2. Height: birth length increases by 50%
3. Equal head and chest circumference
4. Teeth: upper and lower lateral incisors; total of six to eight

B Motor

1. Creeps (abdomen supported off floor)
2. Stands alone for short time; walks with help; moves around by holding onto furniture (cruising)
3. Sits down from standing position without help
4. Eats from spoon; drinks from cup with help; prefers using fingers
5. Plays “pat-a-cake” and “peek-a-boo”; holds crayon to mark paper
6. Helps with dressing (e.g., putting arm through sleeve)

C Sensory

1. Visual acuity 20/50; amblyopia (lazy eye) may develop
2. Discriminates simple geometric forms

D Socialization and vocalization

1. Exhibits emotions (e.g., jealousy, affection, anger)
2. Enjoys familiar surroundings; explores away from caregiver
3. Fearful in strange situations or with strangers; clings to caregiver
4. May develop attachment to “security” object
5. Can say two meaningful words besides Dada or Mama; understands simple verbal requests, such as “Give it to me”

Health Promotion of Infants

Play

- A Narcissistic: revolves around own body
- B Responses: global, undifferentiated
- C Dependent; progresses to interdependent, then independent
- D Directed toward physical, motor, sensory, language, cognitive, and personal-social development
- E Purpose of toys
 1. Promote physical development
 2. Provide visual, auditory, tactile, and kinetic stimulation
- F Suggested toys: should be simple because of short attention span (e.g., rattles; soft, stuffed toys; mobiles; push-pull toys; simple musical toys; unbreakable mirrors; weighted or suction toys; squeeze toys; teething toys; books with textures; activity boxes; nested boxes; fitting forms)

Nutrition during Infancy

Nutrition in Relation to Growth and Development

- A Growth
 1. During first year: should be charted to evaluate proportional gain in length, weight, and head circumference; overweight and underweight indicate malnutrition
 2. Growth charts
 - a. Demonstrate percentile of child's growth (below 5th and above 95th percentile are outside expected range)
 - b. Placement on growth curves determines if deviations exist from steady state of growth
- B Development
 1. Optimum nutrition and establishment of appropriate eating habits essential for growth and development
 2. Diet should provide nutritional requirements for age and prevent obesity
 3. Gastrointestinal disturbances (e.g., vomiting, diarrhea, constipation) interfere with optimum nutrition despite adequate diet
 4. Consistency of foods: progress from liquid to semisoft, to soft, to solids as dentition and jaw develop

Feeding Milestones

- A Birth: full-term infant has sucking, rooting, and swallowing reflexes
- B Newborn: feels hunger; indicates desire for food by crying; expresses satiety by falling asleep
- C One month: has strong extrusion reflex
- D Five to 6 months: uses fingers to eat
- E Six to 7 months: chews solids
- F Eight to 9 months: holds spoon; plays with it during feeding
- G Nine months: holds bottle
- H Twelve months: drinks from cup; bottle preferred at times (bedtime)

Guidelines for Infant Nutrition

A Breast milk or iron-fortified commercial formula recommended for first year of life; American Academy of Pediatrics states iron-fortified commercial formula is acceptable but not preferred alternative to breastfeeding

B Breast milk: most complete diet for first 6 month; may require supplementation

1. Iron supplement: needed by 4 to 6 months

2. Fluoride supplementation: determined by fluoride content of water supply; started between six months and three years; American Academy of Pediatrics and American Dental Association do not recommend fluoride supplementation for first 6 months of life; fluoride supplementation is controversial, but continues to be recommended

3. Vitamin D supplementation: for infants of mothers who are vitamin D deficient or not exposed to adequate sunlight

C Whole cow's milk: should not be introduced until after 1 year of age; difficult to digest; inadequate in iron, vitamin C, and other essential nutrients

D Solid foods

1. Infant cereals: first solid food introduced at about 6 months; should be iron-fortified; rice cereal has low allergenic potential; should be continued until 18 months of age

2. Order of introduction varies; vegetables and/or fruits first, then meats; should be strained, puréed, or mashed

3. Finger foods: introduced at 6 to 7 months (e.g., toast, teething cracker, raw fruit)

4. Chopped table food or commercially prepared junior foods: started at 9 to 12 months

E Fruit juices: should be offered from cup early to prevent dental caries; can be substituted for milk for one feeding each day

F Method for introducing solid foods

1. Feed several sucks of breast milk or formula when hungry, and then offer solid food

2. Introduce one food at a time, usually at intervals of 4 to 7 days, to allow for identification of food allergies

3. Begin spoon feeding by placing food on back of tongue because of tendency to thrust tongue forward (extrusion reflex begins to fade by 3 to 4 months)

4. Use small spoon with straight handle; begin with 1 or 2 teaspoons; gradually increase to several tablespoons per feeding

5. Increase amount of solid food; decrease milk intake to about 900 mL (30 oz) daily; prevent overfeeding

6. Avoid mixing solid foods with formula and bottle feeding the mixture

G Weaning

1. Psychologically significant; requires relinquishing major source of pleasure

2. Readiness: after 6 months; experiences pleasure from spoon feeding (e.g., desire for more freedom, control over body and environment)

3. Gradual replacement of 1 bottle at a time with cup; nighttime bottle last to be relinquished

4. Termination of breastfeeding

a. Before 6 months of age: formula feeding continued to meet sucking needs

b. After 6 months of age: liquid offered in a cup

Immunizations

A Types of immunizations that provide active immunity; see [Chapter 3](#), Integral Aspects of Nursing

Care, Infection, Review of Physiology (Immunity), for [Figure 3-2 A, B, and C](#) (Recommended Immunization Schedules—United States 2011)

1. Hepatitis B vaccine (Hep B)
 - a. Three doses (at birth to 1 month, 2 months, and between 6 and 18 months); for all adolescents not immunized; for health care providers because of risk of transmission via needle sticks or exposure to blood
 - b. Administration
 - (1) IM injection: can be given at same time as diphtheria, tetanus, acellular pertussis (DTaP), using separate sites
 - (2) Sites: vastus lateralis for infants; deltoid muscles for older infants and children; dorsogluteal site not used because of proximity to nerves and blood vessels
2. Hepatitis A vaccine (Hep A)
 - a. Two doses (at least 6 months apart between 12 and 24 months)
 - b. Recommended for children 1 year of age and older
3. Diphtheria, tetanus, acellular pertussis (DTaP)
 - a. Three doses (at 2, 4, and 6 months); fourth dose between 12 and 18 months; booster dose at 4 to 6 years of age
 - b. Diphtheria toxoid: effective for about 10 years; febrile reaction more common in older children
 - c. Tetanus toxoid: nearly 100% effective; induces immunity for about 10 years; given at 5-year intervals if there is possibility of contaminated wound
 - d. Tetanus and diphtheria (Td) toxoid: for adults; recommended every 10 years after last booster (at about 5 years of age); administered to children older than age 7 years not previously immunized
 - e. Pertussis vaccine: passive immunity not acquired from mother; not given after age 7 years because incidence of disease poses less risk than vaccine's side effects
4. Inactivated polio vaccine (IPV)
 - a. Three doses (at 2, 4, and 6 to 18 months); fourth dose between 4 and 6 years of age
 - b. Recommended for all children younger than 18 years of age
 - c. Intramuscular route preferred in United States
 - d. Oral polio vaccine (OPV) used for worldwide immunization; rate of polio is now 1 in 2.4 million people
 - e. Administered to infants/children who are asymptomatic HIV-positive or those with immune deficiencies and their siblings
5. *Haemophilus influenzae* type b vaccine (Hib)
 - a. Four doses (three doses at 2, 4, and 6 months of age; one dose between 12 and 15 months)
 - b. Some formulations do not require a dose at 6 months if doses were received at 2 and 4 months of age
6. Rotavirus vaccine (RV)
 - a. Three doses (at 2, 4, and 6 months of age)
 - b. Can be administered at same time as other vaccines
7. Pneumococcal vaccine (PCV)
 - a. Four doses (3 doses at 2, 4, and 6 months of age; one dose between 12 and 15 months)
 - b. High-risk children receive additional dose between 2 and 6 years of age
8. Chickenpox (Varicella) vaccine

- a. First dose at minimum of 12 months of age; second dose between 4 and 6 years of age; second dose before 4 years if at least 3 months have elapsed between the first and second dose
 - b. Two doses at least 28 days apart for children 13 years of age and older who never had chickenpox or received chickenpox vaccine
 - c. Side effects: malaise; pruritic rash that begins on abdomen, progresses to face and proximal extremities
9. Measles (rubeola), mumps, and rubella (German measles) vaccine (MMR); live, attenuated vaccine
- a. Acquired natural immunity from mother for first 12 to 15 months of age
 - b. First dose at minimum of 12 months of age; second dose between 4 and 6 years of age (can be administered earlier if more than 28 days have elapsed since last dose)
 - c. Rubella vaccine: administered to women not previously immunized during preconception counseling or postpartum; causes a maculopapular rash

B Factors influencing administration of immunizations

1. Benefit from being protected by immunization outweighs risk from contracting disease
2. Maternal antibodies acquired in utero from placenta provide passive immunity for first several weeks of life; antibodies acquired from breastfeeding mother after birth provide infant with immunity against most viral, bacterial, and fungal infections during infancy
3. Contraindications
 - a. Administration of blood transfusion or immune serum globulin that provide passive immunity; MMR and varicella vaccine postponed for 3 months
 - b. High fever, serious illness; common cold not a contraindication
 - c. Impaired immune system or immunosuppressive therapy in child or family member
 - d. Systemic malignancy (e.g., leukemia)
 - e. Neurologic problems (e.g., seizures)
 - f. Allergic reaction to previously administered vaccine or anaphylactic reaction to egg protein

Injury Prevention during Infancy

A Accidents are a leading cause of death

1. Mechanical suffocation
2. Aspiration of small objects (6 to 12 months)
3. Ingestion of poisonous substances (6 to 12 months)
4. Falls, rolling off elevated surfaces, tumbling down stairs

B Teaching prevention

1. Birth to 4 months
 - a. Sudden infant death: place on back; avoid soft, moldable bedding (e.g., pillows, quilts)
 - b. Suffocation
 - (1) Avoid using plastic bags, plastic covers for mattress
 - (2) Use firm mattress that fits snugly in crib; avoid using pillows, loose blankets
 - (3) Provide sleeping enclosure in which infant sleeps alone
 - (4) Ensure crib and carriage designs meet regulations; use carrying slings cautiously
 - (5) Keep crib and infant seat away from window blinds and cords
 - (6) Offer one-piece pacifiers; avoid tying pacifier to a string, remove bibs after use
 - (7) Never leave alone in bath (danger of drowning)
 - c. Falls

- (1) Always raise crib rails
- (2) Never leave on raised, unguarded surface
- (3) Restrain in infant seat; never leave unattended while seat is on raised surface
- (4) Avoid using high chair until old enough to sit unsupported

d. Burns

- (1) Set household hot water heater at temperature lower than 120° F
- (2) Check temperatures of bathwater and warmed formula in advance
- (3) Avoid pouring hot liquids nearby when infant is nearby or sitting on lap
- (4) Keep cigarettes and ashes at a distance; do not allow smoking in home
- (5) Keep in sun for no more than several minutes; use hats and apply sunscreen
- (6) Use flame-retardant clothes and wash according to label directions
- (7) Check surface heat of car restraint; do not leave in car unattended

e. Motor vehicles

- (1) Transport in regulation three- to five-point harness rear-facing infant carrier in back seat of car; anchor via seat belt
- (2) Secure car seat in back seat of car facing rear until 1 year of age or weighs at least 20 pounds; when older place in convertible seat, strapped in back seat of car
- (3) Do not place carriage or stroller behind parked car

f. Environment: keep sharp, jagged-edged objects away from infant's vicinity

2. Four to 7 months

a. Aspiration

- (1) Keep buttons, beads, and other small objects out of reach; keep floor free of small objects; inspect toys for removable parts
- (2) Offer pacifiers with one-piece construction and loop handle
- (3) Do not feed infant hard candy, nuts, food with pits or seeds, or whole hot dogs; cut foods, such as hot dogs, into small irregularly shaped pieces
- (4) Do not offer balloons or fuzzy toys

b. Suffocation: see birth to 4 months

c. Falls: restrain in high chair; keep crib rails raised to full height

d. Poisoning

- (1) Verify that paint for furniture or toys is lead free
- (2) Place toxic substances on high shelf and/or in locked cabinet; store toxic substances in original containers; avoid storing large quantities of cleaning fluids, paints, pesticides, and other toxic substances; discard used containers of poisonous substances
- (3) Place purses/backpacks out of reach
- (4) Hang plants or place on high surface out of reach
- (5) Know national toll-free telephone number of Poison Control Center (800-222-1222)

e. Burns: see birth to 4 months

f. Motor vehicles: see birth to 4 months

g. Environment: offer toys that are smooth and rounded, made of wood or plastic; do not allow long, pointed objects as toys

3. Eight to 12 months

a. Aspiration: see 4 to 7 months

b. Suffocation/drowning

- (1) Keep doors of bathrooms, ovens, dishwashers, refrigerators, clothes washers and

dryers closed at all times

(2) Remove doors if storing or discarding appliances (e.g., refrigerator, dishwasher)

(3) Fence in swimming pools; always supervise when near any source of water (e.g., toilets, filled bathtubs, cleaning buckets)

c. Falls: fence stairways at top and bottom if there is access to either end

d. Poisoning

(1) Administer medications as drug, not candy

(2) Do not administer adult medications unless prescribed

(3) Replace caps to medications and toxic substances immediately after use; use child protector caps

(4) Store hazardous materials in locked cabinets or out of reach (e.g., medications, cleaning supplies, paint)

e. Burns

(1) Place guards in front of heating appliances, fireplace, or furnace

(2) Keep electrical wires hidden or out of reach; do not allow play with electrical appliances

(3) Use plastic guards in electrical outlets; place furniture in front of outlets

(4) Keep pot handles on stove out of reach

(5) Avoid using overhanging tablecloths

f. Motor vehicles

(1) Use three- to five-point restraint regulation car seat that is held in place with seat belt

(2) Fence in yard if it is area for playing

g. Environment

(1) Use plastic cups or dishes for infant self-feeding

(2) Check safety of toys and toy box

(3) Protect from animals, especially dogs

Hospitalization of Infants

Data Base

A Reactions to parental separation begin in later months (see [Chapter 31](#), Nursing Care of Toddlers, Hospitalization of Toddlers); reactions to procedures begin later (see [Chapter 32](#), Nursing Care of Preschoolers, Hospitalization of Preschoolers)

B Pain, although felt, is not localized; requires appropriate analgesia and sedation for painful procedures

General Nursing Care of Infants

A Assess physical, physiologic, and behavioral responses (see [Chapter 29](#), Foundations of Child Health Nursing, Age-Related Responses to Pain, Nursing Care Related to Pain Assessment, [Table 29-1](#), [FLACC Scale])

B Meet physical and emotional needs immediately to support development of trust

C Provide nonnutritive sucking to meet oral needs

D Encourage significant others to stay for comfort and support, especially after 5 months

E Provide same caregivers for consistency

Health Problems That Begin in Infancy and May Persist through Childhood (Nursing care includes care of the infant and child)

Fetal Alcohol Spectrum Disorders (FASD)

Data Base

A Fetal/newborn responses to alcohol consumption during pregnancy

B Range of lifelong disorders; fetal alcohol syndrome (FAS) most severe form of FASD

C Incidence: approximately 0.5 to 2 per 1000 live births

D Prevention

1. Complete abstinence during pregnancy and if planning pregnancy
2. Instruction
 - a. Recognition of risks if there is history of heavy drinking
 - b. Awareness of treatment sources or self-help groups to decrease or eliminate alcohol ingestion

E Clinical findings

1. Unusual facial features (e.g., smooth ridge between nose and upper lip [hypoplastic philtrum], receding chin [hypoplastic maxilla])
2. Small head size; lower-than-average height, weight, or both
3. Central nervous system (CNS) problems (e.g., impaired coordination, learning, memory, attention span, communication, vision, or hearing; hyperactivity; difficulties in school and with interpersonal relationships; may include more than one problem)

F Therapeutic interventions

1. Pharmacologic management depending on clinical findings
2. Reduction of noxious environmental stimuli
3. Encouragement to achieve self-regulation
4. Provision of IV fluids and nutrients until able to maintain feedings
5. Therapy specific to individualized needs; may be similar to needs of preterm infants

Nursing Care of Alcohol-Exposed Infants

Assessment/Analysis

1. Mother's prenatal record indicating alcohol use
2. Developmental level; growth deficiencies
3. Feeding difficulties
4. CNS problems
5. Distinctive craniofacial characteristics
6. Behaviors related to neonatal abstinence syndrome

Planning/Implementation

1. Monitor vital signs
2. Observe for signs of withdrawal

- a. Usually within 6 to 12 hours after birth; persist for about 3 days
- b. Assess for clinical manifestations related to CNS, GI, respiratory, autonomic nervous system alterations
- c. Monitor for seizure activity; protect from injury during seizure
- 3. Maintain protective environment
 - a. Limit environmental stimuli; keep in quiet, dimly lit room
 - b. Keep warm
 - c. Touch gently; avoid sudden positional changes
 - d. Have suctioning equipment available
- 4. Institute comfort measures
 - a. Use containment devices or swaddle with extremities in flexed position
 - b. Allow hand-to-mouth activity to promote self-soothing
 - c. Provide pacifier for nonnutritive sucking
 - d. Offer safe objects for play
- 5. Provide fluid and nutrients
 - a. Allow extra time for feedings
 - b. Offer frequent, small feedings
 - c. Burp often during feedings
 - d. Elevate head of mattress after feedings
 - e. Teach parents techniques to enhance adequate intake
- 6. Support parents
 - a. Reinforce positive parenting activities
 - b. Encourage to seek follow-up care, early treatment, and therapy to prevent long-term disabilities

Evaluation/Outcomes

- 1. Remains free from injury
- 2. Exhibits resolution of withdrawal
- 3. Demonstrates ingestion and retention of adequate nutrients
- 4. Has consistent weight gain
- 5. Parents demonstrate effective infant care
- 6. Parents continue follow-up care

Chromosomal Aberrations

General Nursing Care of Children with Chromosomal Aberrations

Assessment/Analysis

- 1. Presence of chromosomal anomaly
- 2. Parental perceptions of infant
- 3. Health status: functional limitations; other congenital anomalies (e.g., cardiac malformation)

Planning/Implementation

- 1. Provide emotional support to parents

2. Assist parents in setting realistic expectations and goals
3. Refer for testing of intellectual functioning (See [Chapter 31](#), Nursing Care of Toddlers, Nursing Care of Children Who Are Cognitively Impaired)
4. Provide specific care for associated congenital malformations
5. Encourage genetic counseling appropriate for type of problem

Evaluation/Outcomes

1. Breathes without difficulty
2. Maximizes growth and development potential
3. Communicates needs, feelings, and concerns
4. Demonstrates behavior indicative of positive self-esteem

Trisomy 21 (Down Syndrome)

Data Base

A Types

1. Free trisomy 21: associated with advanced maternal age (older than age 40); can occur in all age groups
2. Translocation 15/21: transmitted most often by mother, who is carrier; not age related
3. Mosaicism: mixture of healthy cells and cells that are trisomic for 21; similar developmental outcome as those with trisomy 21

B Clinical findings

1. Head: brachycephaly, flat occiput
 - a. Nose: depressed bridge (saddle nose)
 - b. Eyes: inner epicanthic folds; slanted eyes (oblique palpebral fissure); speckling of iris (Brushfield spots)
 - c. Ears: small, usually low set
 - d. Neck: short, thick
 - e. Tongue: protruding, sometimes fissured
2. Muscles: hypotonic (e.g., protruding abdomen, umbilical hernia); hyperflexible with lax joints
3. Hands and feet: broad, short, stubby; one transverse palmar crease
4. Sexual development: delayed; incomplete (men usually infertile)
5. Associated problems: cardiac malformation, respiratory difficulty, obesity

Nursing Care of Children with Trisomy 21

(See [General Nursing Care of Children with Chromosomal Aberrations](#))

A Prevent infection, especially respiratory

B Assess and monitor cardiac status

C Provide activity consistent with abilities and limits

D Provide for physical supervision and habilitation

Trisomy 18 (Edwards Syndrome)

Data Base

A Types: trisomy; translocation; mosaicism

B Clinical findings

1. Deformed, low-set ears; small jaws (especially lower jaw [micrognathia]); rocker-bottom feet; prominent occiput; webbed neck; short digits
2. Failure to thrive; short survival; if surviving, severe mental retardation

Nursing Care of Children with Trisomy 18

A Prepare parents for uncertainty of life span; fewer than 10% survive to first birthday; some survive up to age 20

B Support grieving parents

(See [General Nursing Care of Children with Chromosomal Aberrations](#))

Turner Syndrome (Gonadal Dysgenesis)

Data Base

A Chromosome monosomy (XO karyotype) in females

B Clinical findings

1. Congenital malformations: short stature, webbed neck, coarctation of aorta, ovarian dysgenesis; developmental failure of secondary sex characteristics at puberty
2. CNS: average intelligence; problems in directional sense, space-form recognition

Nursing Care of Children with Turner Syndrome

A Refer parents for genetic counseling if planning another pregnancy

B Prepare parents and child for lack of pubertal changes, need for hormonal replacement

(See [General Nursing Care of Children with Chromosomal Aberrations](#))

Klinefelter Syndrome

Data Base

A Sex-chromosomal abnormality of XXY in males

B Clinical findings

1. Physical characteristics: slightly taller than average; long legs and arms; small, firm testes; gynecomastia; inadequately developed secondary sex characteristics
2. Average to borderline intelligence

Nursing Care of Children with Klinefelter Syndrome

A Refer parents for genetic counseling if planning another pregnancy

B Explain that emotional problems may require lifelong counseling

(See [General Nursing Care of Children with Chromosomal Aberrations](#))

Gastrointestinal Malformations

Cleft Lip and Cleft Palate

Data Base

A Incomplete fusion of embryonic structures surrounding primitive oral cavity (cleft lip)

B Failure of primary and secondary palatine plates to fuse (cleft palate) ([Figure 30-1: Variations in clefts of lip and palate at birth](#))

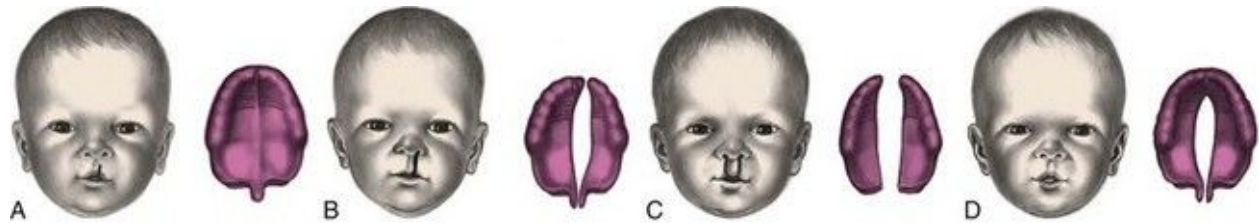


FIGURE 30-1 Variations in clefts of lip and palate at birth. **A**, Notch in vermillion border. **B**, Unilateral cleft lip and cleft palate. **C**, Bilateral cleft lip and cleft palate. **D**, Cleft palate. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

1. Cleft lip: incomplete fusion of maxillary and premaxillary processes; should be completed between 5 and 8 weeks' gestation; more common in males
2. Cleft palate: incomplete fusion of palatal structures; may involve soft or hard palate; may extend into nose, forming oronasal passageway; fusion completed between 9 and 12 weeks' gestation; more common in females

3. Cleft lip and palate often occur together

C Etiology unknown

1. Evidence of hereditary influence
 - a. Multifactorial inheritance; increased frequency in relatives
 - b. Higher incidence in monozygotic twins than in dizygotic twins
2. Risk factors
 - a. Folic acid deficiency during pregnancy
 - b. Prenatal exposure to toxic substances (e.g., phenytoin, valproic acid, thalidomide; tobacco, alcohol)

D Occurs with other congenital anomalies

E Classification

1. Bilateral or unilateral; if unilateral, more common on left side
2. Cleft lip: several degrees; complete cleft usually continuous with cleft palate

F Related difficulties

1. Cleft lip
 - a. Difficult feeding; cannot form vacuum with mouth to suck; may be able to breastfeed (breast may fill cleft, making sucking easier)
 - b. Requires special feeding devices (e.g., Cleft Lip/Cleft Palate Nurser, Medela Haberman feeders, Pigeon bottle)
 - c. Mouth breathing dries mucous membranes, predisposing to infection
2. Cleft palate

- a. Prone to infection, especially otitis media
- b. Altered speech; complete palate needed to trap air in mouth
- c. Malposition of teeth and maxillary arch; extensive orthodontic and prosthodontics needed
- d. Hearing problems caused by recurrent otitis media (eustachian tube connects nasopharynx and middle ear, transports pathogens to ear)
- e. Requires special feeding devices similar to those used for cleft lip

G Therapeutic intervention

1. Surgical repair: may require multiple surgeries throughout childhood
 - a. Cleft lip: repaired in first days after birth; further modification may be necessary; aids ability to suck; helps parents cope by modifying visible aspects of defect
 - b. Cleft palate: surgical intervention and repair as early as neonatal period but not later than between 12 and 18 months; done before speech is fully developed
2. Multidisciplinary team approach: pediatric plastic surgeons, orthodontists, otolaryngologists, speech and language therapists, audiologists, nurses, social workers
3. Cleft palate: temporary or permanent dental prostheses to replace missing teeth; devices applied to mechanically close cleft until ready for surgical closure

Nursing Care of Children with Cleft Lip/Cleft Palate

Assessment/Analysis

1. Feeding behaviors; consumption of adequate calories for growth without excessive energy expenditure; need for oral hygiene
2. Mucous membranes for dryness, signs of infection
3. Parent/infant interaction; effect of facial defect on attachment
4. Cleft palate: respiratory status, hearing ability

Planning/Implementation

1. Preoperative care
 - a. Feed in upright position to prevent aspiration; use adaptive feeding device; encourage breastfeeding
 - b. Feed slowly, burp frequently because of swallowed air
 - c. Perform meticulous oral hygiene to prevent infection
 - d. Teach parents how to perform oral/dental hygiene
 - e. Encourage continued dental supervision
2. Postoperative nursing care for cleft lip
 - a. Maintain patent airway because of edema and mouth breathing; keep oral suction equipment available
 - b. Cleanse suture line to prevent crust formation and scarring
 - c. Minimize crying to prevent pressure on suture line; encourage a parent to stay with child
 - d. Use pain rating scale and medicate appropriately
 - e. Place in supine position with arm or elbow restraints; change position to side or sitting up to prevent hypostatic pneumonia; remove restraints when supervised
 - f. Feed (see preoperative care)
 - g. Support parents during healing process

3. Postoperative nursing care for cleft palate
 - a. Avoid traumatizing operative site; tell child who can follow directions not to rub tongue on roof of mouth; avoid offering straw, spoon, toothbrush
 - b. Use pain rating scale and medicate appropriately
 - c. Provide liquid or blenderized diet
 - d. Provide emotional support for parents; prolonged recovery
4. See [Chapter 29](#), Foundations of Child Health Nursing, Nursing Care Related to Meeting the Needs of the Family of a Child with Special Needs

Evaluation/Outcomes

1. Maintains integrity of suture line
2. Operative site heals completely
3. Experiences minimal or no pain
4. Consumes adequate calories for growth and development
5. Demonstrates ability to be comforted by means other than sucking
6. Family members accept infant regardless of appearance

Nasopharyngeal and Tracheoesophageal Anomalies

Data Base

A Failure of esophagus to develop continuous passage to stomach; failure of trachea and esophagus to develop into separate structures

B Risk factors: low birth weight; about 50% associated with other anomalies (e.g., vertebral anomalies, imperforate anus, radial and renal dysplasia, limb anomalies, cardiac malformations)

C Tracheopharyngeal anomalies

1. Absence of esophagus
2. Atresia of esophagus without tracheal fistula
3. Tracheoesophageal fistula
4. Most common: proximal esophageal atresia combined with distal tracheoesophageal fistula

D Other associated anomalies

1. Chalasias: incompetent cardiac sphincter
2. Choanal atresia: no opening between one or both nasal passages and nasopharynx

E Clinical findings

1. Excessive salivation, drooling
2. Choking, sneezing, coughing during feeding, regurgitation of formula through mouth and nose
3. Catheter cannot be passed into stomach (depending on type)
4. Abdominal distention (depending on type)

F Therapeutic intervention: surgical repair; one procedure or several, depending on health status and severity of defect

Nursing Care of Children with Nasopharyngeal and Tracheoesophageal Anomalies

Assessment/Analysis

1. Three Cs indicating tracheoesophageal fistula: Coughing, Choking, Cyanosis
2. Signs of respiratory distress
3. Nutritional status/weight
4. Fluid and electrolyte balance
5. Parent/infant interaction

Planning/Implementation

1. Preoperative nursing care
 - a. Observe for signs of respiratory distress; suction oropharynx to remove accumulated secretions
 - b. Keep NPO; monitor intake and output; offer pacifier to meet sucking needs
 - c. Change position to prevent pneumonia
 - d. Maintain with head elevated on inclined plane of at least 30 degrees
 - e. Maintain patency of nasogastric tube if used to decompress stomach
2. Postoperative nursing care
 - a. Maintain body temperature
 - b. Maintain nasogastric/gastrostomy tube to drainage
 - c. Change position to prevent pneumonia
 - d. Maintain function of chest tubes, if used
 - e. Maintain nutrition by oral, parenteral, or gastrostomy route
 - f. Use pain rating scale and medicate appropriately
 - g. Provide comfort and physical contact; provide a pacifier for nonnutritive sucking until oral feedings are resumed

Evaluation/Outcomes

1. Maintains patent airway
2. Tolerates oral feedings
3. Consumes adequate calories for growth and development

Hypertrophic Pyloric Stenosis (HPS)

Data Base

A Thickened circular muscle of pylorus; occurs within first weeks of life

1. Narrow opening between stomach and duodenum
2. Obstruction from inflammation and edema
3. Compensatory dilation, hypertrophy, and hyperperistalsis of stomach
4. May be isolated disorder; may be associated with intestinal malrotation, esophageal and duodenal atresia, anorectal anomalies

B Incidence

1. Polygenic inheritance
2. Five times more common in males
3. More common in firstborn and in offspring of affected persons

C Clinical findings

1. Palpable olive-shaped mass in right upper quadrant

2. Vomiting: not bile-stained; progressively projectile
 3. Dehydration; weight loss; failure to thrive; electrolyte and acid-base imbalances
 4. Constipation; distended epigastrium
 5. Obstruction within 4 to 6 weeks: visible peristaltic waves across abdomen; colicky pain
- D Therapeutic intervention: surgical repair

Nursing Care of Children with Hypertrophic Pyloric Stenosis

Assessment/Analysis

1. Feeding history; type of vomiting; failure to gain weight; dehydration
2. Upper abdomen for distention; epigastrium just to right of umbilicus for palpable olive-shaped mass
3. Visible peristaltic waves
4. Baseline weight for comparison
5. Evidence of pain or discomfort

Planning/Implementation

1. Preoperative nursing care
 - a. Maintain NPO
 - b. Obtain vital signs
 - c. Monitor intake and output
 - d. Monitor for signs of dehydration; metabolic alkalosis; other fluid and electrolyte imbalances
2. Postoperative nursing care
 - a. Maintain NPO if ordered
 - b. Monitor IV fluid, electrolytes, weight
 - c. Offer prescribed water, glucose, or electrolyte solution for first feeding; progress to half-strength formula/breast milk and then to full-strength formula/breast milk, usually within 24 hours
3. Teach parents specific feeding method
 - a. Give small, frequent feedings; feed slowly
 - b. Hold in upright position during feeding; after feeding place in infant seat or on right side with head of bed elevated
 - c. Burp frequently during feeding; avoid handling afterward

Evaluation/Outcomes

1. Maintains fluid and electrolyte balance
2. Rests comfortably
3. Consumes adequate calories for growth and development

Intestinal Obstruction

Data Base

A Congenital life-threatening obstruction of intestinal tract

1. Mechanical: constricted or occluded lumen (e.g., incarcerated inguinal hernia progressing to

strangulated with interruption of blood supply; intussusception; volvulus)

2. Muscular: interference with regular muscular contractions

B Clinical findings

1. Abdominal distention, paroxysmal pain

2. Absence of stools, meconium in newborn (meconium ileus)

3. Vomiting of feeding progressing to bile-stained material, may be projectile

4. Weak, thready pulse; cyanosis; weak, grunting respirations from abdominal distention, causing diaphragm to compress lungs

C Therapeutic interventions

1. Surgical repair: single-staged; multistaged for severe defect

2. Prevention of aspiration pneumonia

3. Supportive nutritional therapy

Nursing Care of Children with an Intestinal Obstruction

Assessment/Analysis

1. Abdomen for distention, visible peristaltic waves

2. Characteristics and amount of vomitus

3. Absence or presence of bowel sounds, bowel movements; characteristics of stool

Planning/Implementation

1. Preoperative nursing care

a. Maintain NPO; provide pacifier

b. Observe for signs of dehydration and shock

c. Maintain nasogastric suction; monitor I&O

2. Postoperative nursing care based on type of surgery performed

a. Keep operative site clean and dry, especially after passage of stool

b. Position on side to prevent pulling legs up to chest

c. Use pain rating scale and medicate appropriately

d. Provide colostomy care

(1) Prevent skin excoriation by frequent cleansing; apply skin protective agent, diaper, or ostomy appliance

(2) Teach parents colostomy care (e.g., avoidance of tight diapers and clothes around abdomen)

Evaluation/Outcomes

1. Establishes regular pattern of bowel elimination

2. Maintains fluid and electrolyte balance

3. Consumes adequate nutrition to support growth

4. Rests comfortably

Anorectal Anomalies (Imperforate Anus)

Data Base

A Failure of membrane separating rectum from anus to absorb during eighth week of fetal life; range from simple (imperforate anus only) to complex (genitourinary and pelvic organs involved); most common anorectal congenital malformation

B Types

1. Imperforate anus: may include fistula from distal rectum to perineum, urinary system, or reproductive system
2. Rectal atresia and stenosis: midline intergluteal groove without fistula, limits or prevents defecation despite anal opening
3. Persistent cloaca: rectum, vagina, urethra open into common lumen in perineum, feces and urine empty through urethral opening

C Classification according to gender

1. Male: perineal, rectourethral, bladder neck fistulas; simple imperforate anus; rectal atresia and stenosis
2. Female: perineal and vestibular fistulas; simple imperforate anus; rectal atresia and stenosis; cloaca

D Clinical findings: absence of anal opening; failure to pass meconium stool; abdominal distention; meconium on perineum via fistula

E Therapeutic interventions: immediate surgical correction unless fistula is present; colostomy with multistaged surgical repair; breastfeeding recommended to prevent constipation

Nursing Care of Children with Anorectal Anomalies

Assessment/Analysis

1. Rectum for opening, passage of meconium
2. Abdomen for distention, bowel sounds

Planning/Implementation

See Planning/Implementation under Nursing Care of Children with an Intestinal Obstruction

1. Rests comfortably
2. Achieves pattern of regular bowel elimination
3. Family demonstrates ability to care for child

Hirschsprung Disease (Megacolon)

Data Base

A Absence of parasympathetic ganglion cells in portion of large intestine

1. Bowel enlargement proximal to defect
2. Length of involved bowel varies from internal sphincter to entire colon
3. Most commonly affected site is rectosigmoid colon

B Incidence: four times more common in males

C Clinical findings

1. Manifestations may occur gradually
2. Obstipation; constipation; passage of ribbon-like or pellet-like, foul-smelling stool; rectum devoid of feces; leakage of liquid stool and gas; intestinal obstruction
3. Refusal of food; vomiting; abdominal distention

4. Biopsy of intestine identifies absence of ganglion cells

D Therapeutic interventions

1. Surgical (usually in two stages): removal of aganglionic portion of bowel with temporary colostomy, anastomosis
2. Nonsurgical management
 - a. Isotonic enemas; tap water contraindicated to prevent fluid and electrolyte imbalances
 - b. Amount based on age: 100 to 150 mL for small infant; 155 to 250 mL for older/larger infant; 255 to 360 mL for young child; 365 to 500 mL for older child

Nursing Care of Children with Megacolon

Assessment/Analysis

1. Bowel elimination history, characteristics of stools, onset of constipation
2. Abdomen for distention
3. Bowel sounds
4. Nutrition and hydration status, amount of feedings
5. Behavior for fussiness, irritability

Planning/Implementation

1. Teach parents about disorder, preparation for surgery
2. Postoperative nursing care depends on type of surgery performed (see [Nursing Care of Children with an Intestinal Obstruction, Planning/Implementation](#))

Evaluation/Outcomes

1. Rests comfortably
2. Achieves pattern of regular bowel evacuation
3. Family demonstrates ability to care for child

Cardiac Malformations

Data Base

A Disrupted circulatory changes at or shortly after birth: failure of foramen ovale, ductus arteriosus, and/or ductus venosus to close; rapid increase in pulmonary circulation resulting from decreased oxygen concentration

B Incidence: 5 to 8 per 1000 births

C Classification of cardiac defects

1. Increased pulmonary blood flow: atrial and ventricular septal defects; patent ductus arteriosus
 - a. Intracardiac communication along septum or abnormal connection between great arteries: blood flows from high-pressure left side to lower-pressure right side (left-to-right shunt)
 - b. Left-to-right shunting: increased blood pressure on right side of heart
 - c. Increased pulmonary blood flow: decreases systemic circulation
 - d. Clinical findings: signs and symptoms of heart failure
2. Decreased pulmonary blood flow: tetralogy of Fallot, transposition of great vessels, truncus arteriosus, tricuspid atresia
 - a. Obstruction of pulmonary blood flow: anatomic defect (atrial septal defect or ventricular septal defect) between right and left sides of heart
 - b. Obstruction prevents blood from exiting right side of heart; increased pressure on right side of heart exceeds pressure on left side of heart
 - c. Desaturated, oxygen-poor blood flows from right to left; desaturation in left side of heart and in systemic circulation causes right-to-left shunt
 - d. Clinical findings: hypoxemia, cyanosis, polycythemia
3. Obstruction of blood flow: coarctation of the aorta, aortic stenosis, pulmonic stenosis
 - a. Blood exiting heart meets area of anatomic narrowing or stenosis: blood flow impeded
 - b. Pressures increase in ventricle and in great artery proximal to obstruction
 - c. Pressures distal to obstruction decrease
 - d. Pressure load on ventricle increases; cardiac output decreases
 - e. Clinical findings: heart failure if significant obstruction

D General clinical findings

1. Infancy
 - a. Heart rate more than 200 beats/min
 - b. Respiratory rate about 60 breaths/min
 - c. Circumoral or generalized cyanosis
 - d. Feeding difficulty, failure to thrive (first signs usually recognized by parents)
2. Childhood
 - a. Restricted physical development, delayed milestones
 - b. Decreased exercise tolerance
 - c. Recurrent respiratory tract infections
 - d. Squatting or knee-chest position an adaptation for defect with decreased pulmonary blood flow or mixed blood flow; helps decrease venous return to heart
3. Dyspnea, especially on exertion
4. Stridor or choking spells
5. Heart murmurs

6. Signs of heart failure

- Tachycardia and hypotension progressing to extreme pallor or duskiness
- Tachypnea, dyspnea, costal retractions progressing to grunting respirations
- Fluid retention: weight gain; ascites; pleural effusions progressing to peripheral edema

E General therapeutic interventions

1. Surgical

- Repair of cardiac anomaly by surgery and/or interventional radiology
- Prophylactic antibiotic therapy before surgery, before invasive procedures, may be throughout life
- Postoperative prevention of constipation to avoid straining and Valsalva maneuver, which increase intrathoracic pressure, causing tension on sutures

2. Pharmacological (See [Chapter 6](#), Nursing Care of Clients with Circulatory System Disorders, Related Pharmacology, Cardiac Glycosides)

- Cardiac glycosides to increase efficiency of heart action
 - Positive inotropic effect: increases myocardial contractility
 - Negative chronotropic effect: decreases heart rate
 - Negative dromotropic effect: slows conduction velocity
- Variety of medications: same qualitative effect on heart action but differ in potency, rate of absorption, amount absorbed, onset of action, speed of elimination

Defects with Increased Pulmonary Blood Flow

Ventricular Septal Defect (VSD)

([Figure 30-2: Ventricular septal defect](#))

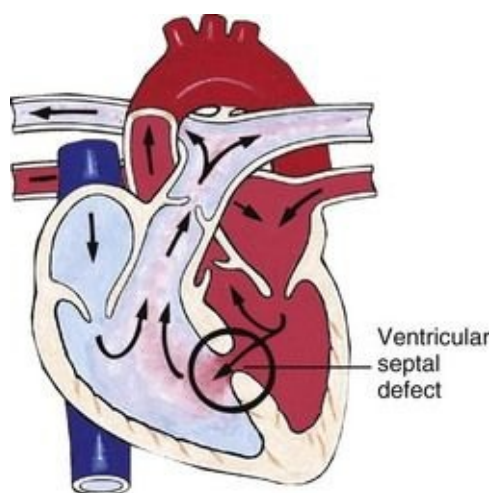


FIGURE 30-2 Ventricular septal defect. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

A Abnormal opening between ventricles

B Severity depends on size of opening

C Higher pressure in right ventricle causes hypertrophy, with development of pulmonary hypertension

D Low, harsh murmur heard throughout systole

E Specific therapeutic intervention: transcatheter closure (TCC) with occlusive device; open heart surgical repair

F Prognosis: single membranous defect has less than a 5% death rate; multiple muscular defects can have mortality risk of 20%

Atrial Septal Defect (ASD)

(Figure 30-3: Atrial septal defect)

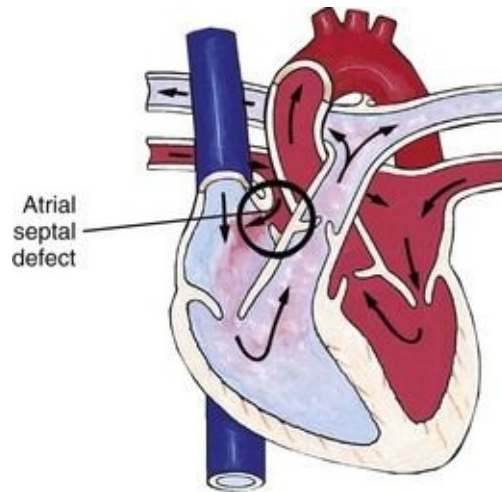


FIGURE 30-3 Atrial septal defect. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

A Types

1. Ostium primum defect (ASD1): opening at lower end of septum; may be associated with mitral valve abnormalities
2. Ostium secundum defect (ASD2): opening is near center of septum
3. Sinus venosus defect: superior portion of atrial septum fails to form near junction of atrial wall with superior vena cava

B Murmur heard high in chest, with fixed splitting of second heart sound

C Specific therapeutic intervention: transcatheter closure (TCC) with occlusive device; open heart surgical repair

D Prognosis: less than 1% operative mortality

Patent Ductus Arteriosus (PDA)

(Figure 30-4: Patent ductus arteriosus)

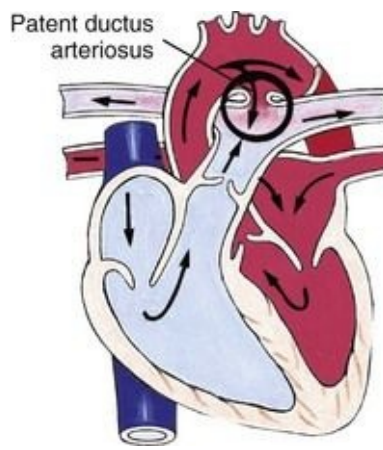


FIGURE 30-4 Patent ductus arteriosus. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

- A Failure of fetal connection between aorta and pulmonary artery to close
- B Blood shunted from aorta back to pulmonary artery; may progress to pulmonary hypertension and cardiomegaly
- C Machinery-type murmur; heartbeat heard in left second or third intercostal space
- D Specific therapeutic interventions
 1. Closure of opening between aorta and pulmonary artery: insertion of coils which expand to fill the ductus; surgery
 2. Critically ill newborns: pharmacologic closure may be attempted with prostaglandin inhibitor (e.g., indomethacin [Indocin])
- E Prognosis: less than 1% mortality

Defects with Decreased Pulmonary Blood Flow

Tetralogy of Fallot

(Figure 30-5: Tetralogy of Fallot)

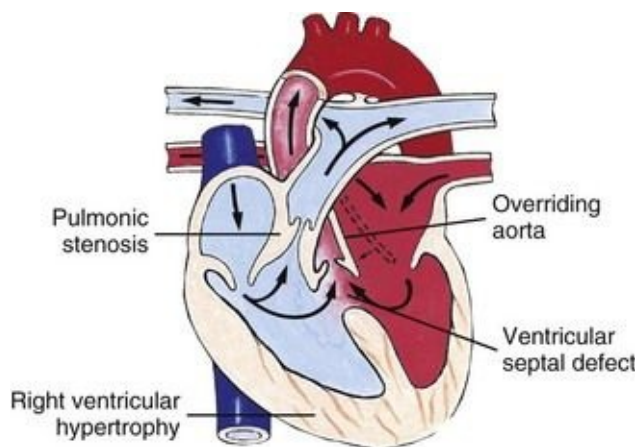


FIGURE 30-5 Tetralogy of Fallot. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

- A Four associated defects
 1. Pulmonary valve stenosis

2. Ventricular septal defect, usually high on septum
 3. Overriding aorta, receiving blood from both ventricles, or aorta arising from right ventricle
 4. Right ventricular hypertrophy
- B Specific therapeutic interventions
1. Open-heart surgery: complete repair usually performed soon after birth; closure of ventricular septal defect and resection of infundibular stenosis, possibly with pericardial patch to enlarge right ventricular outflow tract
 2. Palliative treatment (Blalock-Taussig procedure): surgery to increase pulmonary blood flow; may be done prenatally
- C Prognosis: less than 5% surgical repair mortality

Transposition of the Great Vessels (Arteries)

(Figure 30-6: Transposition of the great vessels [arteries])

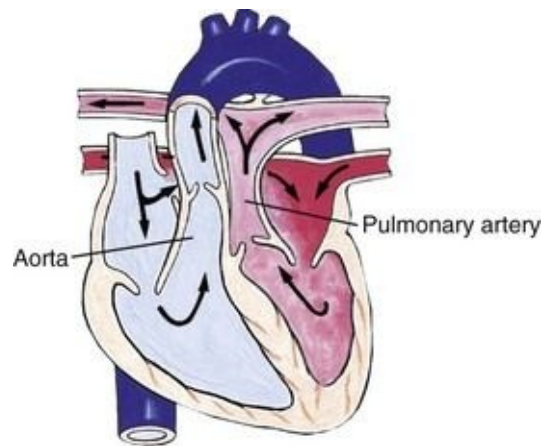


FIGURE 30-6 Transposition of the great vessels (arteries). (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

- A Aorta exits from right ventricle and pulmonary artery leaves left ventricle
- B Incompatible with life unless communication exists between both sides of heart (e.g., atrial septal defect, ventricular septal defect, patent ductus arteriosus)
- C Specific therapeutic interventions
1. Open-heart surgery: complete repair usually performed soon after birth; transposing great vessels to their correct anatomic placement with reimplantation of coronary arteries
 2. Palliative procedures: alternative surgical procedure to prevent pulmonary vascular resistance if unable to tolerate complete repair
 3. Pharmacological: pediatric prostaglandins to dilate patent ductus arteriosus (e.g., alprostadil [Prostin VR])
- D Prognosis: 5% to 10% surgical mortality

Tricuspid Atresia

(Figure 30-7: Tricuspid atresia)

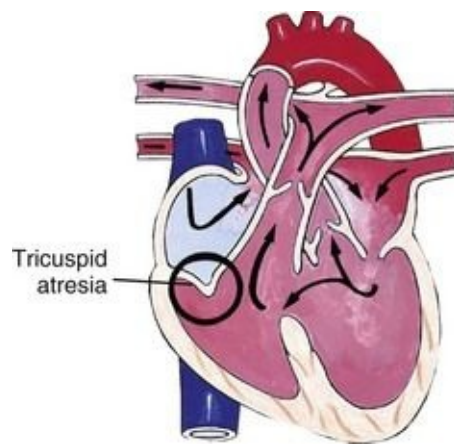


FIGURE 30-7 Tricuspid atresia. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

- A Absence of tricuspid valve
- B Incompatible with life unless communication exists between right and left sides of heart (e.g., atrial septal defect, ventricular septal defect, patent ductus arteriosus)
- C Specific therapeutic interventions
 1. Open-heart surgery: complete repair; conversion of right atrium into outlet for pulmonary artery; placement of tubular conduit with valve closing atrial septal defect
 2. Palliative procedures: performed if unable to tolerate complete repair
- D Prognosis: surgical mortality greater than 10%

Truncus Arteriosus

(Figure 30-8: Truncus arteriosus)

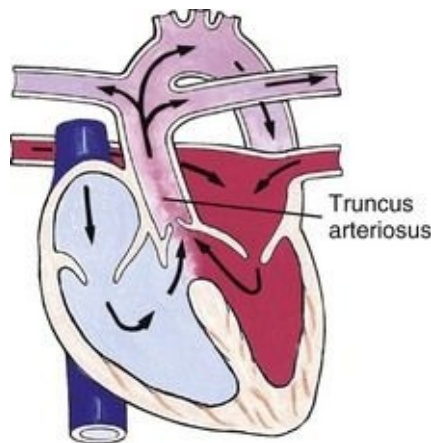


FIGURE 30-8 Truncus arteriosus. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

- A Single great vessel arising from base of heart; serves as pulmonary artery and aorta
- B Systolic murmur; single semilunar valve produces loud second heart sound that is not split
- C Specific therapeutic intervention: fetal surgery to reimplant pulmonary arteries to right ventricle
- D Prognosis: mortality of 10%

Obstructive Defects

Pulmonary (Pulmonic) Stenosis

(Figure 30-9: Pulmonary [pulmonic] stenosis)

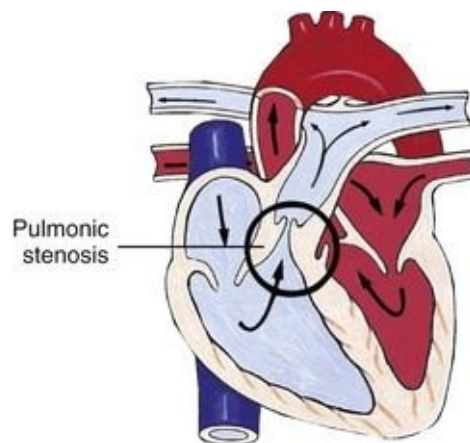


FIGURE 30-9 Pulmonary (pulmonic) stenosis. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

A Narrowing of pulmonary valve; decreased blood flow to lungs; increased pressure in right ventricle

B Specific therapeutic intervention: valvotomy or balloon angioplasty

C Prognosis: less than 2% mortality

Aortic Stenosis

(Figure 30-10: Aortic stenosis)

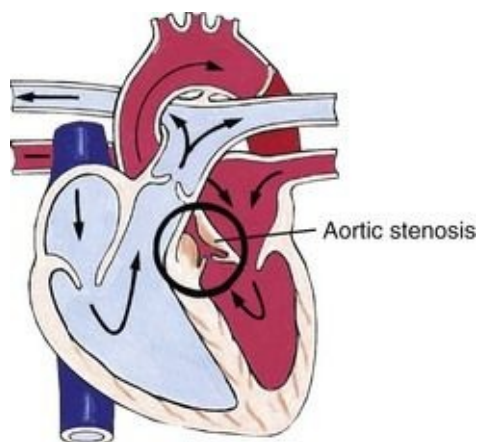


FIGURE 30-10 Aortic stenosis. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

A Narrowing of aortic valve; increased workload of left ventricle; lowered pressure in aorta reduces coronary artery blood flow

B Specific therapeutic intervention: division of stenotic valves of aorta

C Prognosis: mortality greater than 20% in critically ill newborns; older children have lower

mortality risk

Coarctation of the Aorta

(Figure 30-11: Coarctation of the aorta)

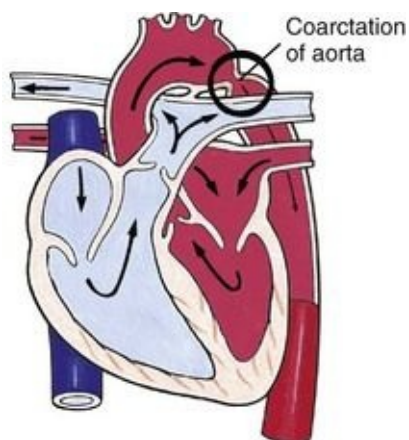


FIGURE 30-11 Coarctation of the aorta. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

A Localized narrowing of aorta near insertion of ductus arteriosus

1. Increased systemic circulation above stricture: bounding radial and carotid pulses; headache; dizziness; epistaxis
2. Decreased systemic circulation below stricture: absent femoral pulses; cool lower extremities

B Increased pressure in aorta above defect causes left ventricular hypertrophy

C Murmur may or may not be heard

D Specific therapeutic intervention: angioplasty; resection of defect with anastomosis of ends of the aorta

E Prognosis: less than 5% mortality with isolated coarctation

General Nursing Care of Children with Cardiac Malformations

Assessment/Analysis

1. Color (e.g., cyanosis, pallor)
2. Apical pulse rate, peripheral pulse quality, murmurs
3. Respiratory rate and effort, dyspnea, frequency of colds
4. Blood pressure
5. Chest abnormalities

Planning/Implementation

1. Teach parents home administration of medications
 - a. Administer medication at scheduled intervals; use calendar to mark off each dose; post reminder (sign on refrigerator); if vomiting occurs after administration, do not readminister dose; if dose is missed, call health care provider
 - b. Refill prescription before medication is completely used

- c. Administer by slowly squirting it in side and back of mouth
- d. Do not mix with other foods or fluids (refusal to consume results in inaccurate dosage)
- e. If child has teeth, give water after administration; when possible, brush teeth to prevent tooth decay from elixir
- f. Accidental overdose: contact health care provider or nearest poison control center immediately

2. Help parents cope with manifestations of illness

- a. During dyspneic/cyanotic spell: place in side-lying knee-chest position, with head and chest elevated
- b. Keep warm; encourage rest and sleep
- c. Decrease child's anxiety by remaining calm
- d. Feeding strategies
 - (1) Feed slowly, burp frequently
 - (2) Teach gavage feedings, if required
 - (3) Offer small, frequent feedings
 - (4) Introduce solids and spoon-feeding early
 - (5) Encourage to eat if anorectic

3. Foster growth-promoting family relationships

- a. Encourage parents to
 - (1) Discuss feelings
 - (2) Include others in child's care to prevent caregiver exhaustion
 - (3) Maintain expectations of all siblings as equally as possible
 - (4) Provide consistent discipline to prevent behavioral problems
 - (5) Avoid hazards of fostering overdependency
- b. Help parents to
 - (1) Feel adequate in their parental roles by emphasizing growth and developmental progress
 - (2) Foster development by formulating age-appropriate goals consistent with activity tolerance; provide social experiences for child

4. Discuss school entry with parents, teacher, and school nurse

5. Preoperative planning for postoperative care

- a. Keep sleep record to organize care around usual rest pattern
- b. Assess elimination pattern to avoid postoperative constipation and straining; know words used for elimination; teach use of bedpan
- c. Record level of activity; list favorite toys or games that require gradually increased exertion
- d. Determine fluid preferences
- e. Observe verbal and nonverbal responses to pain

6. Prepare physically and emotionally for surgery

- a. Based on developmental and chronologic age
 - (1) Four to 6 years: know heart is in chest; can describe it as valentine-shaped; characterize its function by sound of "tick tock"
 - (2) Seven to 10 years: know true shape of heart; know it has blood vessels; have idea of its function (e.g., "It makes you live"); do not understand concept of pumping
 - (3) Ten years and older: have concept of veins and arteries, valves, circulation; know why death occurs when heart stops beating

- b. Based on principle that fear of the unknown increases anxiety
 - c. Prepare for cardiac catheterization
 - (1) Frequent assessments (e.g., vital signs, pulse oximetry, observation of catheter insertion site)
 - (2) Immobility of extremity used for catheter insertion site for several hours
 - d. Provide for consistency in preoperative and postoperative preparation as source of support for both child and parents (e.g., same nurse should provide care if possible)
 - e. Know what equipment is used after open- or closed-heart surgery
 - f. Encourage therapeutic play with equipment (e.g., stethoscope, blood pressure machine, oxygen mask, pulse oximeter, suction equipment, syringes without needles); for preschooler, use dolls and puppets to describe procedures
 - g. Teach about size of bandage, size of incision
 - h. Familiarize with postoperative environment (e.g., postanesthesia and intensive care units, strange noises)
 - i. Teach coughing and breathing with incentive spirometer
 - j. Explain why coughing and moving are necessary despite discomfort
 - k. Explain what tubes may be used and what they will look like
 - l. Explain to parents that chest tubes may be used to drain air and fluid from pleural cavity
7. Discuss specifics of postoperative care (similar to those for any major surgery)
8. Identify problems associated with adjusting to improved physical status
- a. Has become accustomed to sick role and its secondary gains
 - b. May have difficulty learning to relate to peers and siblings competitively
 - c. Disability can no longer be used as crutch for educational and social shortcomings
9. Help family adjust to correction of cardiac defect
- a. Improved physical status may be difficult for parents because it reduces child's dependency on them
 - b. Parental expectations must be modified to accommodate child's new physical vigor and search for independence

Evaluation/Outcomes

- 1. Participates in appropriate activities for age, energy, and developmental level
- 2. Consumes sufficient nutrients for growth and development
- 3. Family and child discuss fears and feelings about disorder and limitations
- 4. Family demonstrates home care for child

Neurologic Malformations

Defects of Neural Tube Closure (Spina Bifida)

Data Base

- A Malformation of spine: posterior portion of vertebral laminae fails to close; may range along entire length of spinal column or be restricted to small area; most common site is lumbosacral area
- B Defect of occipitocervical region: swelling and displacement of medulla into spinal cord (Arnold-Chiari malformation) associated with hydrocephalus
- C Associated defects: clubfeet, dislocated hip, hydrocephalus
- D Associated problems: weakness or paralysis below defect, bowel and bladder dysfunction
- E Incidence: largest group with multifactorial inheritance; higher in females; rates decreased with folic acid fortification before and during pregnancy
- F Classification ([Figure 30-12: Midline defects of osseous spine with varying degrees of neural herniation](#))

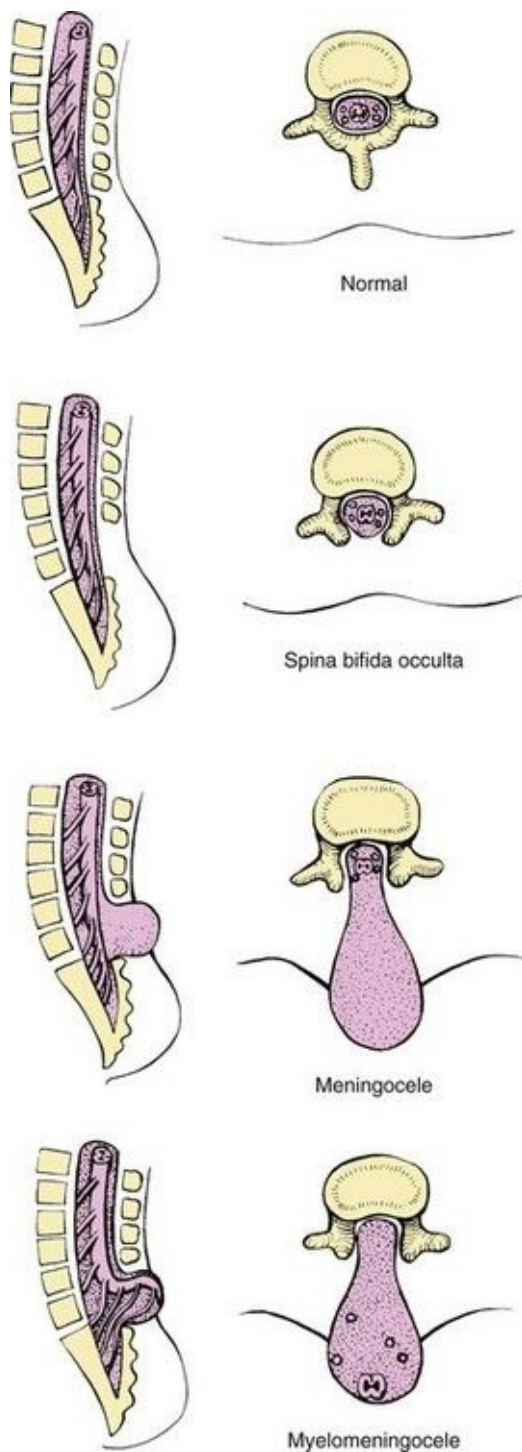


FIGURE 30-12 Midline defects of osseous spine with varying degrees of neural herniation. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

1. Spina bifida occulta: defect of vertebrae; spinal cord and meninges intact
2. Spina bifida cystica
 - a. Meningocele: meninges without neural elements protrude through defect; spinal fluid exits through defect
 - b. Myelomeningocele: meninges and portion of spinal cord with its nerves protrude through defect; usually in lumbosacral area; spinal fluid exits through defect
3. Anencephaly
 - a. Brain: spongiform mass with no bony covering
 - b. Absence of both cerebral hemispheres
 - c. Incompatible with life; intact brainstem maintains vital functions from several hours to several

weeks

G Clinical findings

1. Defect apparent on inspection
2. Degree of neurologic dysfunction directly related to anatomic level of defect and nerves involved
3. Sensory disturbances; usually parallel motor dysfunction
4. Defective nerve supply to bladder affects sphincter and muscle tone
5. Ineffective anal sphincter control

H Therapeutic interventions

1. Recommendation that women of childbearing age take multivitamin with 400 mcg folic acid from one month prior to conception throughout pregnancy
2. Surgical repair of sac: maintains neurologic function, prevents infection; performed as early as possible
3. Multidisciplinary approach including habilitation

Nursing Care of Children with Spina Bifida

Assessment/Analysis

1. Condition of myelomeningocele sac
2. Level of neurologic involvement; impairment of elimination
3. Daily changes in head circumference; status of fontanel

Planning/Implementation

1. Protect against infection (breakdown of sac exposes spinal cord to environment)
 - a. Provide meticulous skin care; keep area clean of urine and feces
 - b. Apply sterile, moist, nonadherent dressing over sac to prevent drying; use sterile normal saline for moistening; change dressing every 2 to 4 hours to maintain moistness
 - c. Inspect sac for leaks, abrasions, irritation, or signs of infection
 - d. Avoid pressure on sac; do not cover with diaper
2. Measure head circumference daily; measure at greatest circumference (usually slightly above eyebrows and pinna of ears and around occipital prominence at back of skull); place marks on both sides of head to facilitate accurate serial measurements
3. Maintain in prone position to prevent injury to sac
4. Perform passive range-of-motion exercises to extremities unless contraindicated
5. Promote elimination
 - a. Observe for urinary retention or continuous leakage of urine; perform intermittent straight catheterization as ordered
 - b. Observe for bowel sphincter weakness (e.g., continual passage of stool that is not diarrhea)
6. Provide postoperative care
 - a. Maintain side-lying or prone position to prevent tension on suture line and skin graft
 - b. Measure head circumference daily because increase may indicate developing hydrocephalus
 - c. Monitor for signs of increased intracranial pressure
 - d. Use pain rating scale and medicate appropriately

Evaluation/Outcomes

1. Remains free of infection
2. Maintains skin integrity
3. Family demonstrates ability to care for infant
4. Family continues follow-up care and habilitation

Hydrocephalus

Data Base

A Excessive accumulation of cerebrospinal fluid within ventricular system; increased intracranial pressure compresses brain against skull, decreasing blood flow to brain cells, causing necrosis

B Classifications

1. Classified according to cause: congenital, acquired
2. Classified according to presence or absence of obstruction
 - a. Noncommunicating: obstruction within ventricles (e.g., congenital malformation, neoplasm, hematoma)
 - b. Communicating: inadequate absorption of cerebrospinal fluid (CSF) (e.g., infection, trauma, obstruction by thick arachnoid membrane or meninges)

C Clinical findings

1. Increasing head size with open sutures; bulging fontanel
2. Prominent scalp veins; taut, shiny skin
3. Increased intracranial pressure (e.g., projectile vomiting not associated with feeding; irritability; anorexia; high, shrill cry; “sunset” eyes [sclera visible above iris], bulging eyes, papilledema of retina, seizures)
4. Developmental delays resulting from brain damage (e.g., head lag after 4 to 6 months of age)

D Therapeutic interventions

1. Limiting damage
 - a. Removal of obstruction if noncommunicating hydrocephalus
 - b. Mechanical shunting of fluid to another area of body via ventricular peritoneal shunt; catheter passed subcutaneously to peritoneal cavity; placement revised as necessary
2. Treatment of complications

Nursing Care of Children with Hydrocephalus

Assessment/Analysis

1. Head circumference; daily measurements
2. Fontanel and suture lines (e.g., size, signs of bulging, tenseness, separation)
3. Signs of increased intracranial pressure
4. Status of neurologic reflexes

Planning/Implementation

1. Prevent breakdown of scalp, infection, injury
 - a. Position with head elevated to facilitate draining of fluid
 - b. Support neck and head when holding infant
2. Monitor for increasing intracranial pressure

- a. Monitor neurologic signs
- b. Measure head circumference (see [Nursing Care of Children with Spina Bifida, Planning/Implementation](#))

3. Promote adequate nutrition

- a. Monitor for vomiting, anorexia, behavior affecting feeding (e.g., irritability, lethargy)
- b. Observe for signs of dehydration
- c. Provide small, frequent feedings
- d. Perform all care before feeding to minimize vomiting; hold if possible

4. Keep eyes moist and free of irritation if eyelids incompletely cover corneas

5. Control pain with scheduled analgesics

6. Support parents through grieving process

7. Provide care after shunt

- a. Position flat on unoperated side to avoid too rapid reduction of intracranial fluid
- b. Handle minimally to prevent damage to shunt
- c. Observe shunt site (abdominal site in peritoneal procedure) for infection
- d. Teach parents to
 - (1) Pump shunt to maintain patency when indicated
 - (2) Observe for signs of increasing intracranial pressure, infection, dehydration
 - (3) Perform range-of-motion exercises to lower extremities

8. Support parents after shunt

- a. Explain that shunt revisions are necessary with growth and if infection occurs
- b. Provide anticipatory guidance about observing for and recording developmental milestones

9. Monitor developmental progress

Evaluation/Outcomes

- 1. Remains free from increased intracranial pressure
- 2. Remains free from infection
- 3. Maintains skin integrity
- 4. Family demonstrates ability to care for infant

Genitourinary Malformations

Exstrophy of the Bladder

Data Base

A Absence of portion of abdominal wall and bladder wall; bladder is outside abdominal cavity

B Associated defects

1. Pubic bone malformations, inguinal hernia
2. Males: epispadias, undescended testes, short penis

3. Females: cleft clitoris, absent vagina

C Incidence: twice as frequent in males

D Clinical findings

1. Bladder: exposed; appears inside-out
2. Constant seepage of urine leading to skin breakdown and infection
3. Progressive renal failure from infection and obstruction

E Therapeutic interventions

1. First surgery: repair of bladder and urethra within 48 hours if possible; temporary insertion of suprapubic catheter
2. Second surgery: attachment of pelvic bones
3. Surgery to repair other malformations may be combined with other surgeries
4. Urinary bypass surgery if necessary
 - a. Ileal conduit (ureteroileal cutaneous ureterostomy); ileostomy appliance worn over stoma; collects continuously flowing urine
 - b. Cutaneous ureterostomy; ureters attached directly to abdominal wall, usually at site proximal to level of kidneys; two collecting appliances worn over bilateral openings

Nursing Care of Children with Exstrophy of the Bladder

Assessment/Analysis

1. Renal function, urine output
2. Condition of skin
3. Parental response; interaction with newborn/child

Planning/Implementation

1. Scrupulously clean area around bladder; apply sterile, nonadherent, moist dressing over exposed bladder tissue to prevent infection
2. Monitor and maintain fluid balance because of large insensible water losses from exposed viscera
3. Dress infant with loose clothing to avoid pressure over area; change clothing frequently because of odor
4. Care for urine-collecting appliance; change frequently
5. Help parents to accept disorder and long-term sequelae

Evaluation/Outcomes

1. Maintains skin integrity
2. Remains free from infection
3. Maintains renal function within acceptable limits
4. Family demonstrates ability to care for infant

Displaced Urethral Openings

Data Base

A Abnormally located urethral opening; can be sign of ambiguous genitalia

B Severity varies in males: depends on distance of opening from tip of penis, presence of other penile anomalies (e.g., chordee [head of penis curves downward])

C Classification

1. Hypospadias

a. Males: urethra opens on lower surface of penis from behind glans to perineum (placement varies)

b. Females: urethra opens into vagina

2. Epispadias

a. Occurs only in males

b. Urethra opens on dorsal surface of penis; often associated with bladder exstrophy

D Clinical findings

1. Interference with reproduction if severely affected

2. Increased risk for urinary tract infection

E Therapeutic interventions

1. Surgical repair of defect; circumcision, if desired, is delayed until after surgical repair

2. Surgery may be performed in several stages

Nursing Care of Children with a Displaced Urethral Opening

Assessment/Analysis

1. Parental knowledge of defect

2. Origin of urinary stream

Planning/Implementation

1. Provide parents with explanation of potential future functioning

2. Help male child to cope with anatomic difference from peers; adjustment to voiding in sitting position

3. Prepare child and parents for surgery

Evaluation/Outcomes

1. Remains free from pain

2. Maintains peer interactions

3. Child and parents verbalize feelings/concerns about effects of defect

4. Surgical repair corrects voiding pattern

Skeletal Malformations

Clubfoot

Data Base

A Bone deformity and malposition of foot with soft tissue contracture; foot twisted out of alignment; may be misshapen

B Talipes equinovarus most common type; foot is fixed in plantar flexion (downward) and deviated medially (inward)

C Clinical findings

1. Deformity apparent at birth
2. Classification
 - a. Rigid or flexible
 - b. Mild (positional): may correct spontaneously; may require passive exercise or serial casting
 - c. Syndromic: associated with other congenital anomalies
 - d. Congenital: wide range of rigidity and prognosis; usually requires surgical intervention

D Therapeutic interventions

1. Treatment started during newborn period most successful; delay causes abnormal development of leg muscles and bones with shortening of tendons
2. Nonsurgical treatment: gentle, repeated manipulation of foot with casting; done every few days for 1 to 2 weeks, then at 1- to 2-week intervals
3. Surgical treatment: done if nonsurgical treatment ineffective
 - a. Tight ligaments released
 - b. Tendons lengthened or transplanted
4. Follow-up care
 - a. Emphasizes muscle reeducation (by manipulation) and correct walking
 - b. Corrective shoes: may have sole and heel lifts on lateral border to maintain position; shoes must be maintained in good repair
 - c. Extended orthopedic supervision: tendency to recur; considered cured when able to wear regular shoes and walk correctly

Nursing Care of Children with Clubfoot

Assessment/Analysis

1. Parental understanding of treatment regimen
2. Skin and neurovascular assessment of affected limb

Planning/Implementation

1. Provide care associated with casting
 - a. Monitor neurovascular status of affected extremity (e.g., color, skin temperature, capillary refill, toe movement)
 - b. Check cast for weakness and wear, especially if child is allowed weight bearing
 - c. See [Developmental Dysplasia of the Hip, Planning/Implementation](#)
2. Teach parents neurovascular assessments, care of cast and special shoes

3. Emphasize need for follow-up, which may be prolonged

Evaluation/Outcomes

1. Remains free from complications
2. Parents demonstrate ability to care for child
3. Continues follow-up orthopedic supervision

Developmental Dysplasia of the Hip (DDH)

Data Base

A Imperfect development of hip; involvement includes femoral head, acetabulum, or both

B Incidence: 60% are females

C Classification

1. Acetabular: mildest form; femoral head remains in acetabulum
2. Subluxation: most common form; femoral head partially displaced
3. Dislocation: femoral head not in contact with acetabulum; displaced posteriorly and superiorly

D Clinical findings

1. Limited abduction of leg on affected side
2. Asymmetry of gluteal, popliteal, and thigh folds
3. Audible click when abducting and externally rotating hip on affected side (Ortolani test)
4. Apparent shortening of femur on affected side
5. Waddling gait and lordosis

E Therapeutic interventions

1. Directed toward enlarging and deepening acetabulum by placing head of femur within acetabulum and applying constant pressure
2. Positioned with legs slightly flexed and abducted (e.g., Pavlik harness, spica cast, brace)
3. Surgical intervention (e.g., open reduction with casting)

Nursing Care of Children with Developmental Dysplasia of the Hip

Assessment/Analysis

1. Limb shorter on affected side
2. Positive Ortolani test (hip click)
3. Restricted abduction of hip on affected side

Planning/Implementation

1. Limit risk for hypostatic pneumonia caused by enforced immobility
 - a. Change position frequently; raise head of mattress/crib rather than head only to prevent neck flexion
 - b. Teach parents postural drainage; exercises to increase lung expansion (e.g., blowing bubbles)
 - c. Encourage parents to notify health care provider immediately if congestion or cough develops
2. Maintain skin integrity
 - a. Assess circulation to toes (e.g., pedal pulses, signs of blanching)
 - b. Prevent small toys or food from slipping under cast

- c. Teach parents to recognize signs of infection (e.g., odor)
- d. Protect cast edges with adhesive tape or waterproof material, especially around perineum
- e. Use disposable diapers with plastic lining to minimize soiling by feces and urine
- 3. Prevent constipation
 - a. Teach parents to observe child for straining on defecation
 - b. Increase fluids and high-fiber foods
- 4. Encourage intake of nutritious foods appropriate for activity level
 - a. Provide small, frequent meals because of inflexibility of cast around waist (window may be made over abdominal area to allow for expansion with meals)
 - b. Teach parents to adjust calorie intake because less energy expenditure can lead to obesity
- 5. Move and position safely when in spica cast
 - a. Use wagon or stroller with back flat or mechanic's creeper for transportation
 - b. Protect from falling when being positioned
 - c. Avoid using bar between legs of cast for lifting; two people may be needed to provide adequate body support when moving
 - d. Use specially designed car restraint system for transportation in motor vehicle
- 6. Meet emotional needs
 - a. Use touch as much as possible; small children can be picked up and cuddled
 - b. Stimulate and provide play activities appropriate for age
- 7. Provide parents with help and support
 - a. Reinforce teaching with written instructions
 - b. Schedule home visits with telephone or e-mail counseling available
 - c. Stress need for follow-up care because treatment may be prolonged
 - d. Prepare parents for application of abduction brace after cast is removed
 - e. Additional cast care (see [Chapter 11](#), Nursing Care of Clients With Neuromusculoskeletal System Disorders)

Evaluation/Outcomes

- 1. Moves about and controls environment
- 2. Remains free of injury
- 3. Regains earlier movement (crawling/walking) when device is removed
- 4. Parents demonstrate ability to care for child

Inborn Errors of Metabolism

Data Base

A Inherited autosomal recessive trait disorders caused by absence of substances essential to cellular metabolism

B Characterized by abnormal fat, protein, or carbohydrate metabolism

General Nursing Care of Children with Inborn Errors of Metabolism

Assessment/Analysis

- 1. Verification of test results

2. Parents' understanding of disorder
3. Growth and development

Planning/Implementation

1. Refer parents for genetic counseling if planning another child
2. Help parents understand disorder and role of specific diet (e.g., see [Phenylketonuria \[PKU\]](#), [Galactosemia](#))
3. Specific nursing care for children with hypothyroidism
 - a. Instruct parents regarding administration of thyroid replacement medication; signs of overdose (e.g., rapid pulse rate, dyspnea, insomnia, irritability, sweating, fever, weight loss)
 - b. Teach parents how to obtain a pulse rate

Evaluation/Outcomes

1. Achieves satisfactory growth and development
2. Consumes adequate nutrients for growth
3. Child and family verbalize feelings about necessity of dietary modifications
4. Child and family verbalize and demonstrate ability to follow health regimen (prescribed diet/medications)

Phenylketonuria (PKU)

Data Base

A Lack of enzyme phenylalanine hydroxylase; changes phenylalanine (essential amino acid) into tyrosine for metabolism

B Clinical findings if untreated

1. Growth failure, frequent vomiting, irritability
2. Mental retardation; damage to nervous system by accumulation of phenylalanine
 - a. Altered mental processes apparent by 4 months of age
 - b. Intelligence quotient usually below 50, most frequently under 20
3. Urine has strong, musty odor from phenylacetic acid
4. Blond hair and blue eyes; absence of tyrosine reduces production of melanin
5. Fair skin susceptible to eczema

C Therapeutic interventions

1. Early detection essential; newborn testing is mandatory throughout United States
2. Guthrie blood test: performed after protein ingestion; if tested during initial 24 hours, repeat test at 2 weeks of age; tandem mass spectrometry now used to detect PKU and other congenital disorders
3. Dietary: low-phenylalanine diet calculated to allow 20 to 30 mg of phenylalanine per kg of body weight
 - a. Breastfeeding: recommended because of low-protein content; breast milk substitute (e.g., Phenex-1)
 - b. Phenylalanine-free formula (e.g., Phenex-2, Phenyl-Free) after age 3; allows for more variety of solid foods
 - c. Dietary restrictions of phenylalanine through adolescence; now recommended throughout life
 - d. Low-phenylalanine diet for women with PKU who are planning pregnancy or who are

pregnant

4. Treatment for eczema (see [Atopic Dermatitis \[Eczema\]](#), Data Base)

Galactosemia

Data Base

A Missing enzyme that converts galactose to glucose

B Clinical findings

1. Weight loss, vomiting
2. Hepatosplenomegaly, jaundice
3. Cataracts

C Therapeutic interventions

1. Beutler test for galactosemia at birth mandatory in many states
2. Dietary reduction of lactose; soy-based formula as milk substitute; dietary modification usually continued until 7 to 8 years of age and possibly for life

Hypothyroidism

Data Base

A Types

1. Congenital hypothyroidism: embryonic failure to develop thyroid gland; inborn enzyme defect in formation of thyroxine
2. Lymphocytic thyroiditis (Hashimoto disease): genetic predisposition to development of autoimmune thyroiditis; most common thyroid disease in children; may be transient and regress spontaneously within 1 to 2 years

B Clinical findings if untreated

1. Congenital hypothyroidism
 - a. Prolonged physiologic jaundice; feeding difficulties; inactivity (e.g., excessive sleeping, little crying); anemia; problems resulting from hypotonic abdominal muscles (e.g., constipation, protruding abdomen, umbilical hernia)
 - b. Impaired nervous system development leads to mental retardation; level depends on degree of hypothyroidism, interval before therapy is begun
 - c. Decreased growth and metabolic rate, resulting in increased weight
 - d. Characteristic infant facies (e.g., short forehead; wide, puffy eyes; wrinkled eyelids; broad, short, upturned nose; large, protruding tongue; dry, brittle, lusterless hair with low hairline)
 - e. Skin
 - (1) Mottled because of decreased heart rate and circulation
 - (2) Yellowish color from carotenemia resulting from decreased conversion of carotene to vitamin A
2. Lymphocytic thyroiditis
 - a. Enlarged thyroid gland
 - b. Hoarseness and dysphagia due to tracheal compression
 - c. Some have signs of hyperthyroidism (e.g., nervousness, hyperactivity, irritability, increased perspiration)

C Therapeutic interventions

1. Congenital hypothyroidism

- a. Detection: neonatal screening for thyroxine (T4) and thyroid-stimulating hormone (TSH)
 - (1) Newborn testing mandatory in all 50 states
 - (2) Performed by heelstick blood test at same time as other neonatal metabolic tests
- b. Replacement therapy with thyroid hormone: if begun before 3 months of age, chances for adequate growth and average intelligence increase

2. Lymphocytic thyroiditis: thyroid replacement to depress thyroid-stimulating hormone, reducing size of thyroid gland

Health Problems that Develop during Infancy

(Some problems may continue past infancy)

Intussusception

Data Base

A Telescoping of a proximal section of intestine into a more distal segment; most common site at ileocecal valve ([Figure 30-13: Ileocecal valve \[ileocolic\] intussusception](#))

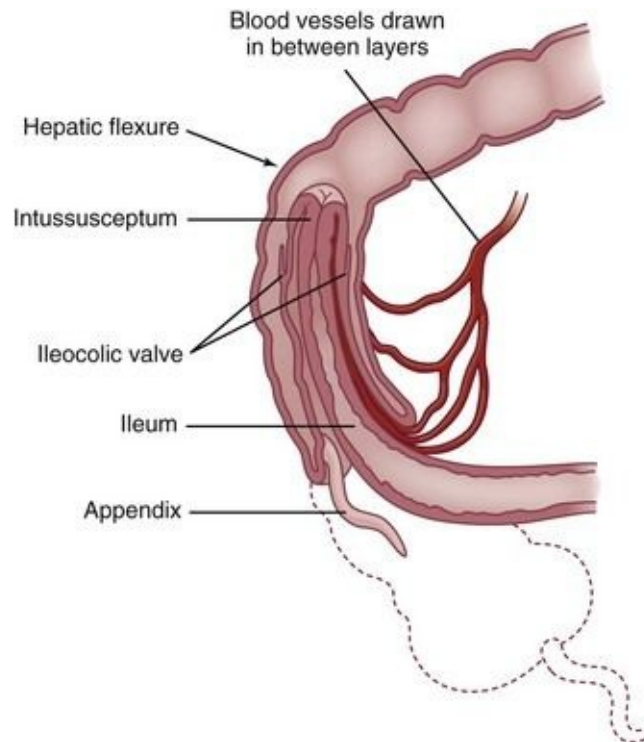


FIGURE 30-13 Ileocecal valve (ileocolic) intussusception. (From Hockenberry M, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

B Incidence: males affected two times more frequently; usually occurs between 5 and 9 months of age

C Clinical findings

1. Severe paroxysmal abdominal pain, evidenced by kicking and drawing legs up to abdomen
2. One or two regular stools, then bloody mucus in stool (“currant jelly” stool)
3. Palpation of sausage-shaped mass in abdomen

D Therapeutic interventions

1. Medical reduction by hydrostatic pressure (water-soluble contrast material given as enema or air pressure) after perforation has been ruled out by sonography or x-ray examination
2. Surgical reduction; may need intestinal resection

Nursing Care of Children with Intussusception

Assessment/Analysis

1. Presence and extent of abdominal pain, vomiting

2. Stools for color, consistency
3. Abdomen for sausage-shaped mass

Planning/Implementation

1. Provide care for abdominal surgery
2. Provide for parental rooming-in/visits because stranger anxiety is acute

Evaluation/Outcomes

1. Remains free from pain
2. Consumes sufficient nutrients for growth
3. Maintains fluid balance

Failure to Thrive (FTT)

Data Base

A Failure to obtain or use calories for growth; weight and sometimes height below 5th percentile for age; persistent deviation from established growth curve

B Risk factors multifactorial: combination of infant organic disease; dysfunctional parenting behaviors; neurologic or behavioral problems; disturbed parent-child interactions; poverty; health beliefs; insufficient nutrition knowledge; family stress; psychosocial factors; feeding resistance; insufficient breast milk

C Classification

1. Inadequate caloric intake: incorrect formula preparation; neglect; food fads; excessive juice consumption; behavioral problems affecting eating; CNS problems affecting intake
2. Inadequate absorption: cystic fibrosis; celiac disease; vitamin or mineral deficiencies; biliary atresia; hepatic disease
3. Increased metabolism: hyperthyroidism; congenital heart defects; chronic immunodeficiency
4. Defective utilization: genetic anomaly (e.g., trisomy 18, trisomy 21); congenital infection

D Clinical findings: infant/child

1. Growth failure: below 5th percentile in weight, or height and weight
2. Development: inadequate social, motor, adaptive behaviors; language deficit; hearing not affected
3. Apathy; difficulty forming meaningful relationships; withdrawn behavior
4. Feeding or eating disorders (e.g., vomiting, anorexia, voracious appetite, pica, rumination)
5. Stiff and unyielding or flaccid and unresponsive; minimal smiling; not comforted by touch
6. Prone to illnesses

E Clinical findings: caregiver

1. Difficulty perceiving and assessing child's needs
2. Inadequate support system for child
3. Frequently under stress (e.g., emotional, social, financial problem/crisis)

F Therapeutic interventions

1. Investigation and treatment of underlying cause (e.g., coexisting health problems, dysfunctional parent-child relationship)
2. Reversal of malnutrition
 - a. Correction of nutritional deficiencies to achieve appropriate weight for height

b. Provision of sufficient calories for catch-up growth

3. Education of parents/primary caregivers regarding nutritional needs, appropriate feeding methods

Nursing Care of Children with Failure to Thrive

Assessment/Analysis

1. Baseline height and weight
2. Feeding behaviors
3. Developmental level
4. Parent-infant/child interactions

Planning/Implementation

1. Administer prescribed care to correct underlying illness
2. Provide optimum nutrients
 - a. Ensure intake of prescribed calories and nutrients
 - b. Document daily calorie consumption
 - c. Weigh daily to ascertain weight gain
3. Introduce positive feeding environment
 - a. Establish structured routine and follow it consistently; assign one nurse for feeding; follow feeding rhythm; be persistent
 - b. Hold infant/young child for feeding; maintain eye-to-eye contact; maintain calm, even tempered approach; provide quiet, nonstimulating environment
 - c. Give appropriate directions and praise for eating
4. Increase stimulation appropriate to developmental level
5. Offer emotional support to parents without fostering dependency
 - a. Arrange for opportunities to talk
 - b. When necessary, relieve parents of childrearing responsibilities until able and ready emotionally
 - c. Demonstrate appropriate infant/child care; allow to proceed at own pace
 - d. Promote self-respect and confidence with praise for achievements related to infant/child's growth, development, and behavior

Evaluation/Outcomes

1. Gains weight steadily
2. Child demonstrates positive response to physical/psychosocial support
3. Parent/child interactions reflect attachment behaviors
4. Parents demonstrate ability to care for child

Shaken Baby Syndrome

Data Base

A Injuries caused by vigorously shaking of infant's shoulders or upper extremities while being held; can cause fatal intracranial trauma/bleeding without external signs of abuse

B Clinical findings

1. Retinal hemorrhages
2. Seizures, coma
3. Bruising
4. Skull fractures
5. Tense or bulging fontanel
6. Respiratory irregularities without stridor or adventitious breath sounds, apnea

Nursing Care of Children with Shaken Baby Syndrome

Nursing care depends on type of injuries sustained; usually involve CNS, fractures of skull and long bones, trauma to organs in thoracic and abdominal cavities

Sudden Infant Death Syndrome (SIDS)

Data Base

A Sudden, unexpected, unexplained death of an apparently health infant younger than the age of 1 year

B Incidence: 0.57 per 1000 live births; third leading cause of death in infants between 1 month and 1 year of age

C Risk factors

1. Sleeping on abdomen or on soft bedding, pillows, comforters, quilts
2. Higher percentage of males than females
3. Low birth weight
4. Low Apgar scores
5. CNS disturbances
6. Respiratory disorders (e.g., bronchopulmonary dysplasia)
7. Exposure to environmental tobacco smoke
8. Sibling who died of SIDS
9. Maternal: very young, smoked during pregnancy, abused drugs

D Prevention: positioning on back, on firm surface for sleep; lower incidence associated with breastfeeding

E Clinical findings

1. Frothy, blood-tinged fluid in mouth and nose
2. Diaper wet and full with stool (consistent with cataclysmic type of death)
3. Disheveled bedding
4. Pulmonary edema, intrathoracic hemorrhages found on autopsy

F Therapeutic interventions

1. Avoidance of implying wrongdoing, abuse, or neglect
2. Provision of support to parents
3. Nonjudgmental attitude toward parents' attempts at resuscitation

Nursing Care of Families of Infants with Sudden Infant Death Syndrome

Assessment/Analysis

1. Parental knowledge of SIDS
2. Parental support system

Planning/Implementation

1. Identify differences between signs of SIDS versus child neglect or abuse
2. Avoid remarks or behaviors that may instill guilt in parents
3. Reassure parents that they could not have prevented the death or predicted its occurrence
4. Reinforce that an autopsy should be performed to confirm diagnosis
5. Arrange home visit to discuss cause of death; help parents with their guilt feelings and grieving process
6. Refer parents to national SIDS parent group

Evaluation/Outcomes

1. Family exhibits positive coping behavior
2. Family uses support services
3. Family exhibits effective bereavement behaviors
4. Parents maintain supportive relationship with other children

Apnea of Infancy (AOI)

Data Base

A Pathologic apnea lasting at least 20 seconds; apnea of 15 seconds or less is expected at any age

B Incidence: accounts for 7% to 12% of SIDS cases

C Risk factors: sepsis, seizures, upper airway abnormalities, gastroesophageal reflux, hypoglycemia, impaired regulation of sleep or feeding

D Clinical findings

1. Usually presents as an apparent life-threatening event
2. Cyanosis, marked pallor, hypotonia, bradycardia

E Therapeutic interventions

1. Continuous home monitoring of cardiorespiratory rhythm
2. Respiratory stimulant medication (e.g., caffeine)
3. Treatment discontinued after 2 to 3 months if insignificant number of alarms or short apneic episodes

Nursing Care of Children with Apnea

Assessment/Analysis

1. Parental fears and concerns
2. Knowledge about home monitoring, cardiopulmonary resuscitation (CPR)
3. Description of apparent life-threatening event (ALTE)

Planning/Implementation

1. Monitor type and quality of apneic episodes
2. Teach parents: home monitoring: stimulation/resuscitation of infant
3. Assist parents to identify and use support system

Evaluation/Outcomes

1. Maintains respiratory functioning
2. Parents demonstrate effective use of equipment for home monitoring
3. Parents demonstrate CPR
4. Parents verbalize fears
5. Parents identify support system

Diarrhea

Data Base

A Frequent, watery stools resulting from increased peristalsis

B Incidence: leading cause of illness in children under 5 years throughout world

C Classification

1. Acute: infection (e.g., bacterial, viral), parasites, diet (e.g., overfeeding, new foods, excess sugars in formula or juices), medications (e.g., antibiotics, laxatives), toxins (e.g., arsenic, lead, mercury)
2. Chronic: malabsorption syndromes (e.g., celiac disease, cystic fibrosis, short bowel syndrome, lactose intolerance); inflammatory bowel disease (e.g., ulcerative colitis, Crohn disease); food allergy; immunodeficiency (e.g., HIV, AIDS); endocrine (e.g., hyperthyroidism, Addison disease), chronic nonspecific diarrhea

D Clinical findings

1. Frequent, watery stools
2. Severe fluid deficit
 - a. Weight loss greater than 10% (moderate dehydration)
 - b. Diminished skin turgor, dry mucous membranes
 - c. Depressed fontanel, sunken eyeballs
 - d. Urine: decreased output, dark color, increased specific gravity,
 - e. Increased hematocrit
 - f. Metabolic acidosis: decreased serum pH and bicarbonate
 - g. Irritability, stupor, seizures from loss of intracellular water and decreased plasma volume
3. Diaper dermatitis: exposure of skin to fecal constituents (e.g., enzymes); warm, moist perineal area

E Therapeutic interventions

1. Severe diarrhea: correction of fluid and electrolyte imbalance (e.g., oral rehydration therapy [ORT], intravenous fluids/electrolytes)
2. Identification of cause; institution of appropriate therapy (e.g., antibiotics if bacterial agent is identified)

Nursing Care of Children with Diarrhea

Assessment/Analysis

1. History: previous episodes, factors causing acute or chronic diarrhea
2. Diarrhea: onset, duration, frequency and character of stools
3. Vital signs (e.g., fever)
4. Frequency of vomiting if present
5. State of hydration (e.g., mucous membranes, tissue turgor, baseline weight)

6. Characteristics of bowel sounds
7. Perianal area for redness and skin breakdown
8. Laboratory tests: serum electrolytes; arterial blood gases; stools for culture and sensitivity, ova and parasites

Planning/Implementation

1. Explain to parents why antibiotics and increased food intake are ineffective in treating viral diarrhea
2. Offer prescribed oral rehydration fluids or administer IV fluids/electrolytes to correct dehydration and electrolyte imbalance
3. Assess for fluid balance, dehydration or fluid overload if receiving IV fluids (e.g., daily weights, I&O)
4. Continue ordered diet, usually regular

Evaluation/Outcomes

1. Consumes sufficient calories and fluids
2. Maintains skin integrity
3. Child and family use techniques to prevent transmission of infection
4. Episodes of diarrhea cease

Vomiting

Data Base

A Forcible ejection of stomach contents, usually associated with nausea

1. Controlled by CNS
2. Response to stress
3. Protective mechanism to remove toxins from body

B Associated hazards (e.g., fluid loss, electrolyte imbalance, aspiration, atelectasis, pneumonia, asphyxiation)

C Incidence: common in childhood, usually minor and of short duration

D Causes

1. Infection most common
2. Response to allergen, drug ingestion
3. Recurrent or prolonged vomiting may be related to increased intracranial pressure

E Clinical findings

1. One or more episodes of regurgitation or emesis
2. Severe vomiting
 - a. Dehydration
 - b. Tetany; seizures from severe alkalosis
 - c. Metabolic alkalosis from loss of hydrogen ions
 - d. Electrolyte imbalance

F Therapeutic interventions: correction of underlying disorder; replacement of fluid and electrolytes

Nursing Care of Children with Vomiting

Assessment/Analysis

1. History: pattern (chronic or intermittent episodes); circumstances preceding vomiting
2. Vomitus: amount, character, frequency
3. Behavior (e.g., irritability, lethargy)
4. Bowel sounds
5. Associated manifestations (e.g., fever, diarrhea, constipation, localized abdominal pain, fluid and electrolyte imbalances)

Planning/Implementation

1. Maintain in side-lying, low-Fowler position
2. Allow to rest after feeding
3. Provide care related to gastroesophageal reflux or cardiac sphincter problems
 - a. Thicken consistency of liquids
 - b. Offer small-volume feedings every 2 to 3 hours
4. Rinse mouth after each episode of vomiting

Evaluation/Outcomes

1. Demonstrates rehydration
2. Consumes adequate nutrients for growth and development
3. Episodes of vomiting cease

Colic

Data Base

A Paroxysmal abdominal pain or cramping

B Incidence: 5% to 30% of infants; more common when younger than 3 months of age

C Risk factors: fewer than 5% with known etiology; allergy to formula

D Associated causes: excessive swallowing of air; size of nipple opening; shape of nipple; too rapid feeding or overfeeding; tenseness or anxiety of caregiver; maternal diet (if breastfeeding); CNS immaturity; neurochemical dysregulation

E Clinical findings

1. Pulling up of arms and legs
2. Red-faced crying for long periods
3. Excessive gas

F Therapeutic intervention: correction of underlying cause when identified

Nursing Care of Children with Colic

Assessment/Analysis

1. Characteristics of cry (e.g., duration, intensity)
2. Diet of breastfeeding mother
3. Occurrence of attack in relation to feeding
4. Activity of caregiver around time of attack

5. Environmental smoke
6. Parenteral behaviors (e.g., feeding techniques, attempts to relieve gas, attempts to console infant)

Planning/Implementation

1. Teach parents/caregiver to
 - a. Offer smaller, more frequent feedings
 - b. Burp frequently
 - c. Position on side after feeding
 - d. Gently massage abdomen, place heated towel on abdomen
 - e. Hold facedown with body across caregiver's arm, while applying gentle abdominal pressure with hand (colic carry)
2. Encourage caregiver to spend time away from infant
3. Reassure parents that condition is not life-threatening; weight will be gained; colic will subside eventually

Evaluation/Outcomes

1. Infant rests quietly/sleeps between feedings
2. Parents demonstrate effective feeding practices
3. Parents able to continue activities of daily living

Constipation

Data Base

A Hard, dry stools; difficult to pass; infrequent

B Causes: dietary, psychologic, physiologic (e.g., Hirschsprung disease, strictures, hypothyroidism)

C Classification

1. Obstipation: long periods between defecations
2. Encopresis: constipation with fecal soiling after being toilet trained

D Clinical findings

1. "Stool withholding" behavior
2. Pain on defecation

E Therapeutic interventions

1. Dietary: increased fiber and fluid
2. Administration of mineral oil, stool softeners, mild laxatives; mineral oil not given with foods (decreases absorption of nutrients)
3. Institution of bowel retraining

Nursing Care of Children with Constipation

Assessment/Analysis

1. History of bowel habits, diet
2. Stool characteristics, frequency
3. Parent/child knowledge of elimination

Planning/Implementation

1. Teach parents relationship among constipation and fluids, dietary fiber, and activity
2. Teach parents to
 - a. Provide foods high in fiber
 - b. Increase fluid intake based on fluid requirements for weight
 - c. Place in knee-chest position if there is distention or cramping
 - d. Provide comfort as necessary based on age (e.g., cuddle infants/young children)

Evaluation/Outcomes

1. Consumes appropriate amount of fiber and fluid
2. Establishes regular pattern of bowel elimination

Respiratory Tract Infections

Data Base

A Frequent cause of morbidity in young children

B Incidence: four to five infections/year; most severe reaction between 3 months and 3 years of age

C Acute infection: bacterial or viral

D Respiratory syncytial virus (RSV): single most important respiratory pathogen; most prevalent at younger than 1 year of age; causes 50% of pediatric hospitalizations for bronchiolitis

E Classification: acute nasopharyngitis (common cold); pneumonia; bronchitis; bronchiolitis; tonsillitis; croup syndromes (e.g., epiglottitis, laryngitis, laryngotracheobronchitis, spasmodic laryngitis, bacterial tracheitis)

F Clinical findings

1. Infection (e.g., fever; purulent discharge from nose, ears, lungs; enlarged cervical lymph nodes)
2. Cough, wheeze
3. Adventitious breath sounds, tachypnea
4. Cyanosis
5. Grunting respirations, flaring nares, substernal retractions

G Therapeutic interventions

1. Interruption of spasms and bronchial dilation
2. Antibiotics based on culture and sensitivity results
3. Humidified oxygen

Nursing Care of Children with Respiratory Tract Infections

Assessment/Analysis

1. Respirations (e.g., rate, depth, ease, rhythm)
2. Color (e.g., cyanosis, pallor)
3. Adventitious breath sounds
4. Nasal discharge, characteristics of sputum
5. Cough; laryngeal spasms
6. Inflammation of pharynx

Planning/Implementation

1. Airborne, droplet, or contact precautions as indicated by Centers for Disease Control and Prevention (CDC)
2. Increase fluid intake to prevent dehydration from fever and perspiration, and to prevent secretions from becoming more tenacious
3. Increase humidity, maintain cool environment
 - a. Decreases febrile state, limits inflammation of mucous membrane
 - b. Causes vasoconstriction and bronchiolar dilation
4. Promote nasal and pulmonary drainage
 - a. Clean nares with bulb syringe
 - b. Suction oronasal pharynx
 - c. Perform postural drainage, chest physiotherapy
5. Assess for presence of mucous plug if restless, pale, or has tachycardia
6. Decrease stimulation to promote rest
7. Elevate head of bed
8. Administer oxygen as ordered; monitor oxygen saturation
9. Provide care related to epiglottitis
 - a. Avoid using tongue blade to visualize posterior pharynx
 - b. Keep tracheotomy set at bedside
 - c. Provide tracheostomy care (see [Chapter 7](#), Nursing Care of Clients with Respiratory System Disorders, Related Procedures, Tracheostomy Care)

Evaluation/Outcomes

1. Maintains patent airway
2. Rests and sleeps with unlabored respirations within expected range for age

Otitis Media

Data Base

A Acute infection of middle ear

B Causative organisms

1. Bacterial: *Streptococcus pneumoniae*, *H. influenzae*
2. Viral: usually respiratory syncytial virus (RSV) or influenza

C Incidence: 80% have at least one episode; 50% have three or more episodes; most common between ages 6 months and 2 years; immunizations and breastfeeding lower incidence

D Classification

1. Otitis media: inflammation of middle ear
2. Acute otitis media: inflammation of middle ear space with rapid onset of signs and symptoms (e.g., fever, ear pain)
3. Otitis media with effusion: middle ear inflammation with fluid present without evidence of acute infection

E Clinical findings

1. Acute otitis media
 - a. Pain: infant frets and rubs ear or rolls head from side to side; may hit head against hard

surface

b. Drum bulging, red; no light reflex; may rupture

2. Otitis media with effusion

a. No pain or fever, but “fullness” in ear

b. Drum gray, bulging

c. Possible loss of hearing from scarring of eardrum

F Therapeutic interventions

1. Antibiotic therapy if bacterial infection

2. Topical analgesics for ear pain

3. Surgery: myringotomy with insertion of tympanotomy tubes

Nursing Care of Children with Otitis Media

Assessment/Analysis

1. Pain

2. Clinical manifestations of infection

3. Allergies

Planning/Implementation

1. Teach parents

a. Administration of prescribed antibiotics; important to complete full course of therapy

b. Instillation of ear drops: pull auricle down and back for child younger than 3 years of age; pull auricle up and back for older child

2. Minimize recurrence

a. Eliminate environmental allergens, including tobacco smoke

b. Feed in upright position, keep water out of ears

3. Encourage follow-up care to evaluate for complications (e.g., chronic hearing loss, mastoiditis, possible meningitis)

Evaluation/Outcomes

1. Sleeps and rests without signs of discomfort

2. Remains free from infection

3. Parents verbalize techniques to minimize otitis media

4. Parents verbalize importance of completion of antibiotic therapy

Meningitis

Data Base

A Acute inflammation of meninges; cerebral spinal fluid affected

B Most common CNS infection of infants and children

C Classification: culture of cerebrospinal fluid to identify organism

1. Bacterial: *H. influenzae* type b, *S. pneumoniae*, *Neisseria meningitidis* (meningococcus), others; bacteria account for 95% of meningitis in children older than 2 months of age

2. Tuberculous: *Mycobacterium tuberculosis*

3. Viral or aseptic: wide variety of viral agents
D Causative organism enters cranial apertures or sinuses

E Clinical findings

1. Infants
 - a. Rigidity and hyperextension of neck (opisthotonos)
 - b. Irritability, high-pitched cry
 - c. Fever
 - d. Difficulty feeding
 - e. Bulging or tense fontanel
 - f. Meningococcal meningitis: vomiting, petechiae, purpuric skin rash, peripheral circulatory collapse, shock
2. Children and adolescents
 - a. Increased intracranial pressure (e.g., headache, bradycardia, irritability, vomiting)
 - b. Fever, nausea, and vomiting
 - c. Irritability, agitation
 - d. Photophobia
 - e. Meningococcal meningitis: petechiae, purpuric skin rash, peripheral circulatory collapse, shock

F Therapeutic intervention: intravenous antibiotics

Nursing Care of Children with Meningitis

Assessment/Analysis

1. Fever
2. Headache, irritability, vomiting
3. Seizures, nuchal rigidity
4. Bulging fontanel
5. Lumbar puncture result for causative organism

Planning/Implementation

1. Provide for rest, decrease environmental stimuli (e.g., control light and noise)
2. Position on side with head supported in extension
3. Maintain droplet precautions for at least 48 hours (usually no longer contagious 48 hours after start of antibiotic therapy)
4. Maintain fluid balance because of meningeal edema; monitor intake and output, IV fluids, daily weights
5. Administer prescribed antibiotic therapy if bacterial
6. Offer emotional support for parents because of sudden onset
7. Monitor for complications (e.g., septic shock, circulatory collapse)

Evaluation/Outcomes

1. Demonstrates positive response to interventions
2. Parents verbalize fears regarding child's prognosis

Febrile Seizures

Data Base

A Seizure associated with febrile illness in absence of CNS infection or acute electrolyte imbalance

B Incidence: most occur between 6 months and 3 years; affects 3% to 8% of children; twice as frequent in males; may be recurrent

C Clinical findings

1. Associated with illness outside CNS
2. Temperature usually exceeds 102° F (38.8° C)

D Therapeutic interventions

1. Control of seizures with medication
2. Reduction of fever
3. Treatment of underlying cause

Nursing Care of Children with Febrile Seizures

Assessment/Analysis

1. Description of seizure
2. History of present illness

Planning/Implementation

1. Administer prescribed antipyretic medications (excluding aspirin); monitor tympanic or axillary temperature
2. Institute seizure precautions
 - a. Protect from injury (e.g., do not restrain, pad crib rails)
 - b. Place on flat surface in side-lying position to prevent aspiration
3. Provide care after seizure
 - a. Document time of seizure, duration, body parts involved
 - b. Suction nasopharynx if necessary
 - c. Administer oxygen if required
 - d. Observe level of consciousness and behavior after seizure
 - e. Provide rest
 - f. Maintain continuous supervision
3. Teach parents to administer antipyretics at first sign of elevated temperature
4. Prevent shivering because it increases metabolic rate, further raising body temperature
5. See [Chapter 11](#), Nursing Care of Clients With Neuromusculoskeletal System Disorders, Epilepsy, Nursing Care

Evaluation/Outcomes

1. Maintains patent airway
2. Remains free from injury during and after seizure
3. Episodes of febrile seizures cease

Atopic Dermatitis (Eczema)

Data Base

A Pruritic papulovesicular skin reaction associated with endogenous and exogenous agents; periods of remissions and exacerbations

B Incidence: usually begins during infancy; most common during first 2 years of life

C Risk factors: heredity, family history of eczema, asthma, food allergies, allergic rhinitis

D Classification

1. Infantile: between 2 and 6 months of age; spontaneous remission by 3 years
2. Childhood: 2 to 3 years of age; 90% manifest disorder by 5 years
3. Preadolescent/adolescent: 12 years of age; continues into adulthood

E Clinical findings

1. Erythema and edema from dilation of capillaries
2. Papules, vesicles, crusts
3. Sites include cheeks, scalp, neck, flexor surfaces of arms and legs
4. Pruritus, scratching may cause secondary infection

F Therapeutic interventions

1. Relief of pruritus using systemic (e.g., diphenhydramine [Benadryl]) and topical medications
2. Provision of tepid baths/topical soaks; application of emollients
3. Increased fluid intake to promote skin hydration
4. Reduction of inflammation using topical corticosteroids
5. Control of secondary infections using systemic antibiotics

Nursing Care of Children with Atopic Dermatitis

Assessment/Analysis

1. Family/child history of allergies
2. Environmental or dietary factors associated with previous exacerbations
3. Skin lesions (e.g., type, distribution)
4. Secondary infection
5. Attitude of parent/child toward lesions

Planning/Implementation

1. Apply mitt restraints to infant's hands when unsupervised to prevent scratching; keep nails short; provide supervised, unrestrained play periods
2. Pick up frequently because of irritability, fretfulness, anorexia
3. Keep skin hydrated
4. Provide parents with list of foods permitted or omitted on elimination or restricted diet
5. Instruct parents how to apply prescribed topical ointments
6. Support parents: long-term problem; may become discouraged because comforting child is difficult

Evaluation/Outcomes

1. Remains free from injury and infection in affected areas

2. Child/parents report adequate amount of rest/sleep
3. Parents demonstrate ability to follow medical regimen

Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS)

Data Base

A Infection with HIV

B Transmission

1. Vertical: from HIV-infected mother to infant (e.g., breast milk); accounts for 91% of AIDS in children

2. Horizontal: sexual assault, exposure to infected parenteral blood

C Immunosuppression: decreased number of CD4/T cells; functional defects in B cells

D Populations of affected children

1. Infants exposed during perinatal period

2. Children sexually assaulted by infected individuals

3. Adolescents infected after engaging in high-risk sexual behaviors

E Clinical findings

1. Failure to thrive

2. Hepatosplenomegaly

3. Diffuse lymphadenopathy

4. Chronic or recurrent diarrhea

5. Oral candidiasis

6. Parotitis

7. Pneumonia caused by *Pneumocystis jiroveci*

8. Neurologic involvement

F Therapeutic interventions

1. Combination antiviral medications to suppress viral replication; nucleoside reverse transcriptase inhibitors (e.g., zidovudine [AZT, Retrovir], didanosine [ddl, Videx]); nonnucleoside reverse transcriptase inhibitors (e.g., nevirapine [Viramune]); protease inhibitors (e.g., indinavir [Crixivan], saquinavir [Invirase])

2. Immunizations

a. HIV asymptomatic: diphtheria/tetanus/pertussis (DTP) vaccine; inactivated polio virus; measles/mumps/rubella (MMR) vaccine; pneumococcal and influenza immunizations; varicella vaccine contraindicated

b. Suppressed immune system: may not be able to mount active immunity against immunizations

c. HIV symptomatic: usually no immunizations

3. Prevention and management of secondary infections

4. Treatment of pain

5. Nutritional support

Nursing Care of Children with AIDS

Assessment/Analysis

1. Family support; determine who is able to provide care
2. History to determine source of infection
3. Health status

Planning/Implementation

1. Prevent transmission of virus
 - a. Standard precautions; transmission-based precautions if indicated
 - b. Education of family about modes of transmission
2. Provide emotional support to child and family
3. Monitor signs and symptoms of sepsis, other complications

Evaluation/Outcomes

1. Does not transmit HIV virus
2. Remains free of opportunistic infections and other complications
3. Child and family maintain positive interpersonal relationships
4. Family members demonstrate appropriate care of child
5. Family members demonstrate effective bereavement behaviors

Emotional Disorders

For common emotional disorders of infancy, see [Chapter 17](#), Nursing Care of Clients with Disorders Usually First Evident in Infancy, Childhood, or Adolescence

Growth and Development

Developmental Timetable

Fifteen Months

A Physical

1. Growth rate begins to decrease
 - a. Weight: 11 kg (24 lb)
 - b. Height: 74.7 cm (31 inches)
2. Capacity of urinary bladder increases

B Motor

1. Walks alone with wide-based gait; creeps up stairs
2. Builds tower of two blocks; throws objects and picks them up
3. Drinks from cup with spillage; uses spoon clumsily

C Vocalization and socialization

1. Has four- to six-word vocabulary, states name
2. Says “No,” even while complying with request

Eighteen Months

A Physical

1. Growth decreases; appetite lessens (physiologic anorexia)
2. Anterior fontanel closes
3. Abdomen protrudes, larger than chest circumference

B Motor

1. Runs clumsily; climbs stairs or up on furniture
2. Imitates strokes in drawing
3. Drinks from cup; manages spoon
4. Builds tower of three to four cubes

C Vocalization and socialization

1. Has 10- or more word vocabulary
2. Has new awareness of strangers
3. Begins to have temper tantrums
4. Is ritualistic; has favorite toy or blanket; thumb sucking most prominent

Two Years

A Physical

1. Weight: about 11 to 12 kg (26 to 28 lb)
2. Height: about 80 to 82 cm (32 to 33 inches)

B Motor

1. Gross motor skills refined
2. Walks up and down stairs, one step at a time, holding onto rail
3. Builds tower of six to seven cubes; uses cubes to form a train

C Sensory

1. Develops eye accommodation

2. Visual acuity 20/40

D Vocalization and socialization

1. Vocabulary: about 300 words; uses two- to three-word phrases; uses pronouns
2. Obeys simple commands; shows signs of increasing autonomy and individuality; makes simple choices when possible
3. Remains ritualistic, especially at bedtime
4. Can help undress self and pull on simple clothes
5. Does not share possessions, everything is “mine”

Thirty Months

A Physical

1. Has full set of 20 temporary teeth (dental care should begin between 1 and 2 years of age)
2. Decreased need for naps

B Motor

1. Walks on tiptoe; stands on one foot momentarily
2. Builds tower of eight blocks
3. Copies horizontal or vertical line
4. May attend to own toilet needs during day

C Vocalization and socialization

1. Beginning to see self as separate individual from reflected appraisal of significant others
2. Sees other children as objects
3. Becomes increasingly independent, ritualistic, and negativistic

Major Learning Events

A Toilet training: most important integrative task for toddler

1. Physical maturation must be reached before training is possible; approach and attitude of parents play vital role
 - a. Sphincter control adequate when child can walk
 - b. Can retain urine for at least 2 hours
 - c. Usual age for bowel training is 22 to 30 months
 - d. Daytime bowel and bladder control usually after 2 years of age
 - e. Night control usually several months to years after achievement of daytime control; if night wetting persists to 6 years of age, investigation into cause is indicated
2. Psychologic readiness
 - a. Aware of act of elimination
 - b. Able to inform caregiver of need to urinate or defecate
 - c. Desire to please parents
3. Process of training
 - a. Usually begins with bowel, then bladder; potty chair helpful so feet touch floor
 - b. Intermittent periods of urination and fecal soiling
 - c. Regression when there is stress (e.g., new sibling)
4. Parental response
 - a. Choose specific word for act
 - b. Have specific time and place for elimination

c. Treat occasional “accidents” in matter-of-fact manner; avoid punishing

B Need for autonomy: parents should support independence without overprotection

1. Be consistent; set realistic limits; provide choices that do not require “yes” or “no” answers
2. Reinforce desired behavior
3. Teach self-control
4. Correct immediately after a wrongdoing

Health Promotion of Toddlers

Play During Toddlerhood (Parallel Play)

- A Plays alongside other children but not with them
- B Mostly free and spontaneous, no rules
- C Short attention span, requires frequent change of toys
- D Dangers associated with toys
 1. Breaks toy through exploration and ingests small pieces
 2. Ingests lead from lead-based paint on toys
 3. Is potentially burned by flammable toys
- E Imitation and make-believe play begins by age 3 years
- F Suggested toys
 1. Play furniture, dishes, cooking utensils, telephone
 2. Puzzles with few large pieces
 3. Pedal-propelled (e.g., tricycle), straddle (e.g., rocking horse)
 4. Pounding, push-pull, blocks
 5. Clay, crayons, finger paints

Childhood Nutrition

- A Nutritional objectives
 1. Adequate nutrient intake to meet continuing growth and developmental needs
 2. Sufficient calories for increasing physical activity and energy needs
 3. Consumption of fresh, rather than processed, foods (e.g., fruits, vegetables)
 4. Psychosocial development in relation to food patterns, eating behavior, attitudes
- B Diet
 1. Reflects patterns and preferences of culture, parents, and siblings
 2. Calorie and nutrient requirements increase with age, despite slower growth
 3. Increased variety in types and textures of foods; provision of choices to address growing independence
 4. Increased involvement in feeding process; stimulation of curiosity about food environment; language learning
 5. Consideration for appetite, choices, motor skills
- C Eating/drinking behavior
 1. Prefers finger foods
 2. Prefers sweet drinks; juices should be limited to 4 ounces (120 mL) or less per day to prevent dental caries
 3. TV commercials influence selection of foods (e.g., fast foods, “empty-calorie” snacks, high-carbohydrate convenience foods)
- D Nutrition problems
 1. Anemia: increased need for foods containing iron (e.g., enriched cereals, meat, eggs, green vegetables); chewable iron-fortified vitamins; if liquid, iron supplements should be diluted and sipped through a straw; administer with vitamin C–containing beverage to promote absorption
 2. Obesity or underweight: increased or decreased caloric intake; need for nutritional counseling

3. Low intake of calcium, iron, vitamins A and C may need supplementation
4. Mealtime struggles related to increased autonomy and parental attitudes toward food (e.g., “eat everything on plate”; “try new food”; “no dessert unless ...”); need for parental counseling

Injury Prevention during Toddlerhood

A Leading cause of death in children between 1 and 4 years of age

B Incidence: children younger than 5 years of age account for more than half of all accidental deaths during childhood; more than half of accidental child deaths related to automobiles and fire

C Accidents related to stage of growth and development; curiosity about environment

1. Motor vehicle
 - a. Walking or running, especially chasing after objects thrown into street
 - b. Inability to determine speed; lack of experience to foresee danger
 - c. Out of sight because of small size; can be hit by car backing out of driveway or when playing in leaves or snow
 - d. Failure to restrain in car (e.g., sitting in person’s lap; incorrect use of seat belt on car restraint)
2. Burns
 - a. Investigating: pulls pot off stove; plays with matches; inserts object into wall socket
 - b. Climbing: reaches stove, oven, ironing board and iron, objects on tables
3. Poisons
 - a. Developing fine motor skills; able to open bottles, cabinets, jars
 - b. Climbing to previously unreachable shelves and cabinets
 - c. Learning new tastes and textures; uses mouth to identify and explore objects; finds and eats/drinks what is within reach (e.g., cleaning products, medications)
4. Drowning
 - a. Child and parents do not recognize danger of playing in or near water
 - b. Unaware of inability to breathe under water
5. Interested in body openings
 - a. Puts everything in mouth; may aspirate small objects
 - b. May put foreign objects in ear or nose
6. Fractures
 - a. Climbing, running, jumping
 - b. Still developing sense of balance

Hospitalization of Toddlers

Data Base

- A Experiences basic fears of loss of love, of unknown, of punishment
- B Immobilization and isolation influence physical (particularly neurologic) and psychosocial development
- C Regression to earlier behaviors may occur
- D Stages of separation anxiety

1. Protest

- a. Prolonged loud crying, consoled by no one but parent or usual caregiver
- b. Continually asks to go home
- c. Rejection of nurse or any other stranger

2. Despair

- a. Alteration in sleep pattern
- b. Decreased appetite and weight loss
- c. Diminished interest in environment and play
- d. Relative immobility and listlessness
- e. Sad facial expression
- f. Unresponsive to stimuli

3. Detachment or denial

- a. Cheerful, indiscriminating friendliness
- b. Lack of acknowledgment of parents

General Nursing Care of Toddlers

A Prepare parents and child for hospitalization

- 1. Promote parent-child relationship by limiting separation (open visiting hours have reduced incidence of separation anxiety)
- 2. Prepare minimally for hospitalization because of limited cognitive ability to grasp verbal explanation
- 3. Determine routines and rituals concerning toilet training, feeding, bathing, sleep pattern; incorporate into the plan of care
- 4. Ask parents to bring child's favorite items from home (e.g., blanket, toy, bottle, pacifier)
- 5. Prepare parents for child's reaction to separation; pounding toys helps release anger associated with temper tantrums or separation
- 6. Prepare parents for child's regression to previous modes of behavior and loss of newly learned skills

B Minimize separation anxiety and other emotional traumas during hospitalization

1. Parental visits

- a. Encourage to stay with child in hospital; if possible, have one parent room-in throughout hospitalization
- b. If not rooming-in, encourage frequent visits; explain that frequent visits for short periods of time are more therapeutic than one long visit
- c. Associate visits with familiar events, such as "Mommy is coming after lunch"

- d. If unable to visit, establish contact by phone and/or computer which enables visualization (e.g., Skype); be alert for behavioral changes when parents cannot stay or visit child

2. Parental involvement with care

- a. Assist to identify what, if any, care they wish to provide; support them in their decision
- b. Involve appropriately because anxiety may be transmitted to child
- c. Explain what care can be provided by parents and what care is provided by health team staff

C Provide emotional support.

1. Plan for consistent caregiver, as much as possible, who can offer individual attention, physical touch, and sensory stimulation
2. Establish routine similar to home routine by continuing rituals and providing favorite items from home
3. Maintain familiarity with home by talking about parents, having child listen to tape recordings of family members' voices, showing photographs of family members
4. When family members leave, stay to provide comfort to child and to reassure parents
5. Accept regression; avoid teaching new skills
6. Encourage release of tension, especially aggression, through play (e.g., knocking blocks over, scribbling on paper, peg and pounding board)
7. Comfort when sedation is necessary during procedures (e.g., CT scan, MRI)

Health Problems Most Common in Toddlers

Tooth Decay (Dental Caries)

Data Base

A Incidence

1. Affects more children in United States than any other chronic infectious disease (five times more common than asthma)
2. By age 17 more than 7% of adolescents have lost at least one permanent tooth to decay

B Risk factors: poverty, disability, HIV infection, inadequate diet, inadequate dental hygiene

C Clinical finding if untreated

1. Pain and infections
2. Problems with eating, speaking, playing, learning, social development

D Therapeutic interventions

1. Early prevention
 - a. Regular dental visits, preferably in first year, but at least in second year
 - b. Rigorous dental hygiene
 - c. Diet rich in vitamins and minerals; limited sweets and sweet drinks
 - d. Supplemental fluoride, depending on water supply and parental beliefs
 - e. Application of dental sealants
2. Treatment
 - a. Repair of cavities
 - b. Measures to prevent further decay

Nursing Care of Children with Tooth Decay

Assessment/Analysis

1. Parental knowledge of preventative oral care
2. Condition of mouth and teeth
3. Oral hygiene routine
4. Diet history; type of snack foods and drinks

Planning/Implementation

1. Teach parents to start cleaning teeth when they first erupt; use clean, damp cloth
2. Teach parents care of teeth beginning at 2 years of age
 - a. Use soft toothbrush
 - b. Begin using pea-size amount of toothpaste with fluoride, if needed
 - c. Brush twice a day, beginning at 2 years of age
 - d. Supervise brushing of teeth to ensure correct technique
3. Encourage parents to offer nutritious meals and snacks; limit sweet juices (120 mL per day)
4. Instruct parents to take child for first dental exam between 1 and 2 years of age, then every six months
5. Recommend that parents discuss fluoride supplementation and dental sealants with health care provider

Evaluation/Outcomes

1. Receives regular oral health examinations and prophylaxis as needed
2. Avoids/corrects tooth decay

Burns

(See [Chapter 10](#), Nursing Care of Clients With Integumentary system Disorders, [Burns](#), for additional information)

Data Base

A Incidence: third leading cause of unintentional injury and related death among children 14 years of age and younger

B Risk factors: younger than 5 years of age, limited control of environment, minimal ability to act promptly and appropriately

C Causative agents:

1. Thermal (e.g., flame, hot water)
 - a. Young children: scald burns caused by hot liquids and steam
 - b. Older children: direct contact with fire

2. Chemical, electrical, radiation

D Classification

1. Depth of injury

(See [Chapter 10](#), Nursing Care of Clients With Integumentary system Disorders, Burns, Data Base)

2. Extent of injury

- a. Described as percentage of total body surface area (TBSA) injured
- b. Standard adult rule of nines cannot be used in children younger than 15 years of age; modifications for newborn, infant, 5-year-old, 10-year-old, 15-year-old ([Figure 31-1: A & B](#), Estimation of distribution of burns in children)

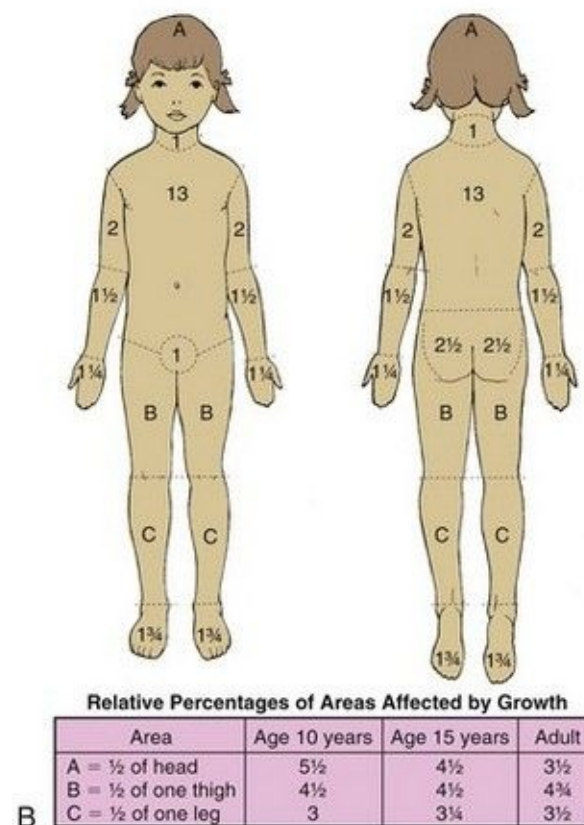
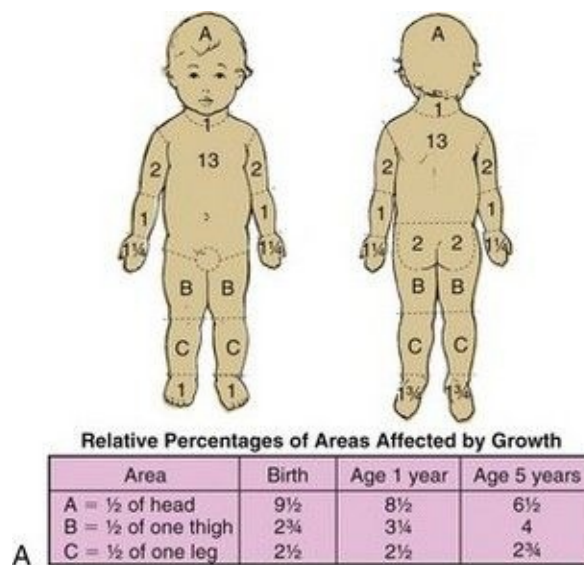


FIGURE 31-1 Estimation of distribution of burns in children. **A**, Children from birth to age 5 years. **B**, Older children to adult. (From Hockenberry M, Wilson D: *Wong's essentials of pediatric nursing*, ed 8, St. Louis, 2009, Mosby.)

E Clinical findings

1. Local response

- Edema
- Fluid loss from nonprotected skin
- Circulatory stasis usually restored within 24 to 48 hours in partial-thickness burns

2. Systemic response

- “Burn shock” causes precipitous drop in cardiac output; restored in 24 to 36 hours
- Increased metabolic rate
- Physiologic stress response
- Paralytic ileus may develop

- e. Anemia: initially, elevated hematocrit because fluid shifts from intravascular space; later, increased red cell fragility contributes to decreased RBC life span
- f. Metabolic acidosis
- g. Post-burn growth retardation: severe growth delays in height and weight if burn is greater than 40% TBSA; growth lag may last for up to 3 years

F Therapeutic interventions

1. Burning process is stopped
 - a. Source of danger removed
 - b. Smoldering clothes removed
 - c. Superficial burns: immersed in cool water
2. First aid administered promptly
 - a. Patent airway maintained
 - b. Superficial burns: cleansed, sterile dressing soaked in sterile saline applied, if possible; avoidance of creams, butter, or household remedies
 - c. Severe burns (more than 10% of body): oral fluids withheld
3. Transportation to appropriate health care facility as quickly as possible
 - a. Large body surface area in proportion to weight results in greater potential for fluid loss
 - b. Shock: primary cause of death in first 24 to 48 hours
 - c. Infection: primary cause of death after initial period
4. Treatment of fluid and electrolyte loss
 - a. Greatest in first 24 to 48 hours because of tissue damage
 - b. Immediate replacement of fluids and electrolytes
 - c. Monitoring of hematocrit, hemoglobin, and blood chemistry levels provide guide for fluid replacement
5. Tetanus prophylaxis as needed
6. Management of pain
 - a. Opioids (e.g., morphine sulfate, fentanyl [Sublimaze])
 - b. Anesthetic agents during procedures (e.g., nitrous oxide, propofol [Diprivan])

Nursing Care of Children with Burns

Assessment/Analysis

1. Wound assessment/classification
2. Vital signs, respiratory status
3. Fluid balance, nutritional needs
4. Severity of pain on pain rating scale

Planning/Implementation

1. Maintain fluids and electrolytes
 - a. Administer prescribed fluids meticulously, both in time and in volume
 - b. Monitor fluid status (e.g., daily weights, I&O, weigh diapers)
2. Maintain NPO if paralytic ileus occurs
3. Help limit pain
 - a. Distinguish pain from fear of being left alone, or being in strange surroundings

- b. Use pain rating scale and medicate appropriately
- 4. Maintain standard precautions; use personal protective equipment
- 5. Meet psychosocial needs of child who is isolated from others
 - a. Recognize that isolation may provoke feelings of guilt and punishment
 - b. Recognize that children younger than 5 years of age are frightened by isolation and personal protective equipment
 - c. Recognize that touch needed for comfort and security may now be painful; reestablish pleasurable touch (e.g., apply lotion to unaffected areas); maximize use of other senses to promote security and comfort
 - d. Encourage child to express feelings verbally, or through play, if possible
- 6. Provide for adequate nutrition
 - a. Consider that initial hypometabolic state is followed by hypermetabolic state (begins about fifth day post injury), causing decreased lean body mass, muscle weakness, immunodepression, inadequate wound healing
 - b. Offer diet high in protein, vitamins, calories; should be started immediately after paralytic ileus resolves
 - c. Encourage eating; may be anorectic because of discomfort, isolation, depression, fear
 - d. Take advantage of food preferences when feasible; avoid forcing to eat or using food as a weapon; encourage parent participation
 - e. Alter diet as needs change, especially when high-calorie foods are no longer needed
 - f. Provide care related to tube feeding if unable to eat (e.g., assess for gastric return and residual before feeding, ensure tube is cleared after feeding with predetermined amount of water)
- 7. Prevent contractures
 - a. Make moving a game; initiate play that uses affected part (e.g., throwing ball for arm movement)
 - b. Maintain functional body alignment
 - c. Perform passive exercises during bath or whirlpool treatments
 - d. Administer prescribed analgesics before exercise
- 8. Meet emotional needs
 - a. Encourage to play with gown, mask, gloves, bandages
 - b. Prepare for baths and whirlpool treatments, which can be frightening and painful
 - c. Encourage to reenact treatments and care to work through feelings
 - d. Help to cope with changes in body
 - (1) Younger child: support parents whose reactions are communicated
 - (2) Older child, especially during adolescence when body appearance is of great concern: devise ways to conceal affected areas, especially when peers visit; emphasize how to improve looks (e.g., wigs, cosmetics, clothing, eventual plastic surgery)
- 9. Teach prevention of burn injuries
 - a. Educate children regarding fire safety
 - (1) Teach to leave house as soon as smoke is smelled or flames are seen, without stopping to retrieve pet or toy
 - (2) Involve all family members in fire drills
 - (3) Demonstrate and practice “stop, drop, and roll” rather than running if clothes are on fire
 - b. Educate parents in regard to their child’s growth and development, about specific dangers at each age level
 - c. Educate parents how to prevent burns in the home

- (1) Avoid leaving children unattended
- (2) Cautiously use heaters, barbecue grill, and fireplace; place shield in front of heating unit
- (3) Maintain integrity of electrical system
- (4) Regulate household water heater to no higher than 120° F (mandated in several states)
- (5) Use and maintain smoke and carbon monoxide detectors

Evaluation/Outcomes

1. Remains comfortable
2. Maintains fluid and nutritional balance
3. Heals with minimal scarring
4. Remains free from infection
5. Regains flexibility and functional capacity of joints
6. Child and family members verbalize feelings and concerns about appearance

Poisoning

Data Base

A Ingestion of/exposure to toxic substance; ingestion of excessive amount of nontoxic substance

B Incidence: more than 90% occur in home

C Risk factors: younger than 4 years of age; inadequate storage of toxic or potentially toxic substances

D Most commonly ingested substances

1. Cosmetics and personal care products (e.g., perfume, aftershave)
2. Cleaning products (e.g., household bleach, disinfectants)
3. Plants (e.g., nontoxic gastrointestinal irritants, oxalates)
4. Medications: prescribed, over-the-counter (OTC) (e.g., acetaminophen, ibuprofen), for pets
5. Foreign bodies, toys, miscellaneous (e.g., thermometer, bubble blowing solution)

General Nursing Care of Children with Poisoning

Assessment/Analysis

1. General response after ingestion/exposure
2. Vital signs
3. Need for respiratory or cardiac support
4. See clinical findings for specific types of poisoning

Planning/Implementation

1. Terminate exposure
 - a. Empty mouth of pills, plant parts, other material
 - b. Flush eyes with tap water if necessary
 - c. Flush skin, wash with soap and soft cloth
 - d. Remove clothing, especially if exposed to pesticide, acid, alkali, or hydrocarbon
 - e. Bring into fresh air if inhalation poisoning
2. Report poisoning

- a. Call poison control center, emergency facility, clinic, or health care provider for immediate advice regarding treatment
- b. Save all evidence of poison (e.g., container, vomitus, urine)
3. Do not induce vomiting
 - a. Aspiration of low-viscosity hydrocarbon (e.g., gasoline, lighter fluid, mineral seal oil [found in furniture polishes]): vomiting can cause severe chemical pneumonitis
 - b. Ingestion of strong corrosive (e.g., acid or alkali, such as drain cleaners, bleach, electric dishwasher detergent, batteries): emesis of corrosive reinjures mucosa of esophagus and pharynx
4. Remove poison
 - a. Administer activated charcoal (1 g/kg of body weight), if possible within 1 hour of ingestion; can be effective within 4 hours of ingestion of injurious substance
 - b. Prepare equipment for gastric lavage if within 1 hour of ingestion
5. Prevent aspiration when vomiting
 - a. Keep head lower than chest
 - b. When alert, place head between legs
 - c. When unconscious, position on side
6. Provide care for latent manifestations of poisoning
 - a. Monitor vital signs
 - b. Treat appropriately (e.g., institute seizure precautions, keep warm, position for shock; reduce temperature if hyperpyretic)
7. Support child and parent
 - a. Keep calm and quiet
 - b. Do not admonish or accuse child or parent of wrongdoing
8. Teach parents prevention of poisoning
 - a. Institute anticipatory guidance based on child's age and developmental level
 - b. Refer to appropriate agency for evaluation of home environment and need for safety measures
 - c. Provide assistance with environmental manipulation when needed
 - d. Emphasize importance of safe storage of all substances
 - e. Teach children about hazards of ingesting nonfood items
 - f. Caution against keeping large amounts of medicines on hand
 - g. Discourage transferring medications to containers without safety caps

Evaluation/Outcomes

1. Recuperates free from complications
2. Parents and child demonstrate knowledge concerning prevention of future poisoning

Acetaminophen Poisoning

Data Base

A Most common

1. Therapeutic dose: 50 to 75 mg/kg/day
2. Toxic dose: 150 mg/kg/day

B Clinical findings: overdose

1. First 2 to 4 hours: nausea, vomiting, profuse diaphoresis, pallor

2. Latent period (24 to 36 hours): symptoms subside; slow, weak pulse
3. Hepatic involvement (may last up to 7 days or be permanent): pain in right upper quadrant, jaundice, confusion, stupor, coagulation abnormality
4. Gradual recovery if death does not occur during hepatic coma

C Therapeutic interventions

1. IV fluids
2. Administration of oral antidote: acetylcysteine (Acetadote)

Nursing Care of Children with Acetaminophen Poisoning

- A Determine amount ingested
- B Monitor electrocardiograph
- C Measure I&O
- D Monitor vital signs
- E Obtain blood for hepatic and renal function tests
- F Support child and family
- G See [General Nursing Care of Children with Poisoning](#)

Salicylate Poisoning and Toxicity

Data Base

- A Toxic dose: 300 to 500 mg/kg body weight or 7 adult aspirins (28 baby aspirin) for 9 kg (20 lb) child
- B Clinical findings
 1. Acute poisoning
 - a. Dehydration caused by nausea and vomiting, diaphoresis, fever, hyperpnea; results in oliguria, other signs of dehydration
 - b. Metabolic acidosis
 - c. Tinnitus, dizziness, disturbances of hearing and vision
 - d. Disorientation, delirium, confusion, coma
 2. Chronic poisoning
 - a. Ingestion of more than 100 mg/kg/day for 2 or more days
 - b. Subtle onset, dehydration, coma, seizures
 - c. Bleeding

C Therapeutic interventions

1. Emesis, gastric lavage, activated charcoal, saline cathartics if life-threatening
2. IV fluids with sodium bicarbonate for correction of acidosis
3. Vitamin K if bleeding
4. Peritoneal dialysis if severe complication
5. Hypothermia blanket for hyperthermia

Nursing Care of Children with Salicylate Poisoning

- A Identify amount of salicylate overdose
- B Assess blood gases and serum electrolyte concentration
- C Administer sodium bicarbonate, electrolytes, and vitamin K as prescribed

D Use hypothermia blanket for hyperthermia

E See [General Nursing Care of Children with Poisoning](#)

Petroleum Distillate Poisoning

Data Base

A Distillates: kerosene, turpentine, gasoline, lighter fluid, furniture polish, metal polish, benzene, naphthalene, some insecticides, cleaning fluid

B Clinical findings

1. Gagging, choking, coughing
2. Nausea, vomiting
3. Weakness, alterations in sensorium (lethargy)
4. Pulmonary involvement: tachypnea, cyanosis, substernal retractions, grunting

C Therapeutic interventions

1. Vomiting not induced because aspiration may result in chemical pneumonia
2. Gastric decontamination and emptying are questionable; if gastric lavage must be performed, a cuffed endotracheal tube is inserted to prevent aspiration
3. Symptomatic treatment (e.g., oxygen, humidity, antibiotics for chemical pneumonia)

Nursing Care of Children with Petroleum Distillate Poisoning

A Identify distillate ingested and amount

B Prevent further irritation

1. Avoid causing emesis
2. Implement gastric lavage if ordered

C See [General Nursing Care of Children with Poisoning](#)

Corrosive Chemical Poisoning

Data Base

A Corrosive chemicals (e.g., oven and drain cleaners, electric dishwasher granules, strong detergents)

B Clinical findings

1. Severe burning pain in mouth, throat, and stomach
2. Respiratory obstruction (e.g., white, edematous mucous membranes; edema of lips, tongue, and pharynx)
3. Strong chemical odor
4. Violent vomiting, hemoptysis, hematemesis
5. Signs of shock
6. Anxiety and agitation

C Therapeutic intervention

1. Vomiting is never induced because regurgitation of substance will further damage mucous membranes
2. Esophageal stricture: repeated dilations, surgery

Nursing Care of Children with Corrosive Chemical Poisoning

A Identify ingested substance and amount

B Maintain patent airway

1. Examine pharynx for burns, monitor for respiratory difficulty
2. Have emergency equipment available; insert airway if necessary
3. Administer steroids if prescribed

C Prevent further irritation

1. Avoid causing emesis
2. Give NPO except as ordered and tolerated, dilute with water or milk (no more than 120 mL)
3. Do not neutralize substance because neutralization can cause an exothermic reaction, which produces heat and causes more injury (e.g., thermal burn in addition to chemical burn)

D Provide comfort and support to child and family

1. Use pain rating scale and medicate appropriately
2. Remain with child
3. Keep parents informed of their child's progress

E See [General Nursing Care of Children with Poisoning](#)

Lead Poisoning (Plumbism)

Data Base

A Prevalent, significant, preventable health problem that causes neurologic, intellectual, and developmental problems based on level of exposure

B Incidence

1. Decreased since screening of children at risk and banning of lead-based paint and leaded gasoline in United States
2. Peak blood levels at about 2 years of age
3. About 25% living in or near houses with deteriorating lead-based paint
4. High in Hispanic children related to cultural use of lead in/on toys and other articles

C Risk factors

1. Younger than 6 years of age (hand-to-mouth behavior)
2. Poverty
3. Living in urban areas and housing with peeling lead-based paint
4. Pica practice
5. Exposure to or ingestion of soil, dust, drinking water with lead, parental occupations, toys, trinkets, hobbies involving lead

D Clinical findings (chronic ingestion)

1. Subclinical effects on central nervous system (CNS)
 - a. Alterations in hearing, balance
 - b. Lead line on teeth and long bones, joint pain
 - c. Behavioral changes: impulsivity, inattentiveness, hyperactivity, disorganization, difficulty following directions, aggression, delinquency
 - d. Decreased mental ability; increased number of high school dropouts
2. Clinical effects of high blood levels
 - a. Anemia: pallor, listlessness, fatigue

b. Proximal tubular damage: proteinuria, glycosuria, ketonuria, decreased vitamin D

c. CNS effects: lead encephalopathy, mental retardation, paralysis, blindness, convulsions, death

E Therapeutic interventions

1. Cooperation with state health department in investigating and decreasing source
2. Instituting professional cleaning, paint stabilization, removal and replacement of lead-based building components
3. Screening: universal at 1 to 2 years of age; 3 to 6 years if not previously screened; more than once if at risk
4. Reduction of lead concentration in blood and soft tissue
 - a. Chelation therapy: removes lead from circulating blood and some lead from organs; does not reverse CNS damage
 - b. Succimer (Chemet)
 - (1) Oral chelating agent used if blood lead level is greater than 45 mcg/dL
 - (2) Adverse effects: nausea, vomiting, diarrhea, loss of appetite, rash, liver damage, neutropenia
 - (3) Adequate hydration to facilitate clearance of chelates through kidneys
 - c. Edetate calcium disodium: used when succimer is ineffective; given IM or IV; rarely used
5. Prevention of further ingestion

Nursing Care of Children with Lead Poisoning

A Provide anticipatory guidance to parents of infants and toddlers about prevention of lead poisoning

B Assess lead hazards in home and child-care settings

C Determine environmental exposure and oral ingestion

D Screen children at risk by recognizing clinical findings, especially behavioral changes

E Monitor urinary output; keep well hydrated

F Teach parents correct administration of succimer (Chemet)

G Monitor for side effects of succimer

Aspiration of Foreign Objects

Data Base

A Obstruction of airway by foreign object in any part of larynx or bronchi

B Incidence: most common from 1 to 3 years of age; leading cause of accidental death in children younger than 1 year of age

C Risk factors: ingestion of foods that can cause asphyxiation (e.g., hot dogs, round candy, peanuts, grapes, raisins, popcorn), ingestion of small articles (e.g., coins, parts of toys)

D Classification

1. Partial obstruction: time interval (hours to days) without symptoms

2. Complete obstruction: emergency situation

E Clinical findings

1. Partial obstruction: persistent respiratory tract infection; hoarseness or garbled speech; wheeze; stridor

2. Complete obstruction: substernal retractions; inability to cough or speak; increased pulse and respiratory rates; cyanosis

F Therapeutic interventions

1. Partial obstruction: no intervention; allowed to continue coughing until object is dislodged; if object not dislodged, call emergency services (911); prepare child for transport
2. Complete obstruction: immediate first aid
 - a. Infant
 - (1) Turn upside down (head lower than chest)
 - (2) Give up to five quick, sharp back blows with heel of hand between scapulae
 - (3) Turn over and give up to five quick chest thrusts using CPR technique
 - b. Age 1 year and older: abdominal thrust (Heimlich maneuver) based on age
3. Medical removal by bronchoscopy
4. Surgical relief by a tracheotomy below level of object

Nursing Care of Children Who Aspirate Foreign Objects

Assessment/Analysis

1. Breathing pattern
2. Absence of speech
3. Color

Planning/Implementation

1. Teach parents how to prevent aspiration of foreign bodies
 - a. Keep small objects such as balloons, buttons, batteries, coins out of reach; inspect larger toys for removable parts
 - b. Avoid offering
 - (1) Hard, smooth foods (e.g., peanuts, raw vegetables) that must be chewed with grinding motion; mastery achieved at 4 years of age
 - (2) Round, firm foods (e.g., hot dogs, carrot sticks); cut or break food into bite-sized pieces
2. Encourage parents to teach children not to run or laugh with food or fluid in mouth and to chew food well before swallowing

Evaluation/Outcomes

1. Regains a patent airway
2. Child and parents verbalize ways to prevent future airway obstruction

Pinworms (Enterobiasis)

Data Base

A Infestation of GI tract by nematode *Enterobius vermicularis*

1. Eggs enter mouth; hatch, mature, migrate, and mate in intestine
2. Adult females migrate to anus at night and lay eggs, which hatch on perianal skin

B Incidence

1. Most common intestinal parasite in United States
2. At any given time 30% of all children affected

C Risk factors

1. Infestation
 - a. Breathing airborne ova
 - b. Hand-to-mouth exploratory behavior of toddlers
 - c. Crowded conditions (e.g., classrooms, daycare centers) increase risk for transmission
 2. Reinfestation through fingers-to-anus-to-mouth route
- D Clinical findings
1. Severe pruritus of anal area; pinworm eggs and pinworms isolated from perianal area
 2. Irritability and insomnia
 3. Anorexia, weight loss
 4. Eosinophilia
 5. Signs of complications: vaginitis, appendicitis
- E Therapeutic interventions: administration of mebendazole (Vermox); pyrantel (Antiminth)
1. Selectively and irreversibly inhibits uptake of glucose and other nutrients by pinworms
 2. Adverse effects: occasional, transient abdominal pain and diarrhea

Nursing Care of Children with Pinworms

Assessment/Analysis

1. Perianal area for signs of inflammation
2. Cellophane tape test in morning before bowel movement to collect eggs

Planning/Implementation

1. Prevent reinfestation by educating parents
 - a. Wash anal area thoroughly
 - b. Apply tight diaper or underpants; change clothes and bedding daily; wash in hot water
 - c. Keep child's fingernails short; insist on wearing mittens, if necessary
 - d. Air bedroom; dust and vacuum house thoroughly
2. Teach parents about administration of medication
 - a. Increasing dose will not produce a quicker recovery
 - b. Stools contain worms; may turn bright red from medication
 - c. Additional series of medication may be used, frequently 2 weeks after initial dose; all family members should be treated

Evaluation/Outcomes

1. Maintains intact perianal skin
2. Produces stool that is free of infestation

Child Maltreatment

Data Base

A Types

1. Physical abuse: minor physical abuse responsible for more reported cases than major physical abuse, resulting in increased mortality
2. Neglect: most common form of maltreatment (e.g., emotional, physical)

3. Sexual abuse: incest, molestation, exhibitionism, pedophilia, child pornography, prostitution; directed at females four times more than at males
 4. Emotional abuse: acts or omissions that have caused, or could cause, serious behavioral, cognitive, emotional, or mental disorders
- B Significant social problem that precipitated Child Abuse Prevention and Treatment Act (CAPTA)
1. Child abuse and neglect: any recent act or failure to act that results in imminent risk of death, serious physical or emotional harm, sexual abuse, or exploitation of a child by a parent or caretaker who is responsible for child's welfare
 2. Sexual abuse: employment, use, persuasion, inducement, enticement, or coercion of any child to engage in, or assist any other person to engage in, any sexually explicit conduct or any simulation of such conduct for the purpose of producing any visual depiction of such conduct; includes rape, statutory rape, molestation, prostitution, or other forms of sexual exploitation of children or incest with children
- C Characteristics of abuser
1. History of abuse or neglect as a child
 2. Low self-esteem
 3. Substance/alcohol abuse
 4. Young maternal or paternal age
 5. Difficulty controlling aggressive impulses; use of violence to resolve conflicts
 6. Depression or other mental illness
 7. Unwanted, unplanned pregnancy
 8. Ignorance and negative perception of typical childhood behavior (e.g., awakening at night, separation anxiety, exploration, ritualism, negativism, physiologic anorexia, difficult toilet training, enuresis); unrealistic expectations of child
- D Characteristics of child
1. Emotional and behavioral difficulties
 2. Chronic illness
 3. Physical or developmental disability, preterm birth
- E Environmental characteristics
1. Social isolation from support system and community
 2. Poverty, crowded living conditions
 3. Unemployment
 4. Unpredictable, unstable surroundings
 5. Frequent change of location
 6. Inadequate parental education
 7. Single-parent home
 8. Non-biologically related male living in home
 9. Family or intimate partner violence
- F Clinical findings
1. Physical evidence of abuse/previous injuries
 2. Conflicting stories about injury; injury blamed on sibling or another party
 3. Inappropriate parental response (e.g., exaggerated or absent; rarely looks at or touches child; failure to sign consent for additional tests; delay in seeking treatment)
 4. Inappropriate response of child (e.g., little or no reaction to pain; fear of being touched; excessive or lack of separation anxiety; indiscriminate friendliness to strangers)

G Therapeutic interventions

1. Treatment of injury
2. Protection of child from further abuse
3. Suspected abuse reported to local authorities; all states and provinces in North America have laws for mandatory reporting

Nursing Care of Children Who Are Maltreated

Assessment/Analysis

1. History of injury: objective data from examination does not match story told by parents (e.g., “Toddler fell off of chair” while examination reveals spiral fracture of femur, which would not result from this type of fall)
2. Physical status: evidence of past injuries (e.g., skeletal, soft tissue); failure to thrive
3. Parent-child interaction
4. Developmental level

Planning/Implementation

1. Monitor for clues that indicate neglect or abuse
 - a. Child
 - (1) Unexplained injuries, scars, bruises
 - (2) Physical signs of neglect (e.g., malnourished, dehydrated, unkempt)
 - (3) Cringes when physically approached, seems unduly afraid
 - (4) Responses indicate avoidance of punishment rather than gaining reward
 - (5) Has excessive interest in sexual matters; has sexually transmitted infection
 - b. Parental behavior
 - (1) Offer inconsistent stories explaining injuries
 - (2) Emotional response is inconsistent with degree of injury
 - (3) May resist or fail to be present for questioning
2. Protect from further abuse
3. Know child abuse laws; report suspected abuse/neglect to designated authority
4. Provide consistent caregiver
5. Monitor when parents or others visit
6. Help parents to
 - a. Address their dependency needs
 - b. Learn to control frustration through other outlets
 - c. Learn about childhood growth and development, expected behavioral characteristics, realistic expectations
 - d. Appropriate modes of limit setting and discipline
7. Use therapeutic play with child to help express feelings
8. Provide emotional support and therapy; abused children may grow to be abusive parents
9. Refer family for group therapy, home visits, foster grandparent visits

Evaluation/Outcomes

1. Child remains free from injury or neglect

2. Parents demonstrate effective parenting activities

Fractures throughout Childhood

(See [Chapter 11](#), Nursing Care of Clients With Neuromusculoskeletal System Disorders, Fractures of the Extremities, for additional information)

Data Base

A Interruption in the integrity of a bone

B Most frequent extremity fractured is forearm; especially radius from extending palm to break a fall

C Minimal injury to surrounding tissue; rapid healing (rapidity inversely related to age)

D Types of fractures ([Figure 31-2](#): Common types of fractures in children)

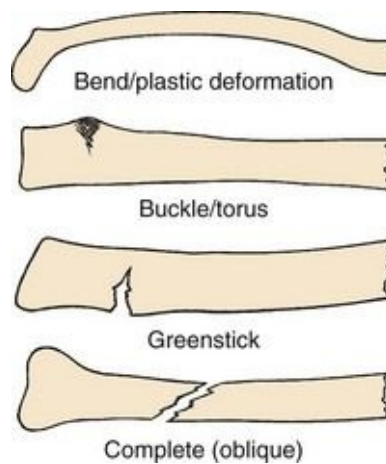


FIGURE 31-2 Common types of fractures in children. (Modified from Hockenberry MJ, Wilson D: *Wong's nursing care of infants and children*, ed 9, St. Louis, 2011, Mosby.)

1. Incomplete (bones in young children are soft and not fully mineralized)
 - a. Bone deformation: bone is bent, not broken
 - b. Buckle: bone is compressed; appears as bulge
 - c. Greenstick: incomplete break with bending of a long bone
2. Complete: bone fragments divided; may be connected by periosteal hinge; subtypes include transverse, oblique, spiral

E Clinical findings

1. Generalized swelling
2. Pain or tenderness
3. Diminished function of part

F Therapeutic interventions

1. Splints
2. Casts (hard or soft): promote bone alignment to prevent further damage
3. Surgery: internal or external fixation

Nursing Care of Children with Fractures

Assessment/Analysis

1. The five **P**s associated with neurovascular assessment
 - a. **P**ain and point of tenderness
 - b. **P**ulselessness distal to fracture site (late and ominous sign)
 - c. **P**allor
 - d. **P**aresthesia distal to fracture site
 - e. **P**aralysis; lack of movement distal to fracture site
2. Cause of injury

Planning/Implementation

1. Use age-appropriate pain rating scale and medicate appropriately
2. Monitor neurovascular status of distal extremity; avoid using affected extremity to monitor vital signs
3. Allow cast to dry by exposing to air; avoid using finger tips to handle moist cast
4. Provide age-appropriate activity for distraction and entertainment
5. Monitor operative site(s) of internal or external fixation
6. Maintain functional alignment with supportive devices

Evaluation/Outcomes

1. Maintains neurovascular status in affected extremity
2. Experiences minimal discomfort
3. Maintains skin integrity
4. Regains tone and flexibility in muscles and joints
5. Plays and interacts with others

Cognitive Impairment (Mental Retardation)

Data Base

A General term encompassing any type of intellectual difficulty

B Classification

1. Normal: 90 to 110 intelligence quotient (IQ)
2. Borderline: 71 to 89 IQ
3. Mild: 50/55 to 70 IQ
 - a. Can achieve mental age of 8 to 12 years
 - b. Educable: can learn to read, write, do arithmetic, achieve vocational skill, function in society
4. Moderate: 35/40 to 50/55 IQ
 - a. Can achieve mental age of 3 to 7 years
 - b. Trainable: can learn activities of daily living and social skills; can be trained to work in sheltered workshop
5. Severe: 20/25 to 35/40 IQ
 - a. Can achieve mental age of birth to 2 years
 - b. Barely trainable; totally dependent on others and in need of custodial care
6. Profound: below 20/25 IQ
 - a. May attain mental age of young infant
 - b. Requires total care

C Risk Factors

1. Genetic

- a. Chromosomal abnormalities from maternal exposure to radiation, viral infection, chemicals; parental age
- b. Genetic mutations (e.g., Down syndrome, fragile X syndrome)
- c. Metabolic or endocrine disorders (e.g., untreated phenylketonuria [PKU], hypothyroidism)
- d. Sibling with mental retardation

2. Congenital

- a. Maternal infection (e.g., rubella; syphilis)
- b. Maternal drug or alcohol consumption (e.g., fetal alcohol syndrome)
- c. Cerebrospinal and craniofacial malformations (e.g., microcephaly, hydrocephalus, myelomeningocele, craniostenosis)

3. Perinatal

- a. Low birth weight, prematurity, postmaturity
- b. Intracranial hemorrhage, anoxia (e.g., cerebral palsy)
- c. Physical injury (e.g., precipitous birth, cephalopelvic disproportion)
- d. Kernicterus (caused by untreated Rh incompatibility)

4. Environmental

- a. Deprivation associated with parental behaviors
- b. Chronic lead ingestion

D Conditions that may lead to a false diagnosis of mental retardation

1. Emotional disturbance (e.g., maternal deprivation)
2. Sensory problems (e.g., deafness, blindness)
3. Cerebral dysfunctions (e.g., cerebral palsy, learning disorders, hyperkinesia, seizure disorders)

E Clinical findings

1. Delayed milestones: infant fails to suck; head lag after 4 to 6 months of age; slow in learning self-help; slow to respond to new stimuli; slow or absent speech development
2. Mental abilities: concrete; abstract ability is limited; may repeat words (echolalia)
3. Lacks power of self-appraisal; does not learn from errors
4. Cannot follow complex instructions; learns rote responses and socially acceptable behavior
5. Does not relate to peers; more secure with adults; comforted by physical touch
6. Short attention span; usually attracted to music

F Therapeutic interventions

1. Prevention of causes that damage brain cells (e.g., hypoxia, untreated hypothyroidism or PKU)
2. Early identification
3. Minimization of long-term consequences (e.g., treatment of associated problems, infant stimulation, parental education)

Nursing Care of Children Who Are Cognitively Impaired

Assessment/Analysis

1. Developmental screening
2. Associated illnesses/risk factors
3. Parental perception of developmental delays

Planning/Implementation

1. Base care on developmental, not chronologic, age
 - a. Educate parents regarding developmental age
 - b. Adolescence: explain changes (e.g., physical, sexual feelings) appropriate to mental capacity
2. Set realistic goals; teach by simple steps for habit formation rather than for understanding or transference of learning
 - a. Break down process of learning skills into simple steps that can be achieved; ensure each step is learned completely before teaching next step
 - b. Use behavior modification; praise accomplishments to develop self-esteem
 - c. Keep discipline simple, geared toward learning acceptable behavior rather than developing judgment
 - d. Employ routines and simple repetitive tasks; base hospital activities on child's routine schedule

Evaluation/Outcomes

1. Performs activities of daily living at optimum level
2. Family members make realistic decisions based on child's needs and abilities

Cerebral Palsy (CP)

Data Base

A Impairment in area of brain that controls voluntary movement and muscle tone; type and extent of disability varies from mild to profound (clumsiness to quadriplegia); associated with sensory, intellectual, emotional, seizure disorders

B Risk factors

1. Prenatal brain abnormalities: estimated to be most common cause
2. Prematurity: increased prevalence in infants born before 36 weeks' gestation weighing less than 2000 g (4.4 lb)
3. Anoxia of brain: variety of insults at or near time of birth
4. Trauma: brain attack (cerebral vascular accident)

C Classification

1. Spastic (pyramidal): persistent primitive reflexes; increased muscle tone (hypertonia)
 - a. Hemiplegia: weakness and poor motor control of one arm and one leg on same side of body
 - b. Diplegia: paralysis of upper or lower extremities
 - c. Monoplegia: paralysis of 1 limb
 - d. Triplegia: paralysis of 3 limbs
 - e. Quadriplegia: paralysis of all extremities
2. Dyskinetic (nonspastic, extrapyramidal)
 - a. Athetoid (Chorea): involuntary, writhing movements
 - b. Dystonic: slow, twisting movements
3. Ataxic (nonspastic, extrapyramidal): wide-based gait; difficulty reaching for objects
4. Mixed type: combined spastic and dyskinetic
5. Hypotonic: limp

D Characteristics

1. Evident before 3 years of age
2. Nonprogressive, but persists throughout life
3. Inability to achieve or delayed developmental milestones
4. May or may not have intellectual disability
 - a. Problems with intellectual functioning (e.g., thinking, problem solving): affect more than 50%
 - b. Average intellectual ability with learning disorders
 - c. Mental retardation
5. Seizures: affect 33%
6. Visual difficulties: more than 75% have strabismus; eye muscle incoordination
7. Difficulty speaking; language deficit
8. Contractures: common with spasticity
9. Oral disease: inadequate oral hygiene; enamel defects; side effects of medications

E Clinical findings

1. Difficulty feeding, especially sucking and swallowing; gastroesophageal reflux
2. Delayed motor development; abnormal motor performance; asymmetry of motion or contour of body
3. Muscular abnormalities; alteration in muscle tone
4. Abnormal posture
5. Delayed speech development
6. Reflex abnormalities (e.g., hyperreflexia)

F Therapeutic interventions

1. Early treatment; multidisciplinary approach
2. Mobility devices (e.g., braces, casts)
3. Surgery to correct spastic muscle imbalance
4. Medications
 - a. Skeletal muscle relaxants; anticonvulsants; intrathecal baclofen (Lioresal) administration using implanted pump
 - b. Analgesics for muscle spasm pain
5. Physical, occupational, and speech therapy

Nursing Care of Children with Cerebral Palsy

Assessment/Analysis

1. Prenatal/perinatal risk factors
2. Ineffective feeding
3. Muscles for rigidity, tenseness, hypotonia
4. Delayed developmental milestones

Planning/Implementation

1. Promote nutrition and facilitate feeding
 - a. Expect drooling from swallowing difficulty
 - b. Encourage self-feeding (e.g., offer spoon and blunt fork, attach plate to table)
 - c. Offer high-calorie diet for excessive energy expenditure, high-protein for muscle activity, increased vitamins (especially B₆) for amino acid metabolism

2. Promote relaxation
 - a. Provide rest periods in quiet environment
 - b. Limit energy expenditure with quiet activities
3. Maintain safety
 - a. Protect from accidents resulting from altered sensation, impaired balance, lack of muscle control
 - b. Provide helmet, if necessary, for protection against head injuries
 - c. Provide physical supports/restraint as necessary
4. Promote play
 - a. Ensure educational value appropriate to developmental level and ability
 - b. Avoid overstimulation
5. Promote elimination
 - a. Teach parents that toilet training difficulties are associated with impaired muscle control
 - b. Provide special bowel and bladder training
6. Facilitate speech development
 - a. Teach parents that word mispronunciation is associated with incoordination of lips, tongue, cheeks, larynx, and impaired control of diaphragm
 - b. Refer for speech therapy
7. Promote respiratory status
 - a. Teach parents that respiratory tract infections are associated with impaired control of intercostal muscles and diaphragm; protect child from people with infections, crowds
 - b. Monitor for manifestations of aspiration pneumonia
8. Promote healthy dentition
 - a. Teach parents: inability to control muscles affect development and alignment of teeth; brush child's teeth if muscular dysfunction impairs self-care
 - b. Encourage continued dental supervision; prone to dental caries
9. Promote visual acuity
 - a. Teach parents that strabismus and refractive errors may be related to impaired muscular control
 - b. Monitor for and report visual disorders to prevent further problems (e.g., amblyopia)
 - c. Encourage routine visits to health care provider for diagnosis and treatment
10. Promote optimum hearing
 - a. Teach parents that hearing problems depend on area of brain damage
 - b. Encourage parents to have child's hearing checked periodically
11. Promote mobility
 - a. Perform passive and encourage active range-of-motion exercises to prevent contractures, stretch ligaments and muscles
 - b. Encourage wearing leg braces, if prescribed, to maintain functional alignment and prevent deformities
 - c. Encourage use of assistive devices (e.g., forearm crutches, wheeled walker) to promote stability
12. Provide emotional support to parents
 - a. Help to cope with lifelong disability and loss of idealized child
 - b. Explain need to avoid overprotection; set limits when necessary; be consistent when disciplining

c. Explain importance of allowing time for healthy siblings

Evaluation/Outcomes

1. Remains safe from injury
2. Consumes adequate nutrients for growth
3. Communicates needs to caregivers
4. Performs self-care activities within capabilities
5. Exhibits behavior indicative of positive self-image
6. Parents and siblings verbalize effect of child's disability on family

Hearing Impairment

Data Base

A Disability ranges from mild hearing loss to deafness

B Risk factors

1. Genetic: family history of childhood hearing impairment; Down syndrome
2. Prenatal: anatomic malformations; cerebral palsy
3. Perinatal: low birth weight; severe asphyxia; maternal infection (e.g., cytomegalovirus, rubella, herpes, syphilis, toxoplasmosis)
4. Postnatal: chronic ear infections; bacterial meningitis; ototoxic medications (e.g., gentamicin)
5. Environmental: continuous exposure to loud noise (e.g., equipment in a neonatal intensive care unit, gunfire); continuous exposure to less intense noises (e.g., music)

C Types of deficit

1. Conductive: involves transmission of sound to middle ear
 - a. Interferes with volume of sound
 - b. Most common of all types of hearing loss; most frequent cause is recurrent otitis media
2. Sensorineural: involves inner ear structures and auditory nerve
 - a. Distorts clarity of words; has difficulty discriminating sounds
 - b. Causes: kernicterus, ototoxic drugs, excessive noise exposure
3. Mixed conductive-sensorineural
4. Central auditory imperception
 - a. Unexplained by other three causes
 - b. Hears but does not understand

D Classification

1. Slight (16 to 25 decibels): difficulty hearing faint or distant speech; may be unaware of problem; may have problems in school; no speech defects
2. Mild to moderate (26 to 55 decibels): may have speech difficulties; understands face-to-face conversational speech at 3 to 5 feet
3. Moderately severe (56 to 70 decibels): unable to understand conversational speech unless loud; difficulty with group or classroom discussion
4. Severe (71 to 90 decibels): may hear loud noises if nearby; may be able to identify loud environmental noises; requires speech training
5. Profound (greater than 90 decibels): may hear only loud noises; requires extensive speech training

E Clinical findings

1. Infant
 - a. Lack of Moro reflex in response to sharp clap; failure to respond to loud noise
 - b. Failure to locate source of sound at 2 to 3 feet after 6 months of age
 - c. Absence of babble by 7 months of age
 - d. Inability to understand words or phrases by 12 months of age
 2. Toddler
 - a. Use of gestures rather than verbalization to establish wants, especially after 15 months of age
 - b. History of frequent respiratory tract infections and otitis media
 3. Older children: monotone quality to voice; unintelligible speech; inattentive; shy; withdrawn; tinnitus
- F Therapeutic interventions
1. Conductive loss: tympanostomy tubes for chronic otitis media; hearing aids to amplify sounds
 2. Sensorineural: cochlear implants (hearing aids of less value)
 3. Central auditory imperception: may not respond to any therapy
 4. Speech therapy
 5. Alternative modes of communication (e.g., signing, lip reading)

Nursing Care of Children with Impaired Hearing

Assessment/Analysis

1. Prenatal and family history
2. Early manifestations at newborn assessment
3. Response to auditory stimuli
4. Failure to develop understandable speech by 24 months

Planning/Implementation

1. Use face-to-face communication to facilitate lip reading; have adequate light on speaker's face
2. Be at face level when communicating; speak toward unaffected ear; do not walk or turn away while talking
3. Enunciate and articulate carefully; do not talk too loudly, especially if loss is sensorineural
4. Use facial expressions (verbal intonations are not communicated)
5. Encourage active play to express feelings and build self-confidence
6. Educate others on how best to communicate with child
7. Refer to other health care providers/agencies (e.g., audiologist, speech therapist, teachers of sign language and lip reading)

Evaluation/Outcomes

1. Remains safe
2. Uses hearing aid when indicated
3. Engages in activities appropriate to developmental level
4. Child/family interact with each other effectively
5. Uses community resources to improve communication skills

Visual Impairment

Data Base

A Loss of vision that cannot be corrected with prescription glasses

1. School vision (partially sighted): visual acuity between 20/70 and 20/200; able to read print in school textbooks
2. Legal blindness: better eye has visual acuity of 20/200 or less, or visual field of 20 degrees or less; eligible for special services

B Risk factors

1. Prenatal: maternal infections (e.g., herpes, rubella, gonococci, chlamydia); congenital cataracts
2. Postnatal: retinopathy of prematurity; infections (e.g., meningitis); trauma; tumor; type 1 diabetes (vascular complication)

C Refractive deficits

1. Myopia (nearsightedness): image projected in front of retina
2. Hyperopia (farsightedness): image projected behind retina
3. Astigmatism: light rays bend in different directions
4. Anisometropia: different refraction in each eye

D Amblyopia (“lazy eye”): inadequate vision in one eye

1. Weak eye loses vision from disuse
2. Should be corrected before 4 years of age

E Strabismus (“cross eye”): malalignment of eye; imbalance of extraocular muscles, causing physiologic eye incoordination

1. Esotropia: inward deviation
2. Exotropia: outward deviation

F Clinical findings

1. Delayed motor development
2. Rocking for sensory stimulation
3. Squinting; rubbing eyes; sitting close to television; holding book close to face
4. Clumsiness (e.g., bumping into objects)

G Therapeutic interventions

1. Strabismus and cataracts: surgical intervention
2. Corrective lenses
3. Amblyopia: patch on unaffected eye to force weak eye to fixate; surgery to lengthen or shorten extraocular muscles

Nursing Care of Children with Impaired Vision

Assessment/Analysis

1. History of visual deficit
2. Early signs of visual problems
 - a. Behavior indicative of vision loss (e.g., clumsiness, squinting)
 - b. Eye incoordination (e.g., strabismus, amblyopia)
 - c. Decreased visual acuity

Planning/Implementation

1. Talk clearly; use noise to locate speaker
2. Help to learn through other senses (e.g., touch) through play activities
3. Facilitate eating
 - a. Arrange food on plate at clock hours and teach its location
 - b. Provide finger foods when possible
 - c. Provide light spoon and deep bowl so that weight of food can be felt on spoon
4. Encourage parents to follow treatments for strabismus and other visual problems

Evaluation/Outcomes

1. Wears corrective devices (e.g., eyeglasses, patch on weak eye)
2. Remains free from injury
3. Engages in appropriate activities for level of development
4. Child and family members demonstrate positive relationship

Celiac Disease

Data Base

A Gluten-sensitive enteropathy; immunologically mediated small intestine enteropathy; mucosal lesions show humoral and cell-mediated immunologic stimulation

1. Inability to digest gluten, found mostly in wheat, rye, oats, and barley
2. Malabsorption syndrome: chronic diarrhea and malabsorption of fluid and nutrients, resulting in failure to thrive
3. Progression of illness
 - a. Early stage: fat absorption affected
 - b. Later stage: protein, carbohydrate, mineral, and electrolyte absorption affected; growth failure and muscle wasting
4. Full remission after initiation of gluten-free diet

B Incidence

1. Common lifelong disorder affecting 1% of total population
2. Identified several months after introduction of gluten-containing grain into diet; usually between 1 and 5 years of age; can occur at any age; many never identified; identification is increasing

C Risk factors: may be interaction of inherited predisposition and environment

D Clinical findings

1. Progressive malnutrition: anorexia; muscle wasting; distended abdomen
2. Secondary deficiencies: anemia; rickets
3. Behavioral changes: irritability; fretfulness; apathy
4. Stools: greasy; pale; foul-smelling
5. Celiac crisis: severe episode of dehydration and acidosis from diarrhea

E Therapeutic intervention: dietary

1. Gluten free (e.g., no wheat, rye, oats, or barley)
2. High in calories and protein
3. Low fat
4. Small, frequent feedings; adequate fluids

5. Vitamin supplements in water-miscible form; supplemental iron

Nursing Care of Children with Celiac Disease

Assessment/Analysis

1. Nutritional status
2. Parent/child knowledge of illness and dietary regimen

Planning/Implementation

1. Teach parents and child about dietary modifications
 - a. Restricted foods: wheat, rye, oats, barley
 - b. Permitted substitutes: corn, rice, millet, potatoes
 - c. Read nutrition labels on prepared foods; some state “Gluten Free”
2. Provide support to facilitate adherence to dietary regimen (e.g., gluten free recipes; specialty food stores)
3. Explain need for continued health supervision

Evaluation/Outcomes

1. Parent/child verbalizes correct dietary information
2. Consumes adequate calories for growth and development
3. Remains free of celiac-induced diarrhea

Cystic Fibrosis (CF)

Data Base

A Autosomal recessive disorder affecting exocrine (mucus-producing) glands

1. Reduces ability of epithelial cells in airways and pancreas to transport chloride; abnormal transport of sodium and chloride across epithelium leads to increased viscosity of airway mucus, abnormal mucociliary clearance, and lung disease
2. Elevation in sweat electrolytes; sodium and chloride levels are three to five times higher than expected; sweat chloride levels more than 60 mEq/L are diagnostic

B Organs affected by increased viscosity of mucous gland secretions

1. Pancreas: becomes fibrotic; decreased production of pancreatic enzymes (lipase, trypsin, chymotrypsin, amylase) that affect digestion and absorption of foods
2. Respiratory system: viscous mucus in trachea, bronchi, and bronchioles interferes with expiration, predisposing to emphysema
3. Liver: possible cirrhosis from biliary obstruction, malnutrition, or infection; portal hypertension predisposes to esophageal varices
4. Rectum: may prolapse
5. Sexual organs: may become infertile (more common in males)

C Incidence: most common lethal genetic disease of childhood

1. About 1 in 29 Caucasian children are symptom-free carriers
2. 35% of adults with CF between ages 20 and 29 have diabetes resulting from pancreatic involvement

D Clinical findings

1. Infancy
 - a. Meconium ileus at birth (about 15%); abdominal distention
 - b. Failure to regain expected 10% weight loss at birth
 - c. Cough or wheezing during first 6 months of age
 2. Respiratory involvement
 - a. Frequent pulmonary infections
 - b. Barrel-shaped chest (hyperaeration of functioning alveoli), cyanosis, clubbing of fingers
 3. GI involvement
 - a. Bulk of feces is two or three times expected amount because of undigested food (e.g., unabsorbed fats, proteins)
 - b. As solid foods are added to diet, bulky stools become frothy and foul-smelling
 4. Cardiac involvement: enlargement of heart (right ventricular hypertrophy [cor pulmonale])
- E Therapeutic interventions
1. Respiratory problems: chest physiotherapy; bronchodilators; antibiotic therapy as indicated; avoidance of antitussives and antihistamines
 2. GI problems
 - a. Pancreatic enzymes; vitamin supplements; water-miscible forms of fat-soluble vitamins (A, D, E, K)
 - b. Balanced nutritional intake
 - c. Caloric intake should be 150% to 200% more than that of healthy child

Nursing Care of Children with Cystic Fibrosis

Assessment/Analysis

1. Respiratory status
2. GI status
3. Height and weight compared with expected range
4. Cognitive level
5. Effect of chronic illness on social status

Planning/Implementation

1. Prevent respiratory tract infections
 - a. Postural drainage, percussion, and vibration between feedings
 - b. Administer prescribed expectorants, antibiotics, aerosol therapy
2. Promote optimum nutrition
 - a. Administer prescribed pancreatic enzymes at beginning of meal with cold food (hot food breaks down enzymes)
 - b. Administer prescribed vitamin supplements; fat-soluble vitamins in water-miscible form
 - c. Encourage high-protein, moderate-fat, high-calorie diet
3. Promote mobility and activity as tolerated
4. Promote positive body image
 - a. Help to cope with barrel-shaped chest, low weight, thin extremities, bluish coloring, odor of stools
 - b. Encourage selection of clothes that compensate for protuberant abdomen and emaciated

extremities

5. Provide emotional support/counseling for child and family
 - a. Help to cope with long-term problem that causes financial and emotional stresses
 - b. Help parents to recognize attention-getting behaviors (e.g., wheezing) and to use consistent discipline
 - c. Encourage family to join a support group
 - d. Refer family for genetic counseling if future pregnancy is planned

Evaluation/Outcomes

1. Engages in activities that maintain balance between oxygen supply and demand
2. Maintains patent airway
3. Consumes adequate calories for growth and development
4. Family members demonstrate ability to care for child
5. Continues chest physiotherapy
6. Continues health care supervision

Iron Deficiency Anemia (Dietary)

Data Base

A Inadequate intake of dietary iron

1. Infant: usually has maternal iron reserve for 6 months
2. Preterm infant: lacks sufficient reserves; usually depleted by 2 to 3 months of age
3. Child receiving only milk: has no source of iron (“milk babies”)

B Insidious onset: usually diagnosed because of infection or chronic GI problems

C Incidence: most prevalent nutritional disorder among children in United States; decreasing because Women, Infants, and Children (WIC) program provides iron-fortified formula for 1 year and hemoglobin screenings during early childhood

D Clinical findings

1. Hemoglobin level below expected level for age
2. Pallor; weakness; tachycardia; dizziness; cardiac decompensation if severe
3. Slow motor development; decreased muscle tone
4. Weight: may be underweight or overweight (chubby, “milk baby” appearance)

E Therapeutic interventions

1. Dietary sources high in iron
 - a. Iron-fortified formula
 - b. Iron-fortified infant cereal
2. Iron replacement
 - a. Oral iron sources
 - (1) Ferrous sulfate: most absorbable form of iron
 - (2) Adverse effects: nausea and vomiting
 - b. Parenteral iron sources for iron malabsorption or chronic hemoglobinuria
 - (1) Parenteral iron-dextran
 - (2) Adverse effects: tissue staining; fever; lymphadenopathy; nausea; vomiting; arthralgia; urticaria; peripheral vascular failure; anaphylaxis; secondary

hematochromatosis

3. Blood transfusions for intractable anemia

Nursing Care of Children with Dietary Iron Deficiency Anemia

Assessment/Analysis

1. Nutritional history and status
2. History of chronic infection
3. Eating habits (e.g., pica, ingestion of lead, foods other than milk)

Planning/Implementation

1. Provide prevention education
 - a. Teach pregnant women importance of iron intake
 - b. Encourage parents to
 - (1) Feed iron-fortified infant formula or breastfeed
 - (2) Feed iron-fortified infant cereal and chopped meat
 - c. Teach parents
 - (1) Foods high in iron; nonmeat sources of iron for vegetarians
 - (2) About nutrients essential for RBC production (e.g., protein, vitamin B₁₂, folic acid, ascorbic acid)
2. Teach parents about administration of supplemental iron
 - a. Some liquid preparations stain teeth; use straw for administration
 - b. Stools are blackish green
 - c. Gastric irritation or constipation may occur
 - d. Vitamin C and folic acid aid iron absorption

Evaluation/Outcomes

1. Engages in appropriate activities without fatigue
2. Consumes adequate nutrients for correction of anemia
3. Parents verbalize dietary requirements of child

Sickle Cell Anemia (HbS)

Data Base

A Genetic disorder affecting hemoglobin synthesis

1. Substitution of amino acid valine for glutamic acid in beta chain of hemoglobin
2. Defective hemoglobin causes RBCs to become sickle-shaped and clump together under reduced oxygen tension
3. During newborn period, high levels of fetal hemoglobin prevent sickling
4. Fetal hemoglobin decreases during first year of life, and number of sickling episodes increase

B Classification

1. Sickle cell anemia: homozygous for sickle cell gene
2. Sickle cell trait: heterozygous for sickle cell gene; have same basic defect, but only 35% to 45% of total hemoglobin is sickle hemoglobin (HbS)

C Clinical findings

1. Screening: sickle turbidity test (Sickledex) with finger-stick blood determines presence of HbS
2. Confirmation of diagnosis: hemoglobin electrophoresis
3. Vaso-occlusive crisis (VOC): painful episode; most common; not life-threatening
 - a. Sickled cells obstruct blood vessels, causing occlusion, ischemia, potential necrosis
 - b. Fever, acute abdominal pain (visceral hypoxia), hand-foot syndrome, priapism, arthralgia without exacerbation of anemia
4. Sequestration crisis
 - a. Large quantity of blood pools in spleen, causing precipitous drop in blood pressure and ultimately shock
 - b. Acute episode occurs between 8 months and 5 years of age; can result in death from anemia and cardiovascular collapse
 - c. Multiple splenic infarctions result in functional asplenia
5. Aplastic crisis: diminished RBC production
 - a. May be triggered by viral or other infection
 - b. Profound anemia results from rapid destruction of RBCs combined with decreased production
6. Hyperhemolytic crisis: increased rate of RBC destruction
 - a. Anemia, jaundice, reticulocytosis
 - b. Rare complication associated with concurrent disorder (e.g., transfusion reactions, viral infection, glucose-6-phosphate dehydrogenase [G6PD] deficiency)
7. Acute chest syndrome; pulmonary infiltrate
 - a. Pneumonia-like manifestations
 - b. Chest pain, fever, cough, tachypnea, wheezing, hypoxia
8. Brain attack (cerebral vascular accident): sickled cells block major blood vessels in brain
 - a. Cerebral infarction, resulting in varied degrees of brain damage
 - b. Repeat brain attacks in 60% of children who have experienced previous attack

D Therapeutic interventions

1. Prevention of sickling phenomenon
 - a. Adequate oxygenation
 - b. Adequate hydration
 - c. Administration of hydroxyurea to increase fetal hemoglobin
 - d. Blood transfusions to decrease production of cells with sickle hemoglobin
 - e. Immediate treatment of respiratory tract infections
2. Treatment of crisis
 - a. Pain management; rest
 - b. Hydration/electrolyte replacement
 - c. Antibiotic therapy
 - d. Blood products

Nursing Care of Children with Sickle Cell Anemia

Assessment/Analysis

1. Vital signs, neurologic signs
2. Vision/hearing

3. Location and intensity of pain
4. Fluid balance
5. Spleen size

Planning/Implementation

1. Avoid dehydration to prevent rapid thrombus formation
 - a. Calculate fluid needs according to body weight (130 to 200 mL/kg)
 - b. Increase fluids during crisis especially if febrile
2. Prevent crisis
 - a. Avoid dehydration and other conditions that cause stress on body (e.g., infection, nonpressurized airplanes, high altitudes)
 - b. Administer prescribed medications: prophylactic pneumococcal, meningococcal, and *Haemophilus* flu vaccines; hepatitis B for those who did not receive it with routine immunizations; antibiotics for infections
3. Provide care during crisis
 - a. Provide adequate hydration (e.g., oral, parenteral therapy)
 - b. Ensure effective positioning (e.g., elevate head of bed, support joints); move carefully while supporting joints
 - c. Encourage exercise as tolerated to prevent thrombus formation and respiratory problems
 - d. Ensure adequate oxygenation
 - e. Control pain: use comfort measures; administer prescribed opioids; schedule medication administration to prevent onset of pain; apply prescribed warm soaks to joints
 - f. Administer prescribed blood transfusions for severe anemia
4. Refer for genetic counseling
 - a. Inform people at risk to obtain genetic counseling (e.g., disorder mostly of people of African and Mediterranean descent)
 - b. Teach parents degree of risk for having other children with trait or disease (e.g., if both parents are carriers, each pregnancy has 25% chance of producing a child with the disease)
5. Support parents
 - a. Lifelong problem
 - b. Multiple remissions and exacerbations

Evaluation/Outcomes

1. Reports minimal pain
2. Verbalizes feelings about disease process
3. Demonstrates behaviors reflective of a positive body image
4. Remains free from crisis

β-Thalassemia (Cooley Anemia)

Data Base

A Autosomal disorder most common in individuals of Mediterranean descent; varied expressivity

1. Deficient synthesis of β-chain polypeptides
2. Decreased production rate of globin molecule

B Classification of thalassemia

1. Minor: asymptomatic carrier
2. Trait: heterozygous; mild microcytic anemia
3. Intermedia: splenomegaly; moderate to severe anemia
4. Major: severe anemia; requires transfusions to sustain life

C Clinical findings

1. Severe anemia
2. Unexplained fever, headache
3. Anorexia, impaired feeding
4. Enlarged abdomen, splenomegaly, hepatomegaly
5. Impaired physical growth
6. Listlessness, exercise intolerance
7. Bronze skin color from hemosiderosis

D Therapeutic interventions

1. Blood transfusions to maintain adequate hemoglobin levels; may result in:
 - a. Hemosiderosis (excessive iron storage in body tissues, especially spleen, liver, lymph glands, heart, pancreas)
 - b. Hemochromatosis (excessive iron storage with resultant cellular damage)
2. Iron-chelating agents (e.g., deferoxamine (Desferal) to reduce iron storage
3. Splenectomy: to reduce number of transfusions
4. Prophylactic antibiotics to reduce risk of overwhelming infection
5. Bone marrow transplantation

Nursing Care of Children with β -Thalassemia

Assessment/Analysis

1. Family history, especially if Mediterranean descent (e.g., Italian, Greek, Syrian)
2. Laboratory reports for significant anemia
3. Cardiovascular status

Planning/Implementation

1. Prevent infection
 - a. Teach to avoid contact with persons who have infections
 - b. Ensure immunizations are current
 - c. Administer prophylactic antibiotics, if prescribed
2. Prevent complications
 - a. Monitor during transfusions; stop infusion if transfusion reaction occurs
 - b. Administer prescribed chelating agents and folic acid
 - c. Teach to avoid activities that increase risk for fractures
3. Prepare child and family for bone marrow transplantation; hematopoietic stem cell transplantation (HSCT) most successful, 75% chance of cure
 - a. Encourage participation in support group
 - b. Identify family support
 - c. Provide education on preprocedure and postprocedure periods

4. Assist in coping with disorder and its effects
 - a. Explore feelings about being different from other children
 - b. Emphasize abilities; focus on realistic endeavors
 - c. Encourage quiet activities, creative efforts, “thinking” games
 - d. Encourage interaction with peers; introduce to children who have adjusted to this or similar disorder
 - e. Help schedule therapies so they do not interfere with regular activities and social interactions
5. Support parents
 - a. Explore feelings regarding hereditary nature of disorder
 - b. Emphasize need for child to lead as active a life as possible
 - c. Explain need for consistency when setting limits and disciplining
 - d. Help family cope with potentially fatal nature of the illness
6. Refer for genetic counseling if planning pregnancy; reinforce and clarify counseling information

Evaluation/Outcomes

1. Participates in appropriate activities for age and energy level
2. Verbalizes feelings about disease/hospitalization
3. Demonstrates behaviors reflective of positive body image
4. Parents demonstrate ability to care for child
5. Parents verbalize feelings and concerns

Emotional Disorders

For common emotional disorders of the toddler, see [Chapter 17](#), Nursing Care of Clients with Disorders Usually First Evident in Infancy, Childhood, or Adolescence



CHAPTER 32

Growth and Development

Developmental Timetable

Three Years

A Physical

1. Weight: gains 1.8 to 2.7 kg (4 to 6 lb)
2. Height: grows 7.5 cm (3 inches)

B Motor

1. Jumps off bottom step; walks upstairs alternating feet; stands on one foot
2. Rides tricycle using pedals
3. Constructs three-block bridge; builds tower of 9 or 10 cubes
4. Can unbutton front or side button; uses spoon
5. Usually toilet trained at night

C Sensory: visual acuity 20/30

D Vocalization and socialization

1. Vocabulary: about 900 words; uses three- to four-word sentences; uses plurals; may have hesitation in speech pattern; may stutter
2. Begins to understand sharing and taking turns

E Mental abilities

1. Begins to understand past, present, future, or other aspects of time
2. Enters stage of magical thinking

Four Years

A Physical

1. Weight: increases similar to previous year
2. Height: doubles birth height

B Motor

1. Skips and hops on one foot; walks up and down stairs, alternating feet
2. Fastens buttons; laces shoes
3. Throws ball overhand; uses scissors to cut paper outline

C Vocalization and socialization

1. Vocabulary: 1500 words or more
2. May have imaginary companion
3. Can be selfish and impatient; takes pride in accomplishments; exaggerates; boasts; tattles on others
4. Constantly asks, "Why?"

D Mental abilities

1. Can repeat four numbers; learning number concept
2. Knows which is longer of two lines; inadequate space perception

Five Years

A Physical: height and weight increase similar to previous year

B Motor

1. Gross motor abilities: well developed; balances on one foot for about 10 seconds; can jump rope,

skip, and roller skate

2. Can draw picture of a person; prints first name and other words as learned
3. Dresses/washes self; learns to tie shoelaces

C Sensory

1. Color recognition well established
2. Potential for amblyopia to develop

D Vocalization and socialization

1. Vocabulary: about 2100 words; talks constantly; asks meaning of new words
2. Generally cooperative and sympathetic toward others
3. Basic personality structure well established

E Mental abilities (Piaget's phase of intuitive thought)

1. Begins to understand time (e.g., days are part of a week)
2. Begins to understand conversion of numbers
3. Has difficulty with abstract thought

Health Promotion of Preschoolers

Play (Cooperative Play)

- A Loosely organized group; membership and rules change readily
- B Learns to cope with reality and control feelings
- C Expresses emotions through actions rather than words
- D Physically oriented; imitative and imaginary; blurred line between reality and fantasy (e.g., may have imaginary playmates)
- E Tends to exaggerate; be impatient, noisy, selfish
- F Increased sharing and cooperation, especially 5-year-olds
- G Suggested toys
 1. Dress-up clothes, dolls, dollhouses, small trucks, animals, puppets
 2. Painting sets, coloring books, paste, cutout sets
 3. Illustrated books, puzzles with large pieces and varied shapes
 4. Tricycle, swing, slide, other playground equipment

Nutrition and Injury Prevention during the Preschool Years

See [Chapter 31](#), Health Promotion of Toddlers Health Promotion of Toddlers, Childhood Nutrition and Injury Prevention during Toddlerhood

Hospitalization of Preschoolers

Data Base

A Child's reaction

1. Fears about body image and bodily harm greater than fear of separation
2. Specific fears
 - a. Intrusive experiences (e.g., needles, thermometer, otoscope)
 - b. Punishment and rejection
 - c. Pain
 - d. Mutilation
3. May regress to earlier developmental behaviors (e.g., bedwetting)
4. Views death as temporary
5. Cries when parents arrive/leave, but usually is calm when parents are not present
6. May find physical examinations threatening; may require modification of procedures (e.g., handling equipment, having child sit/lay on parent's lap, allowing child to guide hand during assessment of abdomen)

B Parental support: can prepare child for interventions because of increased cognitive and verbal ability

General Nursing Care of Preschoolers

A Begin preparing for elective hospitalization several days before, not sooner, because of vague concept of time; encourage to bring security article or special toy

B Clarify cause and effect because of phenomenalistic thinking (in child's mind proximity of two events relates them to each other)

C Keep verbal explanation as simple as possible and always honest

D Explain routines but not everything at once, may be overwhelming; add details about procedures, drugs, surgery, based on cognitive level and past personal experiences

E Initiate therapeutic play (e.g., dolls, puppets, make-believe equipment, dress-up doctor and nurse clothes) as an outlet for fear, anger, and hostility, as well as temporary escape from reality

F Encourage parents to stay or visit as often as possible

Health Problems Most Common in Preschoolers

Leukemia

Data Base

A Cancer of blood-forming organs; overproduction of immature, nonfunctioning leukocytes

B Incidence: most common type of childhood cancer; prognosis is improving

1. Peaks between 2 and 6 years of age
2. More common in males after 1 year of age

C Classification

1. Acute lymphoblastic leukemia (ALL): affects lymphocytes
 - a. Divided into subtypes based on morphological, cytochemical, and immunologic characteristics (T, B, null, and pre-B subtypes)
 - b. Five-year disease-free survival: 91% when diagnosed at younger than 5 years of age
2. Acute myelogenous leukemia (AML): acute nonlymphoblastic leukemia
 - a. Prognosis less favorable than ALL
 - b. Five-year survival: 61% when younger than 15 years of age at diagnosis

D Clinical findings

1. Decreased erythrocytes: anemia (e.g., pallor, weakness, irritability)
2. Decreased neutrophils: increased risk for infection (e.g., fever)
3. Decreased platelets: bleeding tendencies (e.g., ecchymoses, petechiae, bleeding gums and other mucous membranes)
4. Invasion of bone by leukemic cells: bone pain, fractures
5. Enlarged spleen, liver, and lymph glands
6. Intestinal inflammation: anorexia, vague abdominal pain
7. Later signs: central nervous system (CNS) involvement and frank hemorrhage

E Therapeutic interventions

1. Chemotherapy: protocols for AML and ALL are different; each protocol is based on child and disease factors (see [Chapter 3](#), Integral Aspects of Nursing Care, Neoplastic Disorders, Related Pharmacology)
 - a. Induction therapy for ALL: 4 to 6 weeks
 - (1) Corticosteroids: prednisone or dexamethasone
 - (2) Chemotherapeutic agents: based on subtypes
 - b. Intensification (consolidation) therapy for ALL: further decreases number of leukemic cells; combination of two or more drugs given in routine periodic stretches of administration (pulses) during first 6 months
 - c. CNS prophylactic therapy: irradiation and triple intrathecal medications (e.g., methotrexate, cytarabine, hydrocortisone) because leukemic cells invade brain; most antileukemic drugs do not pass blood-brain barrier
 - d. Maintenance therapy: preserves remission and further reduces number of leukemic cells
2. Hematopoietic stem cell transplantation (HSCT); not performed during first remission
3. Transfusions to replace and provide needed blood factors (e.g., RBCs, platelets, WBCs)

Nursing Care of Children with Leukemia

Assessment/Analysis

1. Hematologic status: anemia (e.g., pallor, fatigue); thrombocytopenia (e.g., hematuria, bleeding gums); neutropenia (e.g., signs of infection)
2. Activity level
3. Complications of therapy/disease process
4. Family/child knowledge of disease process
5. Family support systems and coping strategies

Planning/Implementation

1. Encourage adjustment to chronic illness; stress need for maintaining lifestyle
2. Identify perception of illness and death based on level of understanding
 - a. Preschooler: concept that death is reversible; greatest fear is separation
 - b. Young school age (6 to 9 years old): death is personified as individual who comes to remove child
 - c. Older school age (over 9 years old): adult concept of death as irreversible and inevitable
3. Support while experiencing side effects of medications; administer prescribed antiemetics (e.g., ondansetron) before chemotherapy
4. Encourage adequate nutrition despite anorexia; provide preferred foods, even hot dogs
5. Teach infection prevention: hand washing; avoiding contact with those with active infections; avoiding crowded places
6. Handle gently to reduce pain, risk for hemorrhage
7. Use pain rating scale and medicate appropriately
8. Provide gentle oral hygiene: use soft-tipped applicator; saline mouth rinses; offer soft, bland foods; cool liquids/food rather than cold or hot
9. Provide for frequent rest periods; quiet play

Evaluation/Outcomes

1. Participates in developmental, age-appropriate activities
2. Remains comfortable
3. Consumes adequate calories for growth
4. Remains free from complications (e.g., infection, bleeding, anemia, impaired skin integrity)
5. Family and child discuss fears, concerns, and needs

Wilms Tumor (Nephroblastoma)

Data Base

A Most common malignant kidney neoplasm in children

B Incidence: estimated frequency is 9 per 1 million

1. More common in Caucasian children younger than 15 years old
2. Peak age at diagnosis between 3 and 4 years of age; 80% diagnosed by 5 years of age

C Risk factors.

1. Mode of familial inheritance (less than 2%): autosomal dominant; more common among siblings
2. May be associated with congenital anomalies

D Factors favoring positive prognosis

1. Stages I and II with localized tumor: 90% cured with multimodal therapy

2. Favorable histology of tumor

3. More than 12 months elapsed since first remission

E Clinical findings

1. Swelling or nontender abdominal mass; confined to one side of midline

2. Weight loss; fever; fatigue; malaise (with compression of abdominal organs)

3. Hematuria, caused by intrarenal hemorrhage; occurs in less than 25% of children

4. Hypertension occasionally occurs

5. Other findings associated with compression of neighboring organs or metastasis (e.g., lungs: cough, dyspnea, shortness of breath)

F Therapeutic interventions

1. Abdominal palpation and renal biopsy contraindicated to prevent rupture of encapsulated tumor

2. Surgery: scheduled soon after confirmation of mass

a. Tumor, kidney, and associated adrenal gland removed

b. Partial nephrectomy of contralateral kidney if affected

c. Regional lymph nodes and organs removed when indicated

3. Chemotherapy: indicated for all stages; continued for 6 to 15 months based on staging

4. Radiation therapy: to shrink large tumors before surgery; metastasis; residual disease after surgery; unfavorable cell type

Nursing Care of Children with Wilms Tumor

Assessment/Analysis

1. Observation of abdomen for mass or swelling

2. Laboratory results of RBCs for anemia

3. Weight loss

4. Signs and symptoms of compression of abdominal organs

5. Signs of metastasis to lung (e.g., dyspnea, cough, shortness of breath)

Planning/Implementation

1. Preoperative

a. Handle and bathe carefully to prevent abdominal trauma (may cause rupture of tumor capsule); place “Do not palpate abdomen” sign in appropriate place for professional staff, while maintaining confidentiality

b. Monitor blood pressure, I&O

c. Prepare parents and child for postoperative expectations (e.g., large dressing, drainage tube)

d. Begin teaching family about chemotherapy/radiation therapy

2. Postoperative

a. Monitor blood pressure, I&O

b. Use pain rating scale and medicate appropriately

c. Encourage to turn, cough, and deep breathe to prevent pulmonary complications

d. Teach parents to identify untoward reactions to chemotherapy and radiation therapy

3. See [Leukemia](#), Nursing Care

Evaluation/Outcomes

1. Remains free from complications (e.g., infection)
2. Maintains blood pressure within acceptable range
3. Consumes adequate calories for growth
4. Child and family members discuss feelings and concerns

Nephrotic Syndrome (Minimal Change Nephrotic Syndrome)

Data Base

A Increased permeability of glomerular basement membrane to plasma albumin; cause unknown

B Incidence

1. Peaks between 2 and 7 years of age
2. Approximately 100,000 children affected yearly in North America
3. Males outnumber females 2:1

C Classification

1. Minimal change nephrotic syndrome (MCN): highest incidence (80%)
 - a. Glomerular membrane becomes permeable to protein (albumin) which leaks through membrane; serum albumin level is decreased
 - b. Capillary oncotic pressure is decreased
 - c. Hydrostatic pressure of tissues exceeds pull of capillary oncotic pressure; fluid accumulates in body cavities, especially abdomen (ascites)
2. Secondary nephrotic syndrome (e.g., glomerulonephritis)
3. Congenital nephrotic syndrome: usually death occurs by age 2 without dialysis or kidney transplant

D Clinical findings

1. Weight gain from fluid retention
2. Edema (e.g., puffiness of face, periorbital edema on arising, generalized edema [anasarca], ascites, scrotal edema in males)
3. Irritability
4. Easily fatigued
5. Blood pressure average for age or slightly decreased
6. Oliguria; proteinuria
7. Impending chronic renal failure (e.g., pale, muddy appearance, malaise, headache, muscle cramps, nausea, anorexia)

E Therapeutic interventions

1. Nutrition
 - a. Sodium-restricted diet during periods of massive edema; edema does not resolve, but rate of increase may be limited
 - b. Diet adjusted to appetite
 - c. Protein restriction for renal failure and azotemia
2. Categorization by response to steroid therapy
 - a. Steroid sensitive (20% to 40%): responds to single short course of steroids without evidence of relapse after cessation of therapy
 - b. Steroid dependent (60% to 80%): responds to steroids that can be tapered off completely; has remission when placed on steroids but tends to relapse on lower dosage; has three or more

relapses in 6- to 12-month period

c. Steroid unresponsive or steroid resistant: does not respond to, or becomes resistant to, steroids during course of illness

3. Corticosteroid therapy: predniSONE drug of choice

a. Response to therapy usually within 7 to 21 days; promotes diuresis

b. Lower dose or gradual discontinuation with satisfactory response

4. Immunosuppressant therapy: if no response to steroids or for frequent relapses; cyclophosphamide (Cytoxan) drug of choice

Nursing Care of Children with Nephrotic Syndrome

Assessment/Analysis

1. Vital signs, particularly blood pressure

2. Fluid balance (e.g., daily weight, extent of edema, abdominal girth)

3. Urine studies (e.g., specific gravity, albumin)

4. Status of skin over edematous tissue

5. Side effects of steroids (e.g., edema, lability of mood, thin extremities, truncal obesity, signs of infection)

Planning/Implementation

1. Prevent infection: both illness and drug therapy increase susceptibility

a. Protect from others who are ill

b. Teach parents signs of impending infection; encourage to notify health care provider

2. Prevent malnutrition: caused by loss of protein and anorexia

a. Offer regular diet; encourage nutritious selection of foods

b. Restrict fluids if ordered; when indicated, teach child and parents about sodium-restricted diet

3. Promote respirations: respiratory difficulty caused by ascites

a. Place in seated position to decrease pressure against diaphragm

b. Monitor vital signs and respiratory status

4. Promote comfort: discomfort caused by edema, pressure areas

a. Provide some relief by repositioning, skin care

b. Support edematous genitalia

5. Provide emotional support: irritability and depression commonly occur

a. Help parents understand that mood swings are influenced by illness and corticosteroids

b. Support body image; impaired body image becomes problem as child gets older (appearance is more of a problem for parents)

c. Encourage to participate in own care

d. Encourage diversionary activities that provide satisfaction

Evaluation/Outcomes

1. Engages in activities appropriate to age and abilities

2. Adheres to dietary regimen

3. Remains free from infection

4. Maintains skin integrity

5. Edema resolves
6. Child and family members discuss feelings and concerns

Urinary Tract Infection (UTI)

Data Base

A Microorganisms in urethra/bladder causing inflammation and infection; may progress to kidneys and/or blood (septicemia)

B Incidence: peaks at 2 to 6 years of age; after neonatal period females have 10 to 30 times greater likelihood of UTI

C Risk factor: lower urinary tract anatomy of females (short urethra, proximity of meatus to anus)

D Classification

1. Bacteriuria: asymptomatic or symptomatic
2. Recurrent UTI
3. Persistent UTI
4. Febrile UTI
5. Cystitis: bladder infection
6. Urethritis: urethral infection
7. Pyelonephritis: renal pelvis infection
8. Urosepsis: bacterial infection of blood in urinary tract

E Clinical findings

1. Younger than 2 years of age: mimic GI disorders, failure to thrive, feeding problems, vomiting, diarrhea
2. Older than 2 years of age: dysuria, urgency, frequency, daytime incontinence, enuresis

F Therapeutic interventions

1. Antibiotics to eliminate infection
2. Identification and correction of structural anomalies if present
3. Prevention of recurrence; preservation of renal function

Nursing Care of Children with Urinary Tract Infections

Assessment/Analysis

1. Discomfort on urination (dysuria)
2. Pattern of urinary elimination
3. Pattern of bowel elimination
4. Amount of fluid intake
5. Result of urinalysis/urine culture and sensitivity

Planning/Implementation

1. Develop voiding schedule to limit urinary stasis; encourage to completely empty bladder when voiding
2. Increase fluids to enhance urine production/voiding
3. Encourage girls to wear loose cotton underpants; avoid tight, outer pants
4. Encourage routine health care supervision

5. Encourage increase in dietary fiber to minimize constipation, which contributes to UTI

Evaluation/Outcomes

1. Resolves infection
2. Implements measures to prevent recurrence

Asthma

Data Base

A Chronic inflammatory disorder of airways

1. Reversible airflow limitation
2. Spasms of bronchi and bronchioles
3. Edema of mucous membranes
4. Increased secretions
5. Respiratory acidosis from accumulation of carbon dioxide

B Incidence: increasing rate of occurrence, severity, and mortality; most common chronic disease of childhood

C Risk factors

1. Immunologic exposure to antigen that is deposited on respiratory mucosa
2. Nonimmunologic stimuli (e.g., viral infections, physical and chemical substances)

D Primary cause of school absences; leading cause of pediatric hospitalizations

E Classification

1. Mild intermittent: symptoms two or fewer times each week; brief exacerbations; nighttime symptoms two or fewer times each month
2. Mild persistent: symptoms more than two times per week but less than once a day; exacerbations affect activity; nighttime symptoms more than twice per month
3. Moderate persistent: daily symptoms; frequent nighttime symptoms; limited physical activity
4. Severe persistent: continual symptoms; frequent exacerbations; frequent nighttime symptoms; limited physical activity

F Status asthmaticus: continued respiratory distress despite usual interventions; considered medical emergency

G Clinical findings

1. Wheezing, especially on expiration
2. Labored breathing, flaring nares
3. Cough, increased secretions
4. Tachycardia
5. Restlessness, apprehension
6. Upright sitting position with shoulders forward
7. Diminished peak expiratory flow (PEF)

H Therapeutic interventions

1. Long-term control medications (preventive medicines): achieve and maintain control of inflammation (e.g., inhaled corticosteroids, long-acting beta-adrenergics, methylxanthines, leukotriene modifiers, mast cell stabilizers)
2. Quick-relief medications (rescue medications): treat symptoms and exacerbations (e.g., short-

acting beta-adrenergics, anticholinergics, systemic corticosteroids)

3. Medications for both quick relief and long-term control: beta-adrenergics, methylxanthines, anticholinergics

4. Commonly used medications

a. Corticosteroids

(1) Action: antiinflammatory effect diminishes inflammatory component of asthma and reduces airway obstruction; preferred controller medicine for all ages; safe for most children in recommended dosage

(2) Inhaled: few side effects

b. Leukotriene modifiers: zafirlukast (Accolate), montelukast (Singulair)

(1) Action: prevents release of mediators of type I allergic reactions (e.g., histamine); lessens bronchoconstriction

(2) Adverse effects: nausea, vomiting, headache, dizziness, infection, angioedema

c. Beta-adrenergic agonists: albuterol (Proventil), levalbuterol (Xopenex), terbutaline

(1) Action: act on beta-adrenergic receptors in bronchi to relax smooth muscle and increase respiratory volume; used for quick relief in rescue situations

(2) Adverse effects: tachycardia, hyperactivity, insomnia, tremors; overuse of inhalants may cause “congestive rebound”

Nursing Care of Children with Asthma

Assessment/Analysis

1. Respiratory status
2. History of current and previous attacks
3. Precipitating events/environmental factors
4. Knowledge of drug therapy

Planning/Implementation

1. Administer parenteral drugs per protocol
2. Improve ventilating capacity
 - a. Position in a high-Fowler or orthopneic position
 - b. Teach breathing exercises and controlled breathing
 - c. Observe return demonstration on using peak expiratory flow meter (PEFM) to monitor airflow
3. Teach parents
 - a. How to give control and rescue medications; explain why control medications are necessary even if child is asymptomatic
 - b. To encourage rinsing mouth after inhalation to reduce risk for oral candidiasis (thrush)
 - c. How to minimize exposure to environmental triggers in home (e.g., dust, dust mites, mold, secondhand cigarette smoke, animal dander)
 - d. That controlled environment can limit attacks
 - (1) Allergy-proof home (e.g., damp dust, no carpets, vacuum daily)
 - (2) Manage exertion, limit exposure to cold air, avoid people with infections

Evaluation/Outcomes

1. Continues medication protocol
2. Breathes without dyspnea when at rest or engaging in activities
3. Manages respiratory secretions
4. Obtains sufficient sleep
5. Maintains family and peer-group relationships
6. Child and family members cope with impact of chronic illness

Mucocutaneous Lymph Node Syndrome (Kawasaki Disease)

Data Base

A Acute febrile illness principally involving cardiovascular system

1. Extensive perivascularitis of arterioles, venules, capillaries, coronary arteries
2. Panvasculitis and perivascularitis of main coronary arteries may cause stenosis or obstruction with aneurysm formation
3. Pericarditis, interstitial myocarditis, and endocarditis; phlebitis of larger veins
4. Cause unknown

B Geographic and seasonal outbreaks

C Clinical findings

1. Fever for 5 or more days, cervical lymphadenopathy
2. Bilateral congestion of ocular conjunctiva without exudate
3. Changes in mucous membranes of oral cavity (e.g., erythema, dryness, fissuring of lips, oropharyngeal reddening, “strawberry tongue”)
4. Changes in extremities (e.g., peripheral edema, peripheral erythema, desquamation of palms and soles; polymorphous rash, primarily of trunk)
5. Extreme irritability
6. Joint stiffness and pain

D Therapeutic interventions

1. Primarily supportive: directed toward preventing dehydration, minimizing possible cardiac complications
2. Cardiac monitoring
3. Intravenous gamma globulin
4. Large doses of aspirin initially, then low-dose therapy

Nursing Care of Children with Kawasaki Disease

Assessment/Analysis

1. Cardiac status, signs of heart failure
2. Fluid balance
3. Clinical findings associated with syndrome

Planning/Implementation

1. Administer aspirin; assess for early signs of toxicity
2. Monitor for signs of cardiac complications, especially dysrhythmias

3. Observe for allergic reaction to and side effects of IV gamma globulin
4. Use pain rating scale and medicate appropriately
5. Minimize skin discomfort (e.g., cool baths; nonscented lotions; soft, loose clothing)
6. Maintain quiet environment to reduce irritability
7. Provide emotional support to child and parents; child is often inconsolable

Evaluation/Outcomes

1. Regains skin integrity
2. Remains free from complications (e.g., cardiac problems, aspirin toxicity)
3. Remains comfortable
4. Child and parents discuss feelings

Tonsillectomy and Adenoidectomy

Data Base

A Performed only when indicated: lymphoid tissue helps prevent invasion of organisms

B Indications for surgical removal

1. Recurrent tonsillitis or otitis media
2. Enlargement that interferes with breathing or swallowing

C Contraindications for removal

1. Occasional infections that resolve rapidly
2. Cleft palate, hemophilia, or debilitating illness (e.g., leukemia)

D Clinical findings: postoperative

1. Postsurgical hemorrhage: first 24 hours caused by trauma to vascular site; 5 to 10 days after surgery caused by sloughing of tissue
2. Signs of hemorrhage: frequent swallowing; bright red blood in vomitus; restlessness; increased pulse rate; pallor

Nursing Care of Children Having a Tonsillectomy and/or Adenoidectomy

Assessment/Analysis

1. Presence of bleeding, frequent swallowing
2. Presence and extent of pain
3. Swallowing ability

Planning/Implementation

1. Keep positioned on side to promote drainage of secretions; elevate head of bed to limit edema
2. Offer cool liquids that are not red in color or thick; gelatin (Jell-O) allowed if not red
3. Ask child to talk, provide assurance that it is possible
4. Apply ice collar for pain relief
5. Use pain rating scale and administer prescribed medication
6. During initial postoperative days: offer soft foods; avoid crisp foods (e.g., bacon, pretzels, chips) that could interrupt suture line

Evaluation/Outcomes

1. Maintains patent airway
2. Manages respiratory secretions
3. Reports minimal pain
4. Maintains fluid and nutritional status

Emotional Disorders

For common emotional disorders of the preschooler, see [Chapter 17, Nursing Care of Clients with Disorders Usually First Evident in Infancy, Childhood, or Adolescence](#)



CHAPTER 33

Growth and Development

Developmental Timetable

A Physical growth

1. Lanky appearance up to 10 to 12 years: bone development precedes muscular development
 - a. At 6 years: grows 2 inches; gains 2 to 3 kg ($4\frac{1}{2}$ to $6\frac{1}{2}$ lb) per year
 - b. At 7 years: grows 2 inches; gains 2.5 kg ($5\frac{1}{2}$ lb) per year
 - c. At 8 to 9 years: grows 2 inches; gains 3 kg ($6\frac{1}{2}$ lb) per year
 - d. From 10 to 12 years
 - (1) Slow growth in height compared to rapid weight gain; grows $2\frac{1}{2}$ inches; gains 4.5 kg (10 lb) per year
 - (2) Pubescent changes begin to appear; earlier in females than in males
2. Permanent dentition completed: begins with 6-year molars and central incisors at 7 or 8 years of age

B Motor

1. Refinement of coordination, balance, and control
2. Motor development is primary; necessary for competitive activity

C Sensory: visual acuity should be 20/20

D Mental abilities

1. Readiness for learning, especially in perceptual organization
 - a. Names months of year
 - b. Knows right from left
 - c. Tells time
 - d. Follows several instructions at once
2. Understands rules and reasons for them
3. Solves trial-and-error problem conceptually rather than through action
4. Greater understanding and use of language
5. Concrete operations (Piaget): knows that quantity remains same when appearance differs (conservation)
6. Begins to appreciate economics and finances

Health Promotion of School-Age Children

Play

A Varies with age: number of play activities decreases; amount of time spent in one activity increases

B Prefers games with

1. Rules because of increased mental abilities
2. Athletic competition because of increased motor ability

C Early school years: boys and girls play together, gradually separate into sex-oriented activities based on cultural influences

D Suggested play for 6- to 9-year-olds

1. Housekeeping toys that work; doll accessories; paper-doll sets; simple sewing machine; needlework; building toys
2. Simple word, number, and card games
3. Physically active games (e.g., hopscotch, jump rope, tree climbing, bicycle riding)
4. Collections and hobbies (e.g., stamp collecting, building simple models)
5. Computer games

E Suggested play for 9- to 12-year-olds

1. Handicrafts (e.g., model kits, pottery clay, hobbies, collections)
2. Skilled and intellectual play (e.g., computer games, chess, puzzles, science sets, magic sets)

F Physically active games; team sports

Hospitalization of School-Age Children

Database

A Typical reactions

1. Usually tolerates separation but prefers parents to be near
2. Fears the unknown, especially when dependency or loss of control is expected
3. Fears bodily harm, especially disfigurement
4. Concept of death changes:
 - a. 6 to 8 years: personifies death as a “bogeyman”
 - b. 9 to 10 years: has realistic concept, may add to other fears
5. Concerned about self-image when reacting to pain; may use avoidance to cope with physical discomfort
6. Wants scientific rationale for treatments and procedures; willing to participate in self-care

B Preparation: age appropriate explanations are associated with increased cognitive and verbal abilities

General Nursing Care of School-Age Children

A Begin preparing for hospitalization before admission, if possible

1. Provide explanations that are simple, honest, and at level of understanding
2. Add details about procedures, drugs, surgery, and related issues based on cognitive level and personal experiences

B Involve child and parents in planning care

C Play activities

1. Use as outlet for fear, anger, hostility, and as temporary escape from reality
2. Provide diversional play activities that support/challenge mental and motor skills as indicated

D Encourage to express feelings, emotions, and fears

E Expect and accept regression

F Check for loose teeth, especially before surgery

G Provide for tutoring if absence from school is more than 2 weeks

H Encourage

1. Visits from siblings and peers
2. Formation of new peer relationships to promote socialization

I Assign age-appropriate roommates who do not compromise physical status

J Allow dependency, but foster independence as much as possible; be consistent when enforcing rules

Health Problems Most Common in School-Age Children

Obesity

Data Base

A Body Mass Index (BMI): measure of weight in relation to height; plotted on National Center for Health Statistics growth charts

1. Obesity: BMI at or above 95th percentile for children of same age and gender
2. Overweight: BMI at or above 85th to 95th percentile

B Incidence

1. Preschoolers: 10.4%
2. School-age: 19.6%
3. Adolescents: 18.1%

C Risk factors

1. Multifactorial (e.g., metabolic, hypothalamic, genetic, social, cultural, psychological)
2. Illness related (e.g., hypothyroidism, adrenal hypercorticism, hyperinsulinism); less than 5%
3. Central nervous system (CNS) damage (e.g., injury, infection, brain attack)
4. Complication of illness because of immobility (e.g., muscular dystrophy, paraplegia, Down syndrome, spina bifida)

D Therapeutic interventions

1. Prevention
 - a. Early recognition and control measures
 - b. Education about consequences of obesity
 - c. Education about nutritious diet
2. Regulation of body weight by promoting balance between energy intake and energy expenditure
 - a. Regulation of appetite
 - b. Dietary modification, institution of nutritious diet
 - c. Control of environment related to availability of high-calorie foods
 - d. Promotion of physical activity

Nursing Care of the Obese Child

Assessment/Analysis

1. History: family, health, dietary choices/patterns
2. Socioeconomic status
3. Cultural and environmental influences
4. Weight, height
5. Eating habits
6. Physical activity

Planning/Implementation

1. Prevention

- a. During infancy: promote and support breastfeeding for 6 months; encourage mother to continue breastfeeding after introduction of solid food until 12 months of age
- b. Encourage parents to
 - (1) Provide nutritious meals
 - (2) Limit sedentary activity (e.g., television, computer)
 - (3) Promote physical activity
2. Weight management
 - a. Help to modify diet (e.g., five servings of fruits and vegetables each day; calcium-rich, high-fiber foods; low-calorie dairy products)
 - b. Teach to limit consumption of sugar-sweetened beverages, high-calorie snacks
 - c. Encourage to eat family meals together
 - d. Encourage at least 1 hour of physical activity/day, participation in team sports
 - e. Limit time spent in sedentary activities
3. Structured weight management for BMI between 95th and 98th percentiles
 - a. Initiate combination of written diet and exercise plans
 - b. Encourage follow-up care
4. Refer for comprehensive multidisciplinary intervention; requires frequent visits to health care provider, dietician, exercise and behavioral specialists

Evaluation/Outcomes

1. Stops gaining weight
2. Loses weight
3. Family incorporates therapeutic intervention into daily life

Diabetes Mellitus

Data Base

(See [Chapter 9](#), Nursing Care of Clients with Endocrine System Disorders, Diabetes Mellitus)

A Incidence

1. 11 to 20 per 100,000
2. Peaks at 10 to 15 years of age; can occur at any age

B Risk factors

1. Genetic
 - a. Based on ethnic origin (e.g., type 1 more frequent among Caucasians, less frequent among African-Americans)
 - b. Gene mutation (maturity-onset diabetes of the young)
 - c. Inheritance: 100% concordance in identical twins
2. Immunologic
3. Environmental (e.g., obesity for type 2)

C Classification (see [Table 33-1](#): Characteristics of Type 1 and Type 2 Diabetes Mellitus)

Table 33-1
Characteristics of Type 1 and Type 2 Diabetes Mellitus

Characteristic	Type 1	Type 2
Age at onset	<20 years	Increasingly occurring in younger children
Type of onset	Abrupt	Gradual
Sex ratio	Affects males slightly more than females	Females outnumber males
Percentage of diabetic population	5% to 8%	85% to 90%
Heredity:		
Family history	Sometimes	Frequently
Human leukocyte antigen	Associations	No association
Twin concordance	25% to 50%	90% to 100%
Ethnic distribution	Primarily Caucasians	Increased incidence in Native Americans, Hispanics, African-Americans
Presenting symptoms	3 P's common: polyuria, polydipsia, polyphagia	May be related to long-term complications
Nutritional status	Underweight	Overweight
Insulin (natural):		
Pancreatic content	Usually none	>50% normal
Serum insulin	Low to absent	High or low
Primary resistance	Minimum	Marked
Islet cell antibodies	80% to 85%	<5%
Therapy:		
Insulin	Always	20% to 30%
Oral agents	Ineffective	Often effective
Diet only	Ineffective	Often effective
Chronic complications	>80%	Variable
Ketoacidosis	Common	Infrequent

From Hockenberry M, Wilson D: *Wong’s essentials of pediatric nursing*, ed 8, St. Louis, 2009, Mosby.

1. Type 1: lack of insulin production
 2. Type 2: resistance to insulin action; defective glucose-mediated insulin secretion
 3. Other types: pancreatic defects (e.g., cystic fibrosis–related)
- D Differences between children and obese children/adults
1. Children
 - a. Usually type 1; rapid onset
 - b. Prone to hypoglycemia and ketoacidosis
 - c. Medication: insulin
 - d. Degenerative vascular changes develop after adolescence
 2. Obese children/adults
 - a. Usually type 2; insidious onset
 - b. Hypoglycemia and ketoacidosis less common
 - c. Dietary treatment: can be effective with weight loss, exercise
 - d. Medications: oral hypoglycemics
 - e. Degenerative vascular changes: child—usually develop after adolescence; adult—usually present at time of diagnosis
- E Clinical findings: type 1
1. Onset: rapid, obvious
 2. Usually thin, underweight
 3. Three Ps: **P**olydipsia; **P**olyphagia; **P**olyuria

- 4. Hyperglycemia, ketoacidosis, diabetic coma
 - a. Causes
 - (1) Inadequate exogenous insulin
 - (2) Emotional stress
 - (3) Physical stress (e.g., fever, infection)
 - (4) Increased food intake
 - b. Characteristics (see [Table 33-2: Comparison of Hypoglycemia and Hyperglycemia](#))

Table 33-2
Comparison of Hypoglycemia and Hyperglycemia

Variable	Hypoglycemia	Hyperglycemia
Onset	Rapid (minutes)	Gradual (days)
Mood	Labile, irritable, nervous, weepy	Lethargic
Mental status	Difficulty concentrating, speaking, focusing, coordinating	Dulled sensorium
Inward feeling	Nightmares	Confusion
	Shaky feeling	Thirst
	Hunger	Weakness
	Headache	Nausea and vomiting
	Dizziness	Abdominal pain
Skin	Pallor	Flushed
	Sweating	Signs of dehydration
Mucous membranes	Normal	Dry, crusty
Respirations	Shallow, normal	Deep, rapid (Kussmaul)
Pulse	Tachycardia, palpitations	Less rapid, weak
Breath odor	Normal	Fruity, acetone
Neurologic	Tremors	Diminished reflexes
		Paresthesia
Ominous signs	Late—Hyperreflexia, dilated pupils, seizure	Acidosis, coma
	Shock, coma	
Blood:		
Glucose	Low: <60 mg/dl	High: ≥250 mg/dl
Ketones	Negative	High, large
Osmolarity	Normal	High
pH	Normal	Low (≤7.25)
Hematocrit	Normal	High
Bicarbonate	Normal	<20 mEq/L
Urine:		
Output	Normal	Polyuria (early) to oliguria (late)
		Enuresis, nocturia
Glucose	Negative	High
Ketones	Negative or trace	High
Visual	Diplopia	Blurred vision

5. Hypoglycemia related to insulin therapy

a. Causes

- (1) Insulin overdose
- (2) Decreased food intake
- (3) Increased physical exercise (activity moves glucose into muscle cells)

b. Characteristics (see [Table 33-2: Comparison of Hypoglycemia and Hyperglycemia](#))

F Therapeutic interventions

1. Dietary: calories, carbohydrate, fat, protein intake balanced with physical activity and metabolic needs
2. Insulin (see [Chapter 9](#), Nursing Care of Clients with Endocrine System Disorders, Related Pharmacology, Antidiabetic Agents)
3. Exercise: increased physical activity to reduce need for insulin
4. Hyperglycemia: hospitalization with administration of fluids, electrolytes, insulin
5. Hypoglycemia: immediate supply of readily available glucose followed by complex carbohydrate and protein

Nursing Care of Children with Diabetes Mellitus

Assessment/Analysis

1. Knowledge and attitudes about disease and its management
2. Blood glucose levels: expected values for child, 50 to 85 mg/dL; for adolescent, 60 to 110 mg/dL
3. Glycosylated hemoglobin (hemoglobin A_{1c})
 - a. Younger than 6 years: 7.5% to 8.5% acceptable range.
 - b. From 6 to 12 years: under 8% acceptable
 - c. From 13 to 19 years: under 7.5% acceptable
4. Insulin types, dosages, responses (e.g., onset of action; peak action)
5. Signs of hypoglycemia/hyperglycemia
6. Complications

Planning/Implementation

1. Discuss disorder based on parents' and child's knowledge
2. Teach factors that affect insulin requirements (e.g., physical growth, activity, food intake, presence of infection)
3. Teach signs and symptoms of hyperglycemia and hypoglycemia; provide written list for reinforcement
4. Teach appropriate interventions for complications
 - a. Suspected insulin reaction: give glucose source and skim milk
 - b. Suspected ketoacidosis: notify health care provider; do not increase insulin dose
5. Explain prescription for insulin is adjusted as indicated
6. Teach about prevention of infection (e.g., skin care; correctly fitted shoes; prompt treatment of small cuts; protection from exposure to communicable illness)
7. Encourage well-balanced diet
 - a. Equal quantities of food to be eaten at regular intervals if possible, rather than three large

meals

b. Regularly scheduled snacks, particularly before bedtime if taking intermediate-acting insulin

c. Usually unrestricted within reason

8. Help plan exercise and adjust food intake and insulin dosage to meet requirements; food intake should increase before exercising

9. Teach self-care skills when motor and mental abilities allow, usually by 7 to 9 years of age

a. Give simple explanations

b. How to perform blood glucose testing

c. How to administer insulin (by injection or pump); use diagrams for location of administration sites

10. Encourage periodic adult observation of self-care techniques

11. Provide emotional support; offer choices when possible for sense of control

12. Encourage continued health care supervision

Evaluation/Outcomes

1. Maintains blood glucose levels within identified range

2. Consumes adequate calories for growth and development

3. Remains free from complications (e.g., insulin coma; ketoacidosis)

4. Demonstrates behaviors reflective of a positive self-image

5. Child and parents demonstrate ability to follow health care regimen

Hemophilia

Data Base

A Defect in clotting mechanism of blood

B Risk factor: Genetic; X-linked recessive transmission in males; females are carriers

C Classification

1. Factor VIII deficiency (hemophilia A, classic hemophilia); 80% to 85%

2. Factor IX deficiency (hemophilia B, Christmas disease)

D Clinical findings

1. Varied expression of gene in relation to degree and severity of bleeding

2. May be diagnosed early

a. Newborn: bleeding after vitamin K administration, after circumcision

b. Infant: with increased activity

3. Severity of bleeding depends on factor VIII activity

a. Mild: bleeding with severe trauma or surgery; factor VIII activity 5% to 40%

b. Moderate: bleeding with trauma; factor VIII activity 2% to 4.9%

c. Severe: spontaneous bleeding without trauma; factor VIII activity less than 2%

4. Bleeding into joints (hemarthrosis) resulting in pain, deformity, impaired growth

5. Intracranial hemorrhage

E Therapeutic interventions

1. Prevention of bleeding with factor replacement (primary prophylaxis)

a. Factor VIII concentrate from pooled plasma or recombinant DNA

b. Factor IX concentrate from recombinant DNA; complex contains factors II, VII, IX, X

- c. DDAVP (l-deamino-8-D-arginine vasopressin) for mild hemophilia; vigorous treatment to prevent joint bleeding if positive response
2. Regular program of exercise and physical therapy to strengthen muscles around joints and minimize bleeding
3. Control of bleeding with factor VIII concentrate when it occurs (secondary prophylaxis)
 - a. Regular infusion schedule (three times per week)
 - b. High-dose infusion when bleeding occurs
 - (1) Two days of standard dose
 - (2) Continued infusions every other day for 1 week
4. Medications
 - a. Pain: nonsteroidal antiinflammatory drugs (NSAIDs): ibuprofen (Motrin, Advil) for synovitis; used cautiously because of potential effect on platelet function
 - b. Inflammation: corticosteroids for hematuria, acute hemarthrosis, chronic synovitis
 - c. Prevention of clot destruction: aminocaproic acid (Amicar), oral administration or local application

Nursing Care of Children with Hemophilia

Assessment/Analysis

1. Parent/child knowledge of disease process
2. Knowledge of injury prevention and protective attire
3. Location and extent of bleeding
4. Mobility of joints
5. Medication schedule

Planning/Implementation

1. Teach child and parents about treatment for bleeding, especially when it occurs in joints
 - a. Rest
 - b. Application of cool/ice compresses
 - c. Compression of area
 - d. Elevation of affected body part
2. Suggest appropriate activity that lessens chance of trauma, difficult because boys are physically active
3. Teach parents
 - a. How to safe-proof house to minimize injuries (e.g., secure throw rugs)
 - b. Which toys are safe or unsafe
 - c. Medication protocol
 - (1) Administer prescribed blood products in morning for optimum therapeutic effect
 - (2) Explain reasons for administering ibuprofen sparingly, why to avoid aspirin
 - d. To plan physical activity program that encourages use of extremities to prevent muscle atrophy
 - e. Importance of avoiding overprotection or over permissiveness; encourage consistency when disciplining
4. Provide emotional support to family

5. Refer parents for genetic counseling if planning more children

Evaluation/Outcomes

1. Reports minimal pain
2. Remains free from injury (e.g., hemorrhage)
3. Maintains range of motion of joints
4. Participates in desired activities
5. Child and parents discuss feelings and concerns

Rheumatic Fever (RF)

Data Base

A Inflammatory disease affecting heart, joints, central nervous system, subcutaneous tissue

1. Follows infection with group A β -hemolytic streptococcus pharyngitis in 2 to 6 weeks if untreated
2. Complication: rheumatic heart disease with damage and scarring of mitral valve

B Risk factors: inadequate health care; limited access to antibiotics (most frequently in developing countries)

C Clinical findings

1. Heart: endocarditis, mitral and aortic valve stenosis
2. Joints: edema, inflammation, and effusion in knees, elbows, hips, shoulders, wrists
3. Skin: erythematous macules with clear center, wavy demarcated border on trunk and proximal extremities
4. Neurologic: chorea
5. Other manifestations: low-grade fever, epistaxis, abdominal pain, arthralgia, weakness, fatigue, pallor, anorexia, weight loss

D Therapeutic interventions

1. Antibiotic therapy to eradicate organism and prevent recurrence; prophylactic therapy before dental work or invasive procedures (recommendations are changing)
2. Prevention of permanent cardiac damage
3. Palliation of other clinical manifestations
4. Salicylates to control inflammatory process
5. Prevention of recurrences

Nursing Care of Children with Rheumatic Fever

Assessment/Analysis

1. Typical clinical manifestations
2. Activity level
3. Pain
4. Medication protocol

Planning/Implementation

1. Encourage bed rest to reduce workload of heart during acute phase; gradually increase activities during recovery

2. Handle painful joints gently; maintain functional alignment to prevent deformities
3. Use pain rating scale and medicate appropriately
4. Offer small, frequent meals; encourage intake of nutritious foods and fluids
5. Emphasize abilities rather than limitations; promote development of quiet hobbies and collections
6. Provide emotional support
 - a. Keep communication channels open at home and with school
 - b. Refer for tutor as necessary
 - c. Encourage to do schoolwork

Evaluation/Outcomes

1. Maintains cardiac output within acceptable limits
2. Consumes adequate calories for growth
3. Reports minimal pain
4. Maintains mobility of joints

Acute Poststreptococcal Glomerulonephritis (APSGN)

Data Base

A Immune complex disorder occurring 10 to 21 days after infection with group A β -hemolytic streptococcus

B Incidence

1. Most common form of postinfectious glomerulonephritis
2. Peak age of onset during early school-age years (6 to 7)

C Terminates with full recovery in 1 to 3 weeks; confers immunity; recurrence is rare

D Clinical findings (during acute phase)

1. Urine analysis: hematuria; proteinuria; elevated specific gravity
2. Blood studies: azotemia from elevated BUN and creatinine
3. Serology tests: confirmation of poststreptococcal infection (e.g., antistreptolysin O [ASO])
4. Edema: periorbital in morning; spreads to rest of body during day
5. General malaise: irritable; anorexic; lethargic
6. Hypertension: mild to moderate

E Therapeutic interventions

1. Palliative treatment; supportive measures as needed
2. Monitoring course of illness to prevent complications

Nursing Care of Children with Acute Post Streptococcal Glomerulonephritis

Assessment/Analysis

1. Extent of edema
2. Extent of kidney involvement; results of urinalysis
3. Changes in vital signs
4. Blood and serologic findings
5. Behavior: irritability; lethargy
6. Headache; discomfort; signs of impending seizures

Planning/Implementation

1. Maintain fluid balance (e.g., monitor daily weights, vital signs; I&O; restrict fluids as ordered)
2. Provide nutritious diet based on preferences
3. Implement moderate sodium restriction when edematous and/or hypertensive
4. Document and report signs of complications (e.g., severe hypertension; gross hematuria; gross edema; behavioral changes that may signify cerebral involvement)
5. Administer prescribed medications (e.g., diuretics, antihypertensives, antibiotics) based on response to illness
6. Instruct parents about supportive care if child is treated at home (e.g., balancing rest and activity; nutritious diet; dietary and fluid restrictions; prevention of infection; administration of medications)
7. Emphasize importance of follow-up care (e.g., weekly, then monthly) for health supervision, evaluation of progress, and resolution of illness

Evaluation/Outcomes

1. Parents report that there is increased urine output as condition resolves
2. Recovers from illness within 3 weeks
3. Remains free from complications or recurrences
4. Continues health supervision until discharged by health care provider

Reye Syndrome

Data Base

A Acute toxic encephalopathy associated with characteristic organ involvement

B Incidence: decreasing because of education to avoid administering aspirin and other salicylates

C Risk factors

1. Viral illness (e.g., influenza, varicella)
2. Aspirin administration for fever from influenza or varicella

D Clinical findings

1. Fever
2. Cerebral edema, profound impaired level of consciousness
3. Liver involvement: disordered function; fatty changes

E Therapeutic interventions

1. Early diagnosis with liver biopsy
2. Aggressive therapy determined by clinical staging; prognosis based on staging

Nursing Care of Children with Reye Syndrome

Assessment/Analysis

1. Vital signs and neurologic status
2. Fluid balance for dehydration; cerebral edema
3. Level of consciousness
4. Impaired coagulation (related to hepatic dysfunction)

Planning/Implementation

1. Maintain patent airway
2. Monitor
 - a. Vital signs: especially pulse pressure
 - b. Fluid balance: I&O; report imbalance immediately
 - c. Neurologic status; report signs of increasing intracranial pressure
 - d. Liver dysfunction: laboratory test results
3. Provide emotional support to parents
 - a. Keep informed of child's progress
 - b. Include in child's care whenever possible
4. Foster dissemination of information concerning role of aspirin and products containing salicylates (e.g., Pepto-Bismol) in relation to viral disease and development of Reye syndrome

Evaluation/Outcomes

1. Maintains patent airway, appropriate breathing pattern
2. Remains free from injury
3. Maintains fluid balance
4. Parents verbalize questions and concerns about child's status

Juvenile Idiopathic Arthritis (JIA)

Data Base

A Group of chronic autoimmune inflammatory diseases affecting joints and other tissues

B Incidence

1. 1 in 1000 children
2. Onset: younger than 16 years; peak ages 1 to 3 years
3. Female predominance: 2:1

C Classification

1. Systemic: one or more joints associated with 2 weeks of clinical manifestations
2. Oligoarthritis: one to four joints for first 6 months; may last for more than 6 months
3. Polyarthritis
 - a. Negative rheumatoid factor: five or more joints for 6 months
 - b. Positive rheumatoid factor: five or more joints for 6 months
4. Psoriatic arthritis: associated with skin lesions
5. Inflammation of tendon insertion site (enthesitis): associated with back pain and other clinical manifestations

D Clinical findings

1. Stiffness, swelling, loss of motion in affected joints; most common in morning and after inactivity
2. Joint enlargement from edema, joint effusion, and synovial thickening
3. Fever, rash, lymphadenopathy, hepatomegaly (systemic arthritis)

E Therapeutic interventions

1. Medications
 - a. First-line drugs—nonsteroidal antiinflammatory drugs (NSAIDs): ibuprofen (Advil, Motrin), naproxen sodium (Aleve), tolmetin sodium (Mylan)

- b. Second-line drug—antineoplastic/antimetabolite: methotrexate (Trexall)
- c. Corticosteroids: immunosuppressants used for life-threatening complications
- d. Tumor necrosis factor inhibitor: etanercept (Enbrel)
- e. Slow-acting antirheumatic drugs (SAARDs): sulfasalazine (Azulfidine), hydroxychloroquine (Plaquenil)

2. Physical and occupational therapy: individualized to preserve function and prevent deformity

Nursing Care of Children with Juvenile Idiopathic Arthritis

Assessment/Analysis

1. Status of involved joints
2. Physical restrictions
3. Location and extent of pain
4. Response to illness

Planning/Implementation

1. Emphasize importance of medication protocol
 - a. Take medications regularly, even during remissions
 - b. Give NSAIDs with food to prevent GI irritation
2. Promote functional alignment
 - a. Perform passive range of motion exercises
 - b. Use exercise program designed by physical therapist to limit impact on joints
 - c. Discourage prolonged sitting
3. Encourage warm baths or application of moist heat compresses to joints early in day to decrease stiffness and increase mobility
4. Offer nutritious diet that does not exceed energy needs
5. Promote adequate rest and sleep
6. Provide emotional support
 - a. Encourage parents to accept their child's illness; to avoid using it as a means of fostering dependency or controlling relationship
 - b. Promote social interaction with peers
 - c. Encourage verbalization of feelings; emphasize abilities rather than limitations

Evaluation/Outcomes

1. Reports minimal pain
2. Maintains mobility of joints
3. Participates in activities with minimal discomfort and sufficient energy
4. Participates in self-care to fullest extent of abilities
5. Child and family maintain health care regimen

Legg-Calvé-Perthes Disease (Coxa Plana)

Data Base

A Disturbance of circulation to femoral capital epiphysis that produces ischemic aseptic necrosis of

femoral head, epiphysis, and acetabulum

1. Cause unknown
2. Both hips involved in 10% to 15%
3. Skeletal age below chronologic age

B Incidence

1. Occurs between 2 and 12 years of age
2. Most common in males 4 to 8 years of age; male to female ratio 4:1
3. More common in Caucasians than in African-Americans (10:1)

C Stages

1. I: initial or avascular
2. II: fragmentation or revascularization
3. III: reossification or reparative
4. IV: residual or regenerative

D Clinical findings

1. Insidious onset
2. Pain in hip, thigh, and/or knee of affected limb; more evident in morning and after activity
3. Limitation of movement in affected hip(s); limp

E Therapeutic interventions

1. Controversy over conservative versus surgical intervention
2. Maintenance of head of femur in acetabulum (e.g., abduction brace, surgery)
3. Non-weight-bearing (e.g., wheelchair, surgical placement of fixator device)
4. Intensive physical therapy
5. Surgery to reduce pain, contain femur in acetabulum, and conserve acetabulum for future hip replacement

Nursing Care of Children with Legg-Calvé-Perthes Disease

Assessment/Analysis

1. Extent of pain
2. Extent of joint dysfunction
3. Ambulation gait

Planning/Implementation

1. Educate child and parents regarding
 - a. Correct use of appliances, skin care at brace edges
 - b. Non-weight-bearing (e.g., no standing or kneeling on affected leg)
 - c. Need for physical therapy
2. Assist child and family in selecting activities according to age, interests, and physical limitations (e.g., quiet games, hobbies, collections, model building, crafts)
3. Encourage peer interaction; help child determine alternatives to weight-bearing activity (e.g., scorekeeping, acting as sideline “coach”)
4. Help child devise explanations for appliances

Evaluation/Outcomes

1. Reports minimal pain
2. Remains free from injury
3. Achieves full range of motion
4. Participates in activities with immobilizing device
5. Continues health care regimen and supervision
6. Discusses feelings and concerns

Skin Infections and Infestations

General Nursing Care of Children with Skin Infections and Infestations

Assessment/Analysis

1. Type of skin lesion
2. Location and extent of discomfort or itching
3. Knowledge of cause, prevention, and treatment
4. Self-concept and social isolation related to change in appearance

Planning/Implementation

1. Encourage daily bathing with tepid water; dry thoroughly; expose area to light and air
2. Prevent secondary infection (e.g., keep nails short, administer medications to limit pruritus, avoid strong alkalis or bleach when washing clothes); secondary lesions may leave scars
3. Encourage completion of full regimen of antimicrobial medication; follow instructions on package insert particularly for topical medications (e.g., length of time left on, repeat applications)
4. Prevent spread of infection to others
 - a. Discourage sharing of personal articles (e.g., combs, brushes, hats)
 - b. Discourage direct contact between children.
 - c. Keep oozing lesions covered
 - d. Encourage practices to prevent athlete's foot
 - (1) Do not walk barefoot
 - (2) Dry feet thoroughly
 - (3) Wear lightweight shoes to decrease heat
 - (4) Disinfect shoes and socks
 - (5) Avoid sharing towels
5. Encourage screening in schools to identify source of infection

Evaluation/Outcomes

1. Confines skin lesions to primary site and infection/infestation to self
2. Remains free from secondary infection
3. Remains free from discomfort
4. Child and parents verbalize how to prevent future infection/infestation

Pediculosis Capitis (Head Lice)

Data Base

A Infestation of scalp with *Pediculus humanus capitis*

1. Transferred from one person to another via personal items
2. Unrelated to age, gender, socioeconomic status, cleanliness
3. Severe itching resulting in scratching, may lead to secondary infection

B Clinical findings

1. Nits (grayish white, oval eggs) attached to hair shaft close to skin, particularly hair behind ears, nape of neck, occipital area
 2. Pruritus
- C Therapeutic interventions
1. Treatment with pediculicide; permethrin 1% cream, (Nix); pyrethrin-piperonyl butoxide (Rid)
 2. Fine-toothed comb to remove nits
 3. All bed linens and clothes washed in hot water and detergent
 4. Return to school as soon as possible as per policy

Scabies

Data Base

A Produced by itch mite *Sarcoptes scabiei*

1. Female burrows into stratum corneum of epidermis to lay eggs
2. Severe itching resulting in scratching, may lead to secondary infection

B Clinical findings

1. Pruritus
2. Eczematous eruption; minute grayish-brown threadlike burrows with black dot at end (mite)
3. Distribution of lesions primarily in folds (axillary, antecubital, popliteal, inguinal), hands/wrists, feet/ankles
4. Secondary infection: papules and vesicles

C Therapeutic interventions

1. Medications
 - a. Permethrin 5% cream (Elimite): remains on skin for 8 to 14 hours before bathing; second application 7 to 10 days later if needed
 - b. Crotamiton cream (Eurax): applied once each day for 2 days followed by bath
 - c. Ivermectin tablets (Stromectol): if reaction to skin application occurs, for severe lesions
 - d. Antibiotics for secondary infection
2. Emollients to relieve discomfort if rash/pruritus persists for 2 to 3 weeks
3. Clothes, bedding, towels used by infested person for 3 days before treatment washed with hot water
4. All family members treated to prevent transmission

Ringworm

Data Base

A Filamentous fungi: invade stratum corneum of skin, hair, and nails; transmission from person to person, or infected animal to person

B Type of organism and clinical findings

1. Tinea capitis: scalp lesions
 - a. Reddened, scaly oval or round areas of alopecia
 - b. Pruritus
2. Tinea pedis: athlete's foot,
 - a. Common in summer; contracted in swimming areas, gymnasium locker rooms
 - b. Scaly fissures between toes, vesicles on sides of feet

c. Pruritus

3. Other infestations

- a. Tinea corporis (body lesions); tinea cruris (“jock itch”)
- b. Candidiasis: in chronically warm areas (e.g. thrush and diaper dermatitis in infants, vaginal form in older women)

C Therapeutic interventions

- a. Topical or oral: griseofulvin microcrystalline (Grifulvin V); nystatin (Mycostatin); ketoconazole (Nizoral); terbinafine [Lamisil]); oral administration has adverse effects (e.g., hepatotoxicity)
- b. Topical: clotrimazole (Desenex); econazole (Spectazole); miconazole (Lotrimin); selenium (Selsun); tolnaftate (Tinactin); undecylenic (Cruex)

Intertrigo

Data Base

A Excoriation of adjacent body surfaces; caused by moisture and chafing

B Clinical findings

1. Red, inflamed, moist, denuded areas
2. Most common sites: intergluteal folds, groin, neck, axilla

C Therapeutic interventions

1. Exposure to air and light
2. Keeping area clean and dry

Impetigo

Data Base

A Bacterial skin infection

1. Causative organisms: usually streptococci or staphylococci
2. Severity depends on pathogenicity of organism, skin integrity, and host cellular defenses
3. Highly contagious

B Clinical findings

1. Begins as reddish macule
2. Becomes vesicular, ruptures leaving superficial, moist lesion
3. Exudate dries, becomes honey-colored crust
4. Pruritus

C Therapeutic interventions: antibiotics systemically and locally; isolation

Lyme Disease

(See [Chapter 13](#), Nursing Care of Clients with Infectious Diseases, Lyme Disease; and [Chapter 17](#), Nursing Care of Clients with Disorders First Evident in Infancy, Childhood, or Adolescence)

Emotional Disorders

For common emotional disorders of the school-age child, see [Chapter 17: Nursing Care of Clients](#)

with Disorders Usually First Evident in Infancy, Childhood, or Adolescence in Unit 3 (Mental Health/Psychiatric Nursing)

Growth and Development

Developmental Timetable

A Physical growth: physical changes associated with puberty

B Pubertal growth spurt

1. Female: 10 to 14 years
 - a. Weight: gains 7 to 25 kg (15 to 55 lb)
 - b. Height: approximately 95% of mature height achieved by onset of menarche or by skeletal age of 13 years; grows 5 to 25 cm (2 to 10 inches)
 - c. Secondary sex characteristics appear in order
 - (1) Breast buds, then breasts
 - (2) Hair: pubic, then axillary
 - (3) Pigmentation of genital skin
 - (4) Onset of menses (menarche): about 2 years after first signs
2. Male: 12 to 16 years
 - a. Weight: gains 7 to 30 kg (15 to 65 lb)
 - b. Height: approximately 95% of mature height achieved by skeletal age of 15 years; grows 10 to 30 cm (4 to 12 inches)
 - c. Secondary sex characteristics appear in order
 - (1) Testicular enlargement
 - (2) Hair: pubic, axillary, upper lip, face, body
 - (3) Voice: deepens
 - (4) Penis: lengthens and thickens
 - (5) Nocturnal emissions
 - d. Gynecomastia: 33% during mid-puberty; usually disappears within 2 years

C Mental abilities

1. Abstract thinking; increased understanding
 - a. Comprehends satire and double meanings
 - b. May say one thing and mean another
 - c. Conceptualizes thought; more interested in exploring ideas than facts
 - d. Appreciates scientific thinking; problem solves; explores theoretical alternatives
2. Perception
 - a. Appreciates nonrepresentational art
 - b. Understands that whole is more than sum of its parts
3. Learning
 - a. Long attention span
 - b. Learns through inference, intuition, and theorizing, rather than repetition and imitation
 - c. Enjoys experimenting with language by using jargon to suit changing moods

D Social patterns

1. Increased social communication
2. Develops peer-group identity
 - a. Strong motivating force of behavior
 - b. Important to be part of group and be similar to peers
 - c. Clique formation: based on common culture (e.g., race, social class, ethnic group), common

interests (e.g., hobbies, music, sports)

3. Interpersonal relationships

- a. Major goal: learning to form close intimate relationship with opposite sex or same sex, if homosexual
- b. May develop crushes, worship idols (e.g., rock or movie star)
- c. Engages in sexual exploration; questions sex role
- d. Present, rather than future, oriented

3. Independence needs

- a. Age 15 or 16 years: wants to be treated as adult
- b. Ambivalence: wants freedom but has difficulty accepting responsibility; may yearn for carefree days of childhood
- c. Parental ambivalence and discipline problems: try to allow for increasing independence but continue to offer guidance and enforce discipline

Health Promotion during Adolescence

Nutrition during Adolescence

A Nutritional objectives

1. Provide optimum nutritional support for demands of rapid growth and high energy expenditure
2. Support development of appropriate eating habits through variety of foods, regular food pattern, quality snacks (e.g., high in protein; low in refined carbohydrate, primarily sugar)

B Range of nutrient requirements increases; adequate intake of all nutrients should form basis of diet

C Nutritional problems

1. Inadequate intake of calcium, vitamins A and C; iron in females
2. Anemia
3. Obese or underweight

D Possible causes of nutritional deficiencies; need for effective counseling

1. Psychologic factors: food aversions; emotional problems
2. Fear of overweight: cultural pressure
 - a. Crash diets (mainly girls)
 - b. Fad diets: associated with misinformation
3. Choice of junk foods for snacks (e.g., high in sugar, fat, salt)
4. Irregular eating pattern
5. Pregnancy: requires higher intake of protein, calcium, and calories

E Nutrition education: associated with concerns about physical appearance, figure control, complexion, physical fitness, athletic ability

Injury Prevention during Adolescence

A Education regarding

1. Sexual maturation, reproduction, sexual behavior
 - a. Sexually transmitted infections (STIs)
 - b. Contraception
 - c. Vaccination with human papillomavirus vaccine (HPV)
 - (1) Recommended for girls beginning at age 11 or 12
 - (2) Series of 3 injections given before first sexual contact
2. Driving in school or privately
3. Accidents: leading cause of death
 - a. Motor vehicle: most fatalities
 - b. Homicide and suicide: next two leading causes of death
4. Use and abuse of drugs and alcohol
5. Health hazards associated with smoking
6. Nutritional problems: anorexia nervosa, bulimia nervosa, obesity
7. Delinquency

B Health supervision

1. Acne
2. Orthopedic problems (e.g., scoliosis, kyphosis, lordosis)
3. Cancer screening

Hospitalization of Adolescents

Data Base

A Concerns

1. Need for privacy, sense of control, independence
2. Apprehension about mutilation, disfigurement, loss of function
3. Body changes; body image
4. Separation from peers; possible loss of status in group

B Developmental problems magnified by illness

General Nursing Care of Adolescents

A Encourage parents and health team members to prepare for hospitalization

1. Provide full explanations
2. Answer questions completely and honestly

B Involve in planning care

C Develop trusting relationship (e.g., discuss feelings, procedures, care, prognosis)

D Foster independence as much as possible

E Provide for contact with peers

F Arrange for continuity of schoolwork

G Encourage adherence to health program

H Encourage involvement with positive support systems

I Encourage wearing clothing and applying makeup (girls) or shaving regularly (boys) to minimize perceived shortcomings

Health Problems Most Common in Adolescents

Scoliosis

Data Base

A Spinal curvature deformity causing cosmetic and physiologic alterations in spine, chest, and pelvis

1. Occurs in three planes

- Lateral curvature of spine
- Spinal rotation causing rib asymmetry
- Thoracic hypokyphosis

2. Severity

- Large curve worsens with time
- Double curves (S-shaped curves) worsen more than do single curves (C-shaped curves)
- Thoracic section of spine worsens more than upper or lower portion

B Incidence: most common spinal deformity; more frequent in girls during growth spurt

C Risk factors: unknown cause (idiopathic); possibly genetic

D Classification

- Infantile: birth to 3 years of age
- Juvenile: during childhood
- Adolescent: most common during growth spurt

E Clinical findings (see [Figure 34-1: Curvatures of the spine](#))

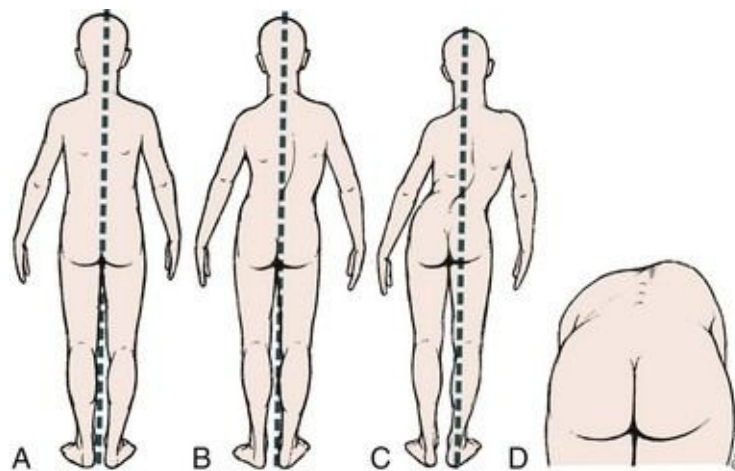


FIGURE 34-1 Curvatures of the spine. **A**, Normal spine. **B**, Mild scoliosis. **C**, Severe scoliosis. **D**, Asymmetry of shoulder, scapular, or flank shape, or hip height associated with scoliosis. (From Hockenberry M, Wilson D: *Wong's essentials of pediatric nursing*, ed 8, St. Louis, 2009.)

- Curve in vertebral spinous process alignment
- Prominence of one hip
- Prominence of one scapula; difference in shoulder or scapular height
- Deformity of rib cage; breasts appear unequal in size
- Other signs: clothes do not fit; uneven skirt or pants hems

F Therapeutic interventions

- Screening for scoliosis beginning at age 10; diagnosis confirmed by x-ray examination

2. Mild: orthopedic supervision every 4 to 6 months to monitor progression of curve
3. Moderate: bracing of bones still growing
 - a. Worn for 23 hours each day
 - b. Can be removed for sports and other physical activities
 - c. Effectiveness related to number of hours worn each day
 - d. Worn until bones have stopped growing; slows progression of curve
 - (1) Girls: about 2 years after onset of menstruation
 - (2) Boys: when shaving daily is necessary
 - e. Exercise to maintain and strengthen spinal and abdominal muscles
 - f. Types of braces ([Figure 34-2: Types of braces.](#))

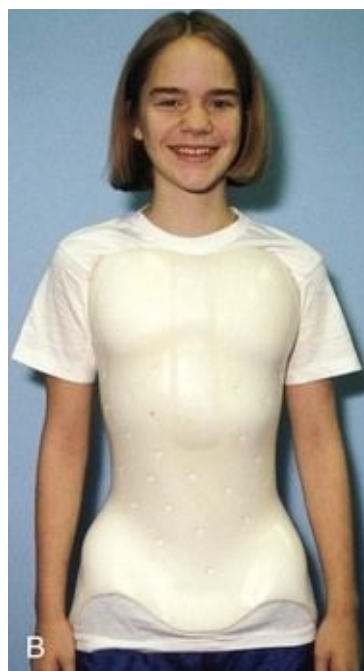




FIGURE 34-2 Types of braces. **A**, Thoracolumbosacral orthotic (TLSO). **B & C**, Variation of TLSO that fastens in the back. (From Hockenberry M, Wilson D: *Wong's essentials of pediatric nursing*, ed 8, St. Louis, 2009.)

4. Severe (more than 40°): surgery (e.g., spinal realignment and straightening with external or internal fixation; instrumentation combined with bony fusion [arthrodesis] of realigned spine [e.g., Harrington rods, Luque rod])
5. Most severe: traction devices and exercises before spinal fusion for partial correction to increase flexibility

Nursing Care of Adolescents with Scoliosis

Assessment/Analysis

1. Symmetry of shoulders and hips while standing erect, clothed in underpants (and bra if older girl); observation from behind
2. Symmetry or prominence of ribs while bending forward with back parallel to floor; observation from side
3. Review of x-rays

Planning/Implementation

1. Maintain spinal alignment per protocol
2. Provide care when wearing brace
 - a. Examine skin surfaces in contact with brace for signs of irritation
 - b. Implement corrective action to treat or prevent skin breakdown
 - c. Help select appropriate apparel for wearing over brace to minimize altered appearance
 - d. Encourage wearing low-heeled footwear to maintain balance
3. Reinforce instructions regarding
 - a. Plan of care
 - b. Use of appliance
 - c. Activities permitted or restricted (e.g., encourage activities that do not require twisting of spinal

column)

d. Adolescent's and parents' responsibilities associated with therapy

4. Prepare for surgery if required

Evaluation/Outcomes

1. Demonstrates correct use of brace

2. Reports minimal pain

3. Maintains skin integrity

4. Verbalizes feelings and concerns

5. Engages in activities appropriate to limitations and developmental level

Bone Tumors

Data Base

A Neoplastic disease that can arise from tissue involved in bone growth

B Incidence: less than 5% of all malignant neoplasms; peak ages 15 to 19 years

C Classification

1. Osteosarcoma

a. Most frequent bone tumor in children

b. Primary tumor sites: upper part of tibia; lower part of femur; humerus just below shoulder

c. Arises from osteoid tissue

2. Ewing sarcoma

a. Most frequent sites: shaft of long bones (e.g., femur, tibia, fibula, humerus, ulna); trunk bones (e.g., vertebra, scapula, ribs, pelvis, skull)

b. Arises from medullary tissue (marrow)

D Prognosis depends on

1. Extent of metastasis

2. Size and location of tumor

3. Tumor's response to therapy

4. Age and overall health

5. Tolerance to specific medications, procedures, therapies

E Clinical findings

1. Signs and symptoms

a. Localized pain in affected site

b. Limp; voluntary curtailment of activity

c. Inability to hold heavy objects

d. Weight loss; frequent infections

F Confirmation of diagnosis

1. Radiographic examination; CT (bone); MRI; radioisotope bone scan

2. Bone marrow aspiration

3. Surgical biopsy (Ewing sarcoma)

G Therapeutic interventions

1. Osteosarcoma

a. Limb salvage procedure: resection of tumor with prosthetic bone replacement

b. Chemotherapy

(1) Preoperative: to reduce tumor size

(2) Pre- and postoperative: DOXOrubicin, cyclophosphamide (Cytoxan), ifosfamide, carboplatin, cisplatin, high-dose methotrexate with leucovorin; medications singly or in combination

c. Amputation (rare)

2. Ewing sarcoma

a. Intensive irradiation of involved bone

b. Surgical removal of primary tumor

c. Chemotherapy: vinCRISine, cisplatin, DOXOrubicin, ifosfamide, etoposide

d. Amputation: for severe deformity as a result of radiation; if limb is useless

Nursing Care of Adolescents with Bone Tumors

Assessment/Analysis

1. Location and extent of pain

2. Functional status of involved area

3. Inflammation at site; lymph node involvement

4. Systemic involvement

Planning/Implementation

1. Provide preoperative and postoperative care

a. Offer straightforward honest explanations

b. Answer questions and clarify misconceptions

c. Avoid overwhelming adolescent or parents with too much information

d. Emphasize lack of alternatives if amputation is planned

e. Provide care related to amputations (see [Chapter 11](#), Nursing Care of Clients with Neuromusculoskeletal System Disorders, Amputation, Nursing Care)

(1) Assist with becoming adept at using prosthesis

(2) Help select clothing to camouflage prosthesis

f. Use pain rating scale and medicate appropriately during postoperative period

2. Provide care related to radiation therapy for Ewing sarcoma

a. Explain procedure; explain side effects

b. Suggest and/or implement measures to reduce physical effects of radiotherapy

(1) Select loose-fitting cotton clothing over irradiated areas to decrease irritation

(2) Protect area from sunlight and sudden changes in temperature

(3) Avoid ice packs, heating pads

c. Help to cope with side effects of radiotherapy

3. Support during chemotherapy

a. Explain procedure, stressing importance of chemotherapy

b. Explain probable side effects of antimetabolites (e.g., nausea, hair loss, stomatitis)

c. Administer antiemetics (e.g., ondansetron [Zofran]) to limit side effects of chemotherapy

d. Use nonpharmacologic means to minimize discomfort from chemotherapy (e.g., soft, nonirritating foods, soft-tipped applicator for oral hygiene)

- e. Encourage hygiene, grooming, and items to enhance appearance (e.g., wig)
- 4. Provide emotional support to adolescent and family members
 - a. Clarify misconceptions and provide technical information as needed
 - b. Provide time and opportunity for grieving
 - c. Encourage expression of feelings regarding loss and undesirable effects of therapy
 - d. Allow dependence while encouraging independence
 - e. Emphasize need for continuing regular activities, interactions, and behaviors

Evaluation/Outcomes

- 1. Reports minimal pain
- 2. Resumes peer relationships and activities commensurate with abilities
- 3. Adolescent and parents
 - a. Express feelings and concerns
 - b. Demonstrate positive coping skills
 - c. Verbalize understanding of therapies and side effects
 - d. Adjust to alterations in adolescent's appearance

Emotional Disorders

For common emotional disorders of the adolescent, see [Chapter 17, Nursing Care of Clients with Disorders Usually First Evident in Infancy, Childhood, or Adolescence](#)

Other Health Problems

Many problems of adolescence are similar to those of adults; see specific areas in Unit 2, Medical-Surgical Nursing, and Unit 4, Childbearing and Women's Health Nursing, for further discussions



Child Health Nursing

Review Questions with Answers and Rationales

Questions

Note: Thousands of additional practice questions are available on the enclosed companion CD.

► Denotes alternate format question.

Questions generally are grouped by content and usually when it is first evident within a particular developmental level. Therefore, there will be some questions with children whose age is not specific to the broad classification of infants, toddlers, preschoolers, or adolescents.

Nursing Care of Infants

► 1. The parents of a child call the clinic and tell the nurse that their child is irritable and has a 102° F temperature after having had a routine immunization. The clinic protocol indicates acetaminophen 15 mg/kg is to be administered every 4 to 6 hours. The child's last weight was 9.6 kg. The parent states, "The bottle of acetaminophen says that there are 160 mg in 5 mL." How much should the nurse tell the parent to administer for each dose? **Record your answer using one decimal place.**

Answer: _____ mL

2. A family has decided to withhold "extraordinary care" for a newborn with severe abnormalities. How should the nurse interpret this decision?

1. The newborn has no rights.
 2. It is the same as euthanasia.
 3. It is illegal professional practice.
 4. The newborn is being allowed to die.
3. A nurse is planning an initial home care visit to a mother who gave birth to a high-risk infant. For what time of day should the nurse schedule the visit for it to be **most** productive?

1. When the husband is out of the home.
 2. At a time the mother is feeding the infant.
 3. At a time that is convenient for the family.
 4. When the nurse can spend time with the family.
4. What is the **first** action a nurse should take before administering a tube feeding to an infant?

1. Irrigate the tube with water.
 2. Offer a pacifier to the infant.
 3. Slowly instill 10 mL of formula.
 4. Place the infant in the Trendelenburg position.
5. Which nursing intervention provides the **most** support to the parents of an infant with an obvious physical anomaly?

1. Encourage them to express their concerns.
 2. Discourage them from talking about their baby.
 3. Assure them not to worry because the anomaly can be repaired.
 4. Show them postoperative photographs of infants who had similar anomaly.
6. When picked up by a parent or the nurse, an 8-month-old infant screams and seems to be in pain. After observing this behavior, what should the nurse discuss with the parent?

1. Accidents and the importance of their prevention
 2. Limiting play time with other children in the family
 3. Any other behaviors that the parent may have noticed
 4. Food and specific vitamins that should be given to infants
7. A 1-week-old infant has been in the pediatric unit for 18 hours following placement of a spica cast. The nurse observes a respiratory rate of fewer than 24 breaths/min. No other changes are noted. Because the infant is apparently well, the nurse does not report or document the slow respiratory rate. Several hours later, the infant experiences severe respiratory distress and emergency care is necessary. What should be considered if legal action is taken?

1. Most infants' respirations are slow when they are uncomfortable.
2. The respirations of young infants are irregular, so a drop in rate is unimportant.
3. Vital signs that are outside the expected parameters are significant and should be documented.

4. The respiratory tract of young infants is underdeveloped, and their respiratory rate is not significant.

► 8. What suggestions should a nurse give to a parent to help a 2-month-old infant who has colic?

Select all that apply.

1. Give smaller, more frequent feedings.
2. Burp frequently when giving a feeding.
3. Place a warm heating pad on the abdomen.
4. Offer warm, sweetened tea when crying begins.
5. Rock the baby gently in a quiet room when crying begins.

► 9. A nurse at the well-child clinic determines a 1-year-old infant's length to be below what is expected. The current height is 28 inches, and the birth length was 20 inches. What should this infant's current length be? **Record your answer using a whole number.**

Answer: _____ inches

10. What nursing intervention **best** meets a major developmental need of a newborn in the immediate postoperative period?

1. Giving a pacifier to the infant
2. Putting a mobile over the infant's crib
3. Providing the infant with a soft, cuddly toy
4. Warming the infant's formula before feeding

► 11. What characteristics does a nurse expect infants and young children who have failure to thrive to exhibit? **Select all that apply.**

1. Hyperactivity
2. Language deficit
3. Being overweight
4. Proneness to illness
5. Responsiveness to stimuli

12. A parent and 3-month-old infant are visiting the well-baby clinic for a routine examination. What should the nurse include in the accident prevention teaching plan?

1. Remove small objects from the floor.
2. Cover electric outlets with safety plugs.
3. Remove toxic substances from low areas.
4. Test the temperature of water before bathing.

13. A nurse is teaching a parent how to prevent accidents while caring for a 6-month-old infant. What ability should be emphasized about the infant's motor development?

1. Sits up
2. Rolls over
3. Crawls short distances
4. Stands while holding on to furniture

14. A 7-month-old girl is to be catheterized to obtain a sterile urine specimen. One of the infant's parents expresses fear that this procedure may traumatize the baby psychologically. How should the nurse provide reassurance?

1. The fear is justified and the nurse should obtain a "clean catch" specimen.
2. Parents have a right to refuse the catheterization and the concerns are realistic.
3. Although the concern is appropriate, the need for a sterile specimen is the priority.
4. The procedure is uncomfortable, but there should not be a damaging long-term effect.

15. A nurse is assessing the oral cavity of a 6-month-old infant. The parent asks which teeth will erupt first. How should the nurse respond?

1. Incisors
2. Canines
3. Upper molars
4. Lower molars

16. A nurse is teaching a class of new parents about how to position their infants during the first few weeks of life. Which position is safest?

1. On the back, lying flat
2. On either side, lying flat
3. Head slightly elevated on the left side
4. Head slightly elevated on the right side

17. A parent arrives in the emergency clinic with a 3-month-old baby who says, “My baby stopped breathing for a while.” The infant continues to have difficulty breathing, with prolonged periods of apnea. Which assessment data should alert the nurse to suspect shaken baby syndrome (SBS)?

1. Birth occurred before 32 weeks’ gestation
2. Lack of stridor and adventitious breath sounds
3. Previous episodes of apnea lasting 10 to 15 seconds
4. Retractions and use of accessory respiratory muscles

18. Parents of a sick infant talk with a nurse about their baby. One parent says, “I am so upset; I didn’t realize our baby was ill.” What **major** indication of illness in an infant should the nurse explain to the parent?

1. Grunting respirations
2. Excessive perspiration
3. Longer periods of sleep
4. Crying immediately after feedings

19. A newborn is admitted to the neonatal intensive care unit (NICU) with choanal atresia. Which part of the infant’s body should the nurse assess?

1. Rectum
2. Nasopharynx
3. Intestinal tract
4. Laryngopharynx

20. What behavior does the nurse anticipate while feeding a newborn with choanal atresia?

1. Chokes on the feeding
2. Has difficulty swallowing
3. Does not appear to be hungry
4. Takes about half of the feeding

► 21. An infant is admitted to the pediatric intensive care unit (PICU) after open-heart surgery for the repair of a ventricular septal defect. Place these nurse assessments in order of priority.

1. _____ Heart rate
2. _____ Operative site
3. _____ Urinary output
4. _____ Respiratory status
5. _____ Intravenous catheter

22. What is the nurse’s **priority** intervention when preparing for admission of a child with acute

laryngotracheobronchitis?

1. Pad the side rails of the crib.
2. Arrange for a quiet, cool room.
3. Place a tracheotomy set at the bedside.
4. Obtain a recliner so that a parent can stay.

23. What should be the nurse's **priority** action when caring for a child with acute laryngotracheobronchitis?

1. Initiate measures to reduce fever.
2. Ensure delivery of humidified oxygen.
3. Provide support to reduce apprehension.
4. Continually assess the respiratory status.

24. A 3-month-old infant has been hospitalized with respiratory syncytial virus (RSV). What is the **priority** intervention?

1. Administering an antiviral agent
2. Clustering care to conserve energy
3. Offering oral fluids to promote hydration
4. Providing an antitussive agent whenever necessary

► 25. The health care provider prescribes 375 mg ampicillin IV q6h for a 5-month-old with recurring respiratory infections. The drug is supplied as 500 mg of powder in a vial. The directions state to mix the powder with 1.8 mL diluent, which yields 250 mg/mL. How many milliliters should the nurse administer? **Record your answer using one decimal place.**

Answer: _____ mL

26. A child is admitted to the hospital with pneumonia. What is the **priority** need that must be included in the nursing plan of care for this child?

1. Rest
2. Exercise
3. Nutrition
4. Elimination

27. A 6-month-old infant is brought to the emergency department in severe respiratory distress. A diagnosis of respiratory syncytial virus (RSV) is made and the infant is admitted to the pediatric unit. What should be included in the nursing plan of care?

1. Place in a warm, dry environment.
2. Allow parents and siblings to visit.
3. Maintain standard and contact precautions.
4. Administer prescribed antibiotic immediately.

28. An infant is admitted to the neonatal intensive care unit (NICU) with exstrophy of the bladder. What covering should the nurse use to protect the exposed area?

1. Loose diaper
2. Dry gauze dressing
3. Moist sterile dressing
4. Petroleum jelly gauze pad

29. An additional defect is associated with exstrophy of the bladder. For what anomaly should the nurse assess the infant?

1. Imperforate anus
2. Absence of one kidney

3. Congenital heart disease

4. Pubic bone malformation

30. A nurse is caring for an infant born with exstrophy of the bladder. What does the nurse determine is the **greatest** risk for this infant?

1. Infection

2. Dehydration

3. Urinary retention

4. Intestinal obstruction

31. A home care nurse is visiting a family for the first time. The 4-week-old infant had surgery for exstrophy of the bladder and creation of an ileal conduit soon after birth. When the nurse arrives, the mother appears tired and the baby is crying. After an introduction, which is the **most** appropriate statement by the nurse?

1. "Tell me about your daily routine."

2. "You look tired. Is everything all right?"

3. "When was the last time the baby had a bottle?"

4. "Oh, it looks like you two are having a bad day."

32. The nurse is teaching a parent group about the reason for adhering to the immunization schedule. What complication of mumps is important for adolescents to avoid?

1. Sterility

2. Hypopituitarism

3. Decrease in libido

4. Decrease in androgens

33. A nurse is performing a physical examination on an infant with Down syndrome. For what anomaly should the nurse assess the child?

1. Bulging fontanel

2. Stiff lower extremities

3. Abnormal heart sounds

4. Unusual pupillary reactions

34. A parent tells the nurse, "My 9-month-old baby no longer has the same strong grasp that was present at birth and no longer acts startled by loud noises." How should the nurse explain these changes in behavior?

1. "I will check these responses before deciding how to proceed."

2. "Failure of these responses may be related to a developmental delay."

3. "Additional sensory stimulation is needed to aid in the return of these responses."

4. "These responses are replaced by voluntary activity at about five months of age."

35. The nurse is teaching a group of parents about the side effects of the immunization vaccines. Which sign should the nurse include when talking about an infant receiving the *Haemophilus influenzae* (Hib) vaccine?

1. Lethargy

2. Urticaria

3. Generalized rash

4. Low-grade fever

► 36. An infant is receiving parenteral therapy. The IV orders are 400 mL of D5W 0.45% sodium chloride to run over 8 hours. At what rate should the nurse maintain the hourly rate? **Record your answer using a whole number.**

Answer: _____ mL

37. An infant who has had diarrhea for 3 days is admitted in a lethargic state and is breathing rapidly. The parent states that the baby has been ingesting formula, although not as much as usual, and cannot understand the sudden change. What explanation should the nurse give the parent?

1. Cellular metabolism is unstable in young children.
2. The proportion of water in the body is less than in adults.
3. Renal function is immature in children until they reach school age.
4. The extracellular fluid requirement per unit of body weight is greater than in adults.

38. When explaining the occurrence of febrile seizures to a parents' class, what information should the nurse include?

1. They may occur in minor illnesses.
2. The cause is usually readily identified.
3. They usually do not occur during the toddler years.
4. The frequency of occurrence is greater in females than males.

39. A parent tells the nurse in the emergency department, "My 3-year-old has had a fever for several days and has been vomiting." After instituting ordered measures to reduce the fever, what nursing action is **most** important?

1. Preventing shivering
2. Restricting oral fluids
3. Measuring output hourly
4. Taking vital signs hourly

40. The nurse observes that a 3-year-old child in a crib has a clamped jaw and is having a tonic-clonic seizure. What is the **priority** nursing responsibility at this time?

1. Apply restraints.
2. Administer oxygen.
3. Protect the child from self-injury.
4. Insert a plastic airway in the child's mouth.

41. A child sitting on a chair in a playroom starts to have a tonic-clonic seizure with a clenched jaw. What is the nurse's **best** initial action?

1. Attempt to open the jaw.
2. Place the child on the floor.
3. Call out for assistance from staff.
4. Place a pillow under the child's head.

► 42. A nurse is caring for a child with the diagnosis of meningitis. What clinical findings indicate an increase in intracranial pressure? **Select all that apply.**

1. Irritability
2. Bradycardia
3. Hyperalertness
4. Decreased pulse pressure
5. Decreased systolic blood pressure

43. An infant is diagnosed with communicating hydrocephalus. The parents ask for clarification of the health care provider's explanation of their baby's problem. How should the nurse respond?

1. "Too much spinal fluid is produced within the spaces (ventricles) of the brain."
2. "The flow of spinal fluid through the brain cells does not empty effectively into the spinal cord."
3. "The spinal fluid is prevented from adequate absorption by a blockage in the spaces (ventricles) of

the brain.”

4. “There is a part of the brain surface that usually absorbs spinal fluid after its production that is not functioning adequately.”

44. A 6-week-old infant and the mother arrive in the emergency department via ambulance. The father arrives several minutes later with two children, 7 and 9 years old. The infant is not breathing, and the eventual diagnosis is sudden infant death syndrome (SIDS). The parents take turns holding the infant in another room. The nurse remains present and provides emotional support to the parents. What is an important short-term goal for this family?

1. Identify the problems that they will be facing related to the loss of the infant.
2. Include the infant’s siblings in the events and grieving following the infant’s death.
3. Seek out other families who have lost infants to SIDS and receive support from them.
4. Accept that there was nothing that they should have done to prevent the infant’s death.

45. What should be included in the nursing care of an infant with increased intracranial pressure?

1. Weigh daily before feeding.
2. Elevate the head higher than the hips.
3. Check the reflexes at regular intervals.
4. Monitor alertness with frequent stimulation.

46. The parents of an infant who just had a ventriculoperitoneal shunt inserted for hydrocephalus are concerned about the prognosis. What information should the nurse give the parents?

1. The prognosis is excellent and the valve is permanent.
2. The shunt may need to be revised as the child grows older.
3. If any brain damage has occurred, it is irreversible even after the first year of life.
4. Hydrocephalus usually is self-limiting by 2 years of age, and then the shunt is removed.

47. An infant who was born with a meningomyelocele develops hydrocephalus. A ventriculoperitoneal shunt is inserted. What nursing intervention is **essential** in this infant’s care during the first 24 hours after surgery?

1. Placing in high-Fowler position
2. Administering the prescribed sedative
3. Positioning on the same side as the shunt
4. Monitoring for increasing intracranial pressure

48. The discharge of a newborn with a surgically repaired myelomeningocele is anticipated at about 2 weeks of age. What teaching should the nurse include when preparing the parents for the discharge?

1. Demonstration of restrictive positions to prevent the infant from turning
2. Discussion about the need to limit the infant’s fluid intake to formula only
3. Instructions on how to do passive range-of-motion exercises to the infant’s lower extremities
4. Explanation of the need to provide the infant with a quiet environment to reduce external stimuli

► 49. An infant who had a revision of a ventriculoperitoneal shunt is diagnosed with meningitis from an infected shunt. What clinical manifestations support this conclusion? **Select all that apply.**

1. Fever
2. Lethargy
3. Stiff neck
4. Poor feeding
5. Depressed fontanels

50. A nurse in the pediatric clinic is assessing an infant who had a revision of a ventriculoperitoneal shunt. What clinical finding alerts the nurse that intracranial pressure has increased?

1. Increased pulse rate
2. Hypoactive reflexes
3. Decreased blood pressure
4. Tension of the anterior fontanel

51. The parents of an infant who has had a surgical repair of a myelomeningocele express concern about skin care and ask what they can do to avoid problems. The nurse should teach the parents that their infant:

1. will require long-term multidisciplinary follow-up care.
2. should take prophylactic antibiotic therapy indefinitely.
3. must be kept dry by applying powder after each diaper change.
4. does not need anything more than routine cleansing and diaper changes.

52. What is the **primary** nursing intervention for an infant with a myelomeningocele before surgical correction?

1. Minimize infection.
2. Prevent trauma to the sac.
3. Observe for increasing paralysis.
4. Assess the degree of bowel and bladder control.

53. An infant with a myelomeningocele is admitted to the pediatric intensive care unit (PICU). While the infant is awaiting surgical correction of the defect, what is the **most** appropriate nursing intervention?

1. Using disposable diapers
2. Placing the infant in the prone position
3. Performing neurologic checks above the site of the lesion
4. Washing the area below the defect with a nontoxic antiseptic

54. After closure of a newborn's myelomeningocele, what **essential** nursing intervention must be included in the plan of care?

1. Limiting leg movement
2. Decreasing environmental stimuli
3. Measuring head circumference daily
4. Observing for serous drainage from the nares

55. A nurse is caring for an infant with bacterial meningitis. The parents ask how their baby could have contracted the illness. What does the nurse consider as the **most** likely route of transmission to the central nervous system (CNS)?

1. Genitourinary tract
2. Gastrointestinal tract
3. Skin or mucous membranes
4. Cranial apertures or sinuses

► 56. The nurse is admitting an 8-month-old infant to the hospital because bacterial meningitis is suspected. List in order of priority the nursing actions that should be taken.

1. _____ Institute respiratory isolation.
2. _____ Assist with a lumbar puncture.
3. _____ Insert a circulatory access device.
4. _____ Administer prescribed antibiotics.
5. _____ Monitor for signs of nuchal rigidity

57. For how long should a nurse maintain isolation of a child with bacterial meningitis?

1. For 12 hours after admission
 2. Until the cultures are negative
 3. Until antibiotic therapy is completed
 4. For 48 hours after antibiotic therapy begins
58. A 1-year-old infant has been admitted with a tentative diagnosis of bacterial meningitis. A lumbar puncture is performed to confirm the diagnosis. What laboratory report of the spinal fluid supports this diagnosis?
1. Decreased cell count
 2. Elevated protein level
 3. Increased glucose level
 4. Low spinal fluid pressure
59. A nurse is caring for a child with meningococcal meningitis. What clinical finding does the nurse expect when performing a physical assessment?
1. Severe glossitis
 2. Low-grade fever
 3. Purpuric skin rash
 4. Tremors of the extremities
- ▶ 60. A nurse is caring for a 2-year-old child with meningitis. For which clinical manifestations of increasing intracranial pressure should the nurse assess the child? **Select all that apply.**
1. Seizures
 2. Vomiting
 3. Bulging fontanel
 4. Subnormal temperature
 5. Decreased respiratory rate
61. What does a nurse determine is the **most** serious complication of meningitis in young children?
1. Epilepsy
 2. Blindness
 3. Peripheral circulatory collapse
 4. Communicating hydrocephalus
62. The nurse observes that an infant has asymmetric gluteal folds. For which disorder should the nurse perform a focused assessment?
1. Congenital inguinal hernia
 2. Central nervous system damage
 3. Peripheral nervous system damage
 4. Developmental dysplasia of the hip
63. A 3-month-old infant with severe developmental dysplasia of the hip has a hip spica cast applied. What should the nurse teach the parents to prevent a serious complication?
1. Change diapers frequently.
 2. Decrease the number of feedings per day.
 3. Avoid turning from prone to supine positions.
 4. Call the health care provider if there is a foul smell.
64. A 4-month-old infant had a spica cast applied. What should the nurse include in the discharge instructions to the parents?
1. Obtain a specially designed car seat.
 2. Keep diapers on to prevent soiling of the cast.

3. Change the infant's position every eight hours.
 4. Use the bar between the infant's legs to change positions.
65. What procedure should a nurse use when elevating the head of an infant in a spica cast?
1. Change this position after an hour.
 2. Place pillows under the shoulders.
 3. Pad the edge of the cast with folded diapers.
 4. Raise the entire mattress at the head of the crib.
66. A nurse is caring for a 3-month-old infant who is diagnosed with congenital hypothyroidism. What should the parents be told of the probable effect on the infant's future if treatment is not begun immediately?
1. Myxedema
 2. Thyrotoxicosis
 3. Spastic paralysis
 4. Mental retardation
67. At a visit to the well-baby clinic, the parents are upset because their 9-month-old infant has a severe diaper rash; one parent wants to know how to treat it and prevent it from recurring. What cause of diaper dermatitis should the nurse include when answering the parent's question?
1. Use of disposable diapers
 2. Prolonged contact with an irritant
 3. Decreased pH of the infant's urine
 4. Too early introduction of solid foods
68. A parent brings a 2-week-old infant to the clinic because the infant continually regurgitates. Chlasia, an incompetent cardiac sphincter, is suspected. What instructions should the nurse give the parent?
1. Keep the infant in an upright position after feedings.
 2. Prevent the infant from crying for prolonged periods.
 3. Keep the infant in the prone position following feedings.
 4. Ensure that the infant drinks a full bottle of formula at each feeding.
69. A parent brings a 9-month-old infant to the pediatric clinic and asks about the introduction of new foods. What should the nurse suggest?
1. "Mix the pureed food with formula and offer it in a bottle."
 2. "Give the entire regular feeding and then introduce the new food."
 3. "Offer a new food every day until one is accepted and then offer it again."
 4. "Give a small amount of formula and then offer the new food while still hungry."
70. What should nursing care for an infant after the surgical repair of a cleft lip include?
1. Preventing crying
 2. Placing in a semi-Fowler position
 3. Keeping NPO for 1 day after surgery
 4. Feeding with a spoon for 2 days after surgery
71. A nurse who is caring for an infant with a cleft lip is concerned about preventing an infection. Why does the cleft lip predispose the infant to infection?
1. Waste products accumulate along the defect.
 2. There is inadequate circulation in the defective area.
 3. Nutrition is inadequate because of ineffective feeding.
 4. Mouth breathing dries the oropharyngeal mucous membranes.

72. What should a nurse use to feed an infant born with a unilateral cleft lip and palate?

1. Plastic spoon
2. Cross-cut nipple
3. Parenteral infusion
4. Rubber-tipped syringe

73. A parent of an 11-month-old infant who has a cleft palate asks the nurse why it was recommended that closure of the palate should be done before the age of 2. How should the nurse respond?

1. "After age 2 surgery is frightening and should be avoided if possible."
2. "Eruption of the 2-year molars often complicates the surgical procedure."
3. "As your child gets older, the palate gets wider and more difficult to repair."
4. "Surgery should be performed before your child starts to use faulty speech patterns."

► 74. An infant has a cleft lip and palate and is admitted to the hospital for a surgical repair. Place the nurse's postoperative interventions in order of priority.

1. _____ Preventing vomiting
2. _____ Maintaining a patent airway
3. _____ Assessing the infant's hearing status
4. _____ Monitoring parenteral fluid infusions
5. _____ Teaching the parents alternate feeding methods

75. An infant with hypertrophic pyloric stenosis (HPS) is admitted to the pediatric unit. What does the nurse expect when palpating the infant's abdomen?

1. A distended colon
2. Marked tenderness around the umbilicus
3. An olive-sized mass in the right upper quadrant
4. Rhythmic peristaltic waves in the lower abdomen

76. A nurse is caring for an infant with a tentative diagnosis of hypertrophic pyloric stenosis (HPS). What is **most** important for the nurse to assess?

1. Quality of the cry
2. Signs of dehydration
3. Coughing up of feedings
4. Characteristics of the stool

77. Surgery to correct hypertrophic pyloric stenosis (HPS) is performed on a 3-week-old infant who had been formula-fed. Which postoperative feeding order is appropriate?

1. Thickened formula 24 hours after surgery
2. Withholding feedings for the first 24 hours
3. Regular formula feeding within 24 hours after surgery
4. Additional glucose feedings as desired after first 24 hours

78. Corrective surgery for hypertrophic pyloric stenosis (HPS) is completed, and the infant is returned to the pediatric unit with an IV infusion in place. What is the **priority** nursing action?

1. Apply adequate restraints.
2. Administer a mild sedative.
3. Assess the IV site for infiltration.
4. Attach the nasogastric tube to wall suction.

79. An infant had corrective surgery for hypertrophic pyloric stenosis (HPS). What should the nurse teach a parent to do immediately after a feeding to limit vomiting?

1. Rock the infant.

2. Place the infant in an infant seat.
 3. Place the infant flat on the right side.
 4. Keep the infant awake with sensory stimulation.
80. A newborn with an anorectal anomaly had an anoplasty performed. At the 2-week follow-up visit, a series of anal dilations are begun. What should the nurse recommend to the parents to help prevent the infant from becoming constipated?
1. Use a soy formula.
 2. Breastfeed if possible.
 3. Administer a suppository nightly.
 4. Offer glucose water between feedings.
81. A nurse is caring for an infant with phenylketonuria (PKU). What diet should the nurse anticipate will be ordered by the health care provider?
1. Fat-free
 2. Protein-enriched
 3. Phenylalanine-free
 4. Low-phenylalanine
82. What should the nurse include in the teaching plan for parents of an infant diagnosed with phenylketonuria (PKU)?
1. Mental retardation occurs if PKU is untreated.
 2. Testing for PKU is done immediately after birth.
 3. Treatment for PKU includes lifelong medications.
 4. PKU is transmitted by an autosomal dominant gene.
83. The parents of a newborn with phenylketonuria (PKU) need help and support in adhering to specific dietary restrictions. They ask the nurse, "How long will our child have to be on this diet?" How should the nurse respond?
1. "We still are not sure; you should discuss this with your health care provider."
 2. "If your baby does well, foods containing protein can gradually be introduced."
 3. "Your child needs to be on this diet at least through adolescence and into adulthood."
 4. "This is a lifelong problem, and it is recommended that dietary restrictions must be continued."
84. A nurse plans to discuss childhood nutrition with a group of parents whose children have Down syndrome in an attempt to minimize a common nutritional problem. What problem should be addressed?
1. Rickets
 2. Obesity
 3. Anemia
 4. Rumination
- 85. A nurse is caring for a 3-month-old infant whose abdomen is distended and whose vomitus is bile stained. The nurse suspects an intestinal obstruction. What clinical manifestations support this suspicion? **Select all that apply.**
1. Weak pulse
 2. Hypotonicity
 3. Paroxysmal pain
 4. High-pitched cry
 5. Grunting respirations
86. A nurse is discussing the care of an infant with colic with the parents. What should the nurse

explain is the cause of colicky behavior?

1. Inadequate peristalsis
2. Paroxysmal abdominal pain
3. An allergic response to certain proteins in milk
4. A protective mechanism designed to eliminate foreign proteins

87. A 1-month-old infant is admitted to the pediatric unit with a tentative diagnosis of Hirschsprung disease (congenital aganglionic megacolon). What procedure does the nurse expect to be used to confirm the diagnosis?

1. Colonoscopy
2. Rectal biopsy
3. Multiple saline enemas
4. Fiberoptic nasoenteric tube

88. A health care provider orders a tap water enema for a 6-month-old infant with suspected Hirschsprung disease. What rationale causes the nurse to question the order?

1. The result could be loss of necessary nutrients.
2. It could cause a fluid and electrolyte imbalance.
3. It could increase the fear of intrusive procedures.
4. The result could cause shock from a sudden drop in temperature.

89. An order is written for an isotonic enema for a 2-year-old child. What is the maximum amount of fluid the nurse should administer without a specific order from the health care provider?

1. 100 to 150 mL
2. 155 to 250 mL
3. 255 to 360 mL
4. 365 to 500 mL

90. A 5-month-old infant develops severe diarrhea and is given IV fluids. What is the rationale for the nurse to closely monitor the IV flow rate?

1. Limiting output
2. Replacing lost fluids
3. Avoid IV infiltration
4. Preventing cardiac overload

91. What is an **essential** nursing action when caring for a young child with severe diarrhea?

1. Maintain the IV.
2. Take daily weights.
3. Replace the lost calories.
4. Promote perianal skin integrity.

92. A nurse is caring for an infant whose vomiting is intractable. For what complication is it **most** important for the nurse to assess?

1. Acidosis
2. Alkalosis
3. Hyperkalemia
4. Hyponatremia

93. A nurse is administering IV fluids to a dehydrated infant. What intervention is **most** important at this time?

1. Continuing the prescribed flow rate
2. Monitoring the intravenous drop rate

3. Calculating the total necessary intake
4. Maintaining the fluid at body temperature

94. A 5-month-old infant is brought to the pediatric clinic for a routine monthly examination. What assessment alerts the nurse to notify the health care provider?

1. Temperature of 99.5° F
2. Blood pressure of 75/48 mm Hg
3. Heart rate of 100 beats per minute
4. Respiratory rate of 50 breaths per minute

95. A nurse is reviewing the clinical records of infants and children with cardiac disorders who developed heart failure. What did the nurse determine is the last sign of heart failure?

1. Tachypnea
2. Tachycardia
3. Peripheral edema
4. Periorbital edema

96. What is a common finding that the nurse can identify in most children with symptomatic cardiac malformations?

1. Mental retardation
2. Inherited genetic factors
3. Delayed physical growth
4. Clubbing of the fingertips

97. A 1-year-old child has a congenital cardiac malformation that causes right-to-left shunting of blood through the heart. What clinical finding should the nurse expect?

1. Proteinuria
2. Peripheral edema
3. Elevated hematocrit
4. Absence of pedal pulses

98. The parents of a child who is scheduled for open-heart surgery ask why their child must be subjected to chest tubes after surgery. What should the nurse consider before responding in language the parents will understand?

1. They will increase tidal volumes.
2. Drainage of air and fluid will be facilitated.
3. They will maintain positive intrapleural pressure.
4. Pressure on the pericardium and chest wall will be regulated.

99. After a discussion with the health care provider, the parents of an infant with patent ductus arteriosus (PDA) ask the nurse to explain once again what PDA is. How should the nurse respond?

1. The diameter of the aorta is enlarged.
2. The wall between the right and left ventricles is open.
3. It is a narrowing of the entrance to the pulmonary artery.
4. It is a connection between the pulmonary artery and the aorta.

100. A nurse is caring for a child with a cardiac malformation associated with left-to-right shunting. What does the nurse consider to be the **major** characteristic of this type of congenital disorder?

1. Elevated hematocrit
2. Severe growth retardation
3. Clubbing of the fingers and toes
4. Increased blood flow to the lungs

101. A young child has coarctation of the aorta. What does the nurse expect to identify when taking the child's vital signs?

1. A weak radial pulse
2. An irregular heartbeat
3. A bounding femoral pulse
4. An elevated radial blood pressure

102. A 2-week-old infant is admitted with a tentative diagnosis of a ventricular septal defect. The parents report that their baby has had difficulty feeding since coming home after the birth. What should the nurse consider before responding?

1. Feeding problems are common in neonates.
2. Inadequate sucking is not significant in the absence of cyanosis.
3. Ineffective sucking and swallowing may be early indications of a heart defect.
4. Many neonates retain mucus, and this may interfere with feeding for several weeks.

103. A 3-year-old child is scheduled for a cardiac catheterization. What is the **priority** nursing care after this procedure?

1. Encouraging early ambulation
2. Monitoring the site for bleeding
3. Restricting fluids until the blood pressure is stabilized
4. Comparing the blood pressure of both lower extremities

104. A parent brings a 2-month-old infant with Down syndrome to the pediatric clinic for a physical and administration of immunizations. The nurse performs an initial physical assessment. Which clinical finding should alert the nurse to perform a further assessment?

1. Flat occiput
2. Small, low-set ears
3. Circumoral cyanosis
4. Protruding furrowed tongue

105. Which cardiac defects are associated with tetralogy of Fallot?

1. Right ventricular hypertrophy, atrial and ventricular defects, and mitral valve stenosis
2. Origin of the aorta from the right ventricle and of the pulmonary artery from the left ventricle
3. Right ventricular hypertrophy, ventricular septal defect, pulmonic stenosis, and overriding aorta
4. Altered connection between the pulmonary artery and the aorta, right ventricular hypertrophy, and an atrial septal defect

106. A nurse is reviewing the laboratory report of a child with tetralogy of Fallot that indicates an elevated RBC count. What does the nurse identify as the cause of the polycythemia?

1. Low blood pressure
2. Tissue oxygen needs
3. Diminished iron level
4. Hypertrophic cardiac muscle

107. What clinical manifestation of tetralogy of Fallot should the nurse expect when caring for children with this diagnosis?

1. Slow respirations
2. Clubbing of fingers
3. Decreased RBC counts
4. Subcutaneous hemorrhages

108. A child undergoes heart surgery to repair the defects associated with tetralogy of Fallot. What

behavior is **essential** for the nurse to prevent postoperatively?

1. Crying
2. Coughing
3. Straining at stool
4. Unnecessary movement

109. An infant who had cardiac surgery for a congenital defect is to be discharged. What should the nurse emphasize to the parents when they administer the prescribed antibiotic?

1. Give the antibiotic between feedings.
2. Ensure that the antibiotic is administered as prescribed.
3. Shake the bottle thoroughly before giving the antibiotic.
4. Keep the antibiotic in the refrigerator after the bottle has been opened.

110. An infant with a congenital heart defect is being given gavage feedings. The parents ask the nurse why this is necessary. How should the nurse respond?

1. "It limits the chance of vomiting."
2. "It allows the feeding to be administered rapidly."
3. "The energy that would have been expended on sucking is conserved."
4. "The quantity of nutritional liquid can be regulated better than with a bottle."

111. The parents of a 6-week-old infant who was born without an immune system ask a nurse why their baby is still so healthy. How should the nurse reply?

1. Exposure to pathogens during this time can be limited.
2. Some antibodies are produced by the infant's colonic bacteria.
3. Antibodies are passively received from the mother through the placenta and breast milk.
4. Fewer antibodies are produced by the fetal thymus during the eighth and ninth months of gestation.

112. When evaluating the laboratory report of a 1-year-old infant's hematocrit, a nurse compares it with the expected hematocrit range for this age group. What is the hematocrit of a healthy 12-month-old infant?

1. 19% to 32%
2. 29% to 41%
3. 37% to 47%
4. 42% to 69%

113. What explanation should the nurse give a parent about the purpose of a tetanus toxoid injection for her child?

1. Passive immunity is conferred for life.
2. Long-lasting active immunity is conferred.
3. Lifelong active natural immunity is conferred.
4. Passive natural immunity is conferred temporarily.

► 114. The parents of a 4-year-old child who is receiving prednisone asks a nurse why some of the booster immunizations are being postponed. The nurse explains that administering live attenuated virus vaccines is contraindicated for children receiving corticosteroids because they make them more susceptible to infection. Which are safe for the child to receive? **Select all that apply.**

1. Rubella
2. Pertussis
3. Varicella
4. Inactivated poliovirus
5. Tetanus immune globulin

115. A school nurse is teaching parents of school-age children about the importance of immunizations for the childhood communicable diseases. What preventable disease may cause the complication of encephalitis?

1. Varicella
2. Scarlet fever
3. Poliomyelitis
4. Whooping cough

116. A parent asks a nurse how to tell the difference between measles (rubeola) and German measles (rubella). What should the nurse tell the parent about rubeola that is different from rubella?

1. High fever and Koplik spots
2. Rash on the trunk with pruritus
3. Nausea, vomiting, and abdominal cramps
4. Characteristics of a cold, followed by a rash

117. The parents of an infant ask the nurse why their baby is scheduled to receive the intramuscular polio vaccine rather than the oral vaccine. What is the nurse's **best** response?

1. "The American Academy of Pediatrics recommends the intramuscular vaccine because it is safer."
2. "The consensus is that either can be used, since both produce the same results and are equally safe."
3. "The oral vaccine is more expensive, so the intramuscular vaccine is preferred unless it is contraindicated."
4. "The U.S. Centers for Disease Control and Prevention recommends the intramuscular vaccine unless the infant or a family member is immunocompromised."

118. A nurse is teaching parents about why most children should be immunized against varicella (chickenpox) and why some receiving specific medications should not. Which medication should be included in the discussion?

1. Insulin
2. Steroids
3. Antibiotics
4. Anticonvulsants

119. A nurse is teaching a class about immunizations to members of a grammar school's Parent-Teachers Association. Which childhood disease is the nurse discussing when explaining that it is a viral disease that starts with malaise and a highly pruritic rash that begins on the abdomen, spreads to the face and proximal extremities, and can result in grave complications?

1. Rubella
2. Rubeola
3. Chickenpox
4. Scarlet fever

120. The parent of a child who has received all of the primary immunizations asks the nurse which ones the child should receive before starting kindergarten. The nurse tells the parent that her child should receive boosters of:

1. IPV, HepB, Td.
2. DTaP, HepB, Td.
3. MMR, DTaP, Hib.
4. DTaP, IPV, MMR.

121. A nurse is reviewing the immunization schedule of an 11-month-old infant. What immunizations does the nurse expect the infant to have previously received?

1. Pertussis, tetanus, polio, and measles
2. Diphtheria, pertussis, tetanus, and polio
3. Rubella, polio, tuberculosis, and pertussis
4. Measles, mumps, rubella, and tuberculosis

122. During a vaccination drive at a well-child clinic, a nurse observes that a recently hired nurse is not wearing gloves. What should the nurse advise the newly hired nurse to do?

1. Speak with the nurse manager regarding techniques.
2. Put on gloves because standard precautions are required.
3. Continue with the immunizations because gloves are not needed.
4. Evaluate the child's appearance to determine whether gloves are needed.

123. A 12-month-old infant has become immunosuppressed during a course of chemotherapy. When preparing the parents for the infant's discharge, what information should the nurse give concerning the measles, mumps, and rubella (MMR) immunization?

1. It should not be given until the infant reaches 2 years of age.
2. Infants who are receiving chemotherapy should not be given these vaccines.
3. It should be given to protect the infant from contracting any of these diseases.
4. The parents should discuss this with their health care provider at the next visit.

124. A parent and 4-year-old child who recently emigrated from Colombia arrive at the pediatric clinic. The child has a temperature of 102° F, is irritable, and has a runny nose. Inspection reveals a rash and several small, red, irregularly shaped spots with blue-white centers in the mouth. What illness does the nurse suspect the child has?

1. Measles
2. Chickenpox
3. Fifth disease
4. Scarlet fever

Nursing Care of Toddlers

► 125. A health care provider prescribes amoxicillin 145 mg by mouth three times daily for a 28-lb toddler. It is supplied as a suspension of 250 mg/5 mL. The safe dosage is 35 mg/kg/24 hours. How many milligrams within the safe dosage limit is the dose? **Record your answer using one decimal place.**

Answer: _____ mg

126. A parent calls the outpatient clinic requesting information about the appropriate dose of acetaminophen for a 16-month-old child who has signs of an upper respiratory tract infection and fever. The directions on the bottle of acetaminophen elixir are 120 mg every 4 hours when needed. At the toddler's 15-month visit, the health care provider prescribed 150 mg. What is the nurse's **best** response to the parent?

1. "The dose is close enough, and it doesn't really matter which one is given."
2. "From your description, the medications are not necessary. They should be avoided at this age."
3. "It is appropriate to use dosages based on age. Children typically have weights consistent for their age groups."
4. "The prescribed dose of the drug was based on weight, and this is a more accurate way of determining a therapeutic dose."

127. A nurse in the emergency department observes large welts and scars on the back of a child who has been admitted for an asthma attack. What additional information must be included in the nurse's assessment?

1. History of an injury
2. Signs of child abuse
3. Presence of food allergies
4. Recent recovery from chickenpox

128. The parents of a 2-year-old child tell the nurse that they are having difficulty disciplining their child. What is the nurse's **most** appropriate response?

1. "This is a difficult age that your child is going through right now."
2. "Tell me more about your difficulty. I'm not sure what you mean by this."
3. "It's important to be consistent with toddlers when they need disciplining."
4. "I can understand what you mean. That's why this age is called the terrible twos."

129. A 13-year-old girl tells the nurse at the pediatric clinic that she took a pregnancy test and it was positive. She adds that her grandfather, with whom she, her younger sisters, and her mother live, has repeatedly molested her for the past 3 years. When the nurse asks the girl if she has told this to anyone, she replies, "Yes, but my mother doesn't believe me." Legally, who should the nurse notify?

1. Police concerning a possible sex crime
2. Health care provider to confirm the pregnancy
3. Child Protective Services for immediate intervention
4. Girl's mother about the pregnancy test's positive result

130. Where should the nurse manager place a 5-year-old child admitted with injuries that may be related to abuse?

1. In a private room
2. With an older, friendly child
3. With a child of the same age
4. In a room near the nurses' desk

131. What is one of the **most** important factors that a nurse must consider when parents of a toddler request to be present at a procedure occurring on the hospital unit?

1. Type of procedure to be performed
2. Individual assessment of the parents
3. Whether the toddler wants the parents present
4. Probable reaction to the toddler's response to pain

132. At 2 years of age, a child is readmitted to the hospital for additional surgery. What is the **most** important factor in preparing the toddler for this experience?

1. Gratification of the child's wishes
2. Previous experience of being hospitalized
3. Avoidance of leaving the child with strangers
4. Assurance of continuation of parental affection

133. On the third day of hospitalization the nurse observes that a 2-year-old toddler who had been screaming and crying inconsolably begins to regress and is now lying quietly in the crib with a blanket. What stage of separation anxiety has developed?

1. Denial
2. Despair
3. Mistrust
4. Rejection

134. What behavior does a nurse expect from a toddler subjected to prolonged hospitalization with limited parental visits?

1. Cheerful interactions with staff members
2. Indications of sadness throughout the day
3. Excessive crying when parents are not present
4. Limited emotional response to the environment

135. During the second week of hospitalization for intravenous antibiotic therapy, a 2-year-old toddler whose family is unable to visit often smiles easily, goes to all the nurses happily, and does not express interest in the parent when the parent does visit. The parent tells the nurse, "I am pleased about the adjustment but somewhat concerned about my child's reaction to me." How should the nurse respond?

1. The child is repressing feelings for the parent.
2. Routines have been established and the child feels safe.
3. The child has given up fighting and accepts the separation.
4. Behavior has improved because the child feels better physically.

► 136. The nurse accompanies a 3-year-old child to the playroom. The toddler seems afraid to select a toy or activity. What age-appropriate play material should the nurse offer? **Select all that apply.**

1. Plastic tea set
2. Mold and clay
3. Play telephone
4. Pencil and paper
5. Simple video game

137. When teaching a group of parents in the daycare center about accident prevention, the nurse explains that young toddlers are prone to injuries from falls. When receiving feedback, the nurse identifies that more teaching is needed when one parent states, "I will:

1. keep medications in a medicine cabinet."

2. have secured gates at entrances to staircases.”
3. move our child to a regular bed by the age of $2\frac{1}{2}$.”
4. buy shoes that close with Velcro rather than laces.”

► 138. A $2\frac{1}{2}$ -year-old child is admitted to the hospital with deep partial thickness burns involving the face and chest. The nurse develops a plan of care based on concerns related to the child’s injury. Place the following in order of importance.

1. _____ Presence of pain
2. _____ Potential for infection
3. _____ Impaired gas exchange
4. _____ Disturbed fluid balance
5. _____ Compromised body image

139. A 3-year-old child ingests a substance that may be a poison. The parent calls a neighbor who is a nurse and asks what to do. What should the nurse recommend the parent to do?

1. Administer syrup of ipecac.
2. Call the poison control center.
3. Take the child to the emergency department.
4. Give the child bread dipped in milk to absorb the poison.

► 140. A nurse in the child life center is evaluating a 15-month-old toddler’s ability to perform physical tasks. What behavior indicates to the nurse that the child’s development is age appropriate?

Select all that apply.

1. Shares toys.
2. Drinks from a cup.
3. Builds a tower of six blocks.
4. Walks with a wide-based gait.
5. Throws toys around the room.

141. A parent brings an 18-month-old toddler to the clinic. The parent states, “My child is so difficult to please, has temper tantrums, and annoys me by throwing food from the table.” What is the nurse’s **best** response?

1. “Toddlers need discipline to prevent the development of antisocial behaviors.”
2. “Toddlers are learning to assert independence, and this behavior is expected at this age.”
3. “It is best to leave the toddler alone in the crib after calmly explaining why the behavior is unacceptable.”
4. “This is the way a toddler expresses needs, and this behavior is acceptable during the initiative stage of development.”

142. A parent tells a nurse at the clinic, “Each morning I offer my 24-month-old child juice, and all I hear is ‘No.’ What should I do because I know my child needs fluid?” What strategy should the nurse suggest?

1. Offer the child a choice of two juices.
2. Distract the child with a favorite food.
3. Offer the child the glass in a firm manner.
4. Allow the child to see the parent getting angry.

143. A 2-year-old child who was admitted to the hospital for further surgical repair of a clubfoot is standing in the crib, crying. The child refuses to be comforted and calls for the mother. As the nurse approaches the crib to provide morning care, the child screams louder. Knowing that this behavior is typical of the stage of protest, what is the **most** appropriate nursing intervention?

1. Use comforting measures while holding the child.
 2. Fill the basin with water and proceed to bathe the child.
 3. Sit by the crib and bathe the child later when the anxiety decreases.
 4. Postpone the bath for a day because a child this upset should not be traumatized further.
144. A major developmental milestone of a toddler is the achievement of autonomy. What should the nurse instruct the parents to do to enhance their toddler's need for autonomy?
1. Teach the child to share with others.
 2. Help the child to learn society's roles.
 3. Teach the child to accept external limits.
 4. Help the child to develop internal controls.
- 145. The nurse observes a 2-year-old child at play and identifies that the child is engaging in age-appropriate behavior for a toddler. Which activities lead the nurse to this conclusion? **Select all that apply.**
1. Is possessive of toys
 2. Follows simple directions
 3. Can play simple card games
 4. Enjoys playing with other children
 5. Attempts to stay within the lines when coloring
146. After the nurse has completed an oral examination of a healthy 2-year-old child, the parent asks when the child should first be taken to the dentist. When is the **most** appropriate time in the child's life for the nurse to suggest?
1. Before starting school
 2. Within the next few months
 3. When the first deciduous teeth are lost
 4. At the next time a family member visits the dentist
147. The nurse explains to the parent of a 2-year-old child that the toddler's negativism is expected at this age. What need is this behavior meeting?
1. Trust
 2. Attention
 3. Discipline
 4. Independence
148. The parent of a 2-year-old child tells a nurse at the clinic, "Whenever I go to the store, my child has a screaming tantrum, demanding a toy or candy on the shelves. How can I deal with this situation?" What is the nurse's **best** response?
1. "Attempt to distract the child by offering the child a toy"
 2. "Say nothing and allow the tantrum to continue until it ends."
 3. "Have a baby sitter stay with the child at home until the child outgrows this behavior."
 4. "Give the child the item while in the store, and when the child loses interest, return the item to the shelf."
149. What foods should a nurse order for a 30-month-old toddler on a regular diet?
1. Hamburger with bun and grapes
 2. Chicken fingers and french fries
 3. Hot dog with bun and potato chips
 4. Macaroni and cheese and Cheerios
150. During a nap, a 3-year-old hospitalized child wets the bed. How should the nurse respond?

1. Ask the child to help with remaking the bed.
 2. Put clean sheets on the bed over a rubber sheet.
 3. Change the child's clothes without discussing the incident.
 4. Explain that children should call the nurse when they need to go to the bathroom.
151. A nurse is evaluating a 3-year-old child's developmental progress. The inability to perform which task indicates to the nurse that there is a developmental delay?
1. Copying a square
 2. Hopping on one foot
 3. Catching a ball reliably
 4. Using a spoon effectively
- 152. Which healthy snack should the nurse teach the parents to give their 2-year-old child who has the diagnosis of acute asthma? **Select all that apply.**
1. Grapes
 2. Ice cream
 3. Apple slices
 4. Oatmeal cookies
 5. Cut up vegetables
 6. Cold glass of milk
153. What type of play does a nurse expect when observing a toddler in a playroom with other children?
1. Parallel
 2. Solitary
 3. Cooperative
 4. Competitive
154. While assessing an 18-month-old child, a nurse observes that the toddler can crawl upstairs but needs assistance when climbing the stairs upright. What does this action indicate to the nurse?
1. Presence of talipes equinovarus
 2. Reflective of neurologic damage
 3. Expected behavior in a toddler of this age
 4. Existence of developmental dysplasia of the hip
- 155. What toys should a nurse offer a young toddler during hospitalization? **Select all that apply.**
1. Mobile
 2. Tricycle
 3. Pounding toy
 4. Carton of clay
 5. Ten-piece puzzle
156. A parent tearfully tells a nurse, "They think our child is developmentally delayed. We are thinking about investigating a preschool program for cognitively impaired children." What is the nurse's **most** appropriate response?
1. Praise the parent for the decision and encourage the plan.
 2. Ask for more specific information related to the developmental delays.
 3. Advise the parent to have the health care provider help choose an appropriate program.
 4. Explain that this may be a premature action and the developmental delays could disappear.
157. A nurse on the pediatric unit is observing the developmental skills of several 2-year-old children in the playroom. Which child should the nurse continue to evaluate?

1. Cannot stand on 1 foot
2. Builds a tower of 7 blocks
3. Uses echolalia when speaking
4. Colors outside the lines of a picture

158. A nurse plans to talk to the parents of a toddler about toilet training. What should the nurse explain is the **most** important factor in the process of toilet training?

1. Parents' attitude about it
2. Child's desire to remain dry
3. Child's ability to sit still on the toilet
4. Parents' willingness to work at the toilet training

159. A parent asks the nurse what to do when their toddler has temper tantrums. What play materials should the nurse suggest to offer the child as another way of expressing anger?

1. Ball and bat
2. Wad of clay
3. Punching bag
4. Pegs and pounding board

160. When the working mother of a toddler is preparing to take her child home after a prolonged hospitalization, she asks the nurse what type of behavior she should expect to be displayed. What is the nurse's **most** appropriate description of her child's probable behavior?

1. Excessively demanding behavior
2. Hostile attitude toward the mother
3. Cheerful, with shallow attachment behaviors
4. Withdrawn, without emotional ties to the mother

161. A 15-month-old child with the diagnosis of hydrocephalus is to have a computed tomography (CT) scan. What should the nurse include when preparing the toddler for the CT scan?

1. Shaving the head
2. Starting the prescribed IV infusion
3. Administering the prescribed sedative
4. Giving the child a simple explanation of the procedure

162. An 8-year-old child with cerebral palsy is admitted to the hospital for a tendon-lengthening procedure. After the surgery, the parents ask a nurse why their child must wear braces and shoes for at least 12 hours a day even while in bed. How should the nurse respond?

1. "Ambulation can be encouraged as soon as possible."
2. "They maintain body alignment and help prevent footdrop."
3. "They stretch your child's ligaments and strengthen muscle tone."
4. "It helps your child accept the physical constraints of the condition."

163. What safety precautions should a nurse teach a child with diminished sensation in the legs because of cerebral palsy?

1. Test the temperature of the water before a bath.
2. Tighten brace straps securely before ambulating.
3. Set the clock twice during the night to change position.
4. Look down at the legs when crutch walking to determine how they are positioned.

164. When planning long-term care for a child with cerebral palsy (CP), it is important for the nurse to consider that the:

1. illness is not progressively degenerative.

2. effects of cerebral palsy are unpredictable.
 3. child probably has some degree of mental retardation.
 4. child should have genetic counseling before planning a family.
165. A school nurse is teaching a group of teachers' aides about the cause of lead poisoning in children. What is important to consider in terms of prevention?
1. It is known to be caused by the ingestion of foods that are high in fat.
 2. It is attributed to an indigent and passive parent who fails to supervise the children.
 3. Environmental factors are involved because lead is available for ingestion and inhalation.
 4. Socioeconomic factors are involved, because inadequately maintained old buildings have more lead-based paint.
166. A nurse is assessing a child with plumbism (lead poisoning). Which organ system is of **most** concern because of its irreversible side effects?
1. Urinary
 2. Skeletal
 3. Nervous
 4. Hematologic
167. A nurse is assessing a child with the diagnosis of lead poisoning. What is the **most** harmful adverse effect that the nurse anticipates?
1. Inadequate nutrition
 2. Delayed development
 3. Anemia and constipation
 4. Renal and skeletal damage
168. If a child cannot be given or is not responding to oral chelating agents, parenteral medication must be used. To effectively prepare a child to cope with this painful treatment, what is the **priority** nursing intervention?
1. Rotating the injection sites and adding procaine to the chelating agent to lessen the discomfort
 2. Role-playing with puppets dressed as hospital personnel to minimize the child's fear of unfamiliar adults
 3. Explaining the rationale for the injections so that the child does not view them as a punishment for bad behavior
 4. Therapeutic play using a needleless syringe and a doll before therapy is initiated and after receiving each injection
169. A nurse encourages parents to have their young children's eyes tested especially for monocular strabismus. What should the nurse explain can occur if it is not corrected early?
1. Dyslexia will develop.
 2. Peripheral vision will disappear.
 3. Vision in both eyes will be diminished.
 4. Amblyopia will progress in the weak eye.
170. A nurse is teaching the parents of a 2-year-old child the correct way to administer ear drops. After explaining that they position their child on the side, how should they move the pinna while instilling the drops?
1. Forward
 2. Up and back
 3. Straight back
 4. Down and back

171. A nurse talks with parents of a toddler with strabismus about why this condition should be treated in early childhood. What complication should the nurse explain can occur if it is not corrected?

1. Cataracts
2. Glaucoma
3. Refractive errors
4. Partial loss of sight

172. The nurse observes that a 6-month-old infant is startled by a loud noise but does not turn in the direction of the sound. How should the nurse interpret this response?

1. Effect of vision deficits
2. Evidence of hearing loss
3. Low-normal hearing range
4. Developmentally appropriate

173. After many episodes of otitis media, a 3-year-old child is to have a myringotomy with tubes implanted surgically. What should the nurse include in the discharge preparation for this family?

1. Keep the child at home for one week.
2. Insert earplugs during the child's bath.
3. Apply an ointment to the ear canal daily.
4. Use cotton swabs to clean the inner ears.

174. During a well-child visit the parents tell a nurse, "Our 3-year-old child does not listen to us when we speak and ignores us." After an auditory screening, it is determined that the child has a mild hearing loss. What should the nurse explain to the parents about a mild hearing loss?

1. A severe hearing deficit may develop.
2. It will not interfere with progress in school.
3. An immediate follow-up visit is not necessary.
4. Speech therapy in addition to hearing aids may be required.

► 175. A child sustains multiple fractures from a motor vehicle collision and casts are applied. The child is admitted for observation to rule out internal injuries. The health care provider orders vital signs, including blood pressures, every 4 hours. The nurse decides to use the posterior tibial artery to obtain the blood pressure. Place a line across the extremity where the blood pressure cuff should be positioned to obtain this blood pressure.



176. A young child with a leg fracture of suspicious origin is brought into the emergency department by the mother and the mother's boyfriend. It is the child's first visit to this hospital. After assessing the child, a nurse anticipates that the health care provider will order a skeletal survey. Why is a skeletal survey the preferred diagnostic tool?

1. The exact location and extent of the fracture will be pinpointed.
2. It is the first step toward a complete assessment before a CT scan and an MRI are done.
3. Three separate x-ray films of the leg and hip should be ordered, making it more cost effective.
4. The skeletal history of the current fracture and any previous healing or healed fractures are identified.

► 177. A 9-year-old child has a fractured tibia, and a full leg cast is applied. Which assessments should the nurse immediately report to the health care provider? **Select all that apply.**

1. Increased urinary output
2. Inability to move the toes
3. Pedal pulse of 90 beats/min
4. Tingling sensation in the foot
5. Fiberglass cast that is damp after 4 hours

178. An infant has a plaster cast applied for clubfoot correction. What nursing intervention will hasten drying of the cast?

1. Using a blow dryer
2. Opening the window
3. Exposing the casted extremity
4. Covering the cast with a light sheet

► 179. A child just had a cast applied for a fractured wrist. The wrist and elbow are immobilized. What information should the nurse include in the home care instructions before discharge? **Select all that apply.**

1. Resume usual activities.
2. Report swelling of fingers.
3. Elevate casted arm when standing.

4. Keep affected shoulder immobilized.
 5. Lower the casted arm when lying down.
180. A 3-year-old child is admitted with partial- and full-thickness burns over 30% of the body. What significant adverse outcome during the first 48 hours should the nurse attempt to prevent?
1. Shock
 2. Pneumonia
 3. Contractures
 4. Hypertension
181. A 6-year-old child has partial-thickness burns of the face and upper chest. What is the **priority** nursing assessment for the first 24 hours?
1. Wound sepsis
 2. Pulmonary distress
 3. Fear and separation anxiety
 4. Fluid and electrolyte imbalance
- 182. A 15-year-old adolescent is admitted with partial- and full-thickness burns of the arms and upper torso. What are the purposes of administering pain medication via the intravenous route rather than the intramuscular route? **Select all that apply.**
1. Adolescents are afraid of injections.
 2. It decreases the risk for tissue irritation.
 3. Severe pain is reduced more effectively.
 4. Impaired peripheral circulation is bypassed.
 5. It provides for more prolonged relief of pain.
183. What should the nurse teach parents is the **major** influence on the eating habits of early school-age children?
1. Smell and appearance of food
 2. Availability of food selections
 3. Food preferences of the peer group
 4. Example of parents and siblings at mealtimes
184. A child receives a gastrostomy tube feeding every 4 hours. What is the **priority** nursing intervention for this child?
1. Open the tube one hour before feeding.
 2. Keep the child lying flat during the feeding.
 3. Flush the tube with normal saline after feeding.
 4. Position the child on the right side after feeding.
185. An unconscious child requires intermittent nasogastric feedings. When should the nurse check placement of the tube?
1. Once a day
 2. Before each feeding
 3. At every shift change
 4. During the night shift
186. A nurse is obtaining a health history from the parents of a child with celiac disease. What characteristic does the nurse expect when the parents describe their child's stools?
1. Small, pale, mucoid
 2. Large, frothy, green
 3. Large, pale, foul-smelling

4. Moderate, green, foul-smelling

187. The parents of a 6-year-old child with celiac disease tell the school nurse that their child becomes dejected because of not being able to eat “snack” food like the rest of the children. What snack can the nurse recommend that is safe for the child to eat?

1. Pretzels
2. Tortilla chips
3. Oatmeal cookies
4. Peanut butter crackers

188. The parents of a child newly diagnosed with cystic fibrosis tell a nurse that even though they were told it is an inherited disorder there is no history of cystic fibrosis in the family. How can the nurse clarify the way it was inherited?

1. It is a mutated gene.
2. It involves an X-linked gene.
3. The inheritance is autosomal recessive.
4. The inheritance is autosomal dominant.

189. The parents of a child newly diagnosed with cystic fibrosis ask a nurse what causes the problems related to this disorder. What should the nurse consider about the primary pathology before responding?

1. Hyperactivity of the eccrine (sweat) glands
2. Hypoactivity of the autonomic nervous system
3. Mechanical obstruction of mucus-secreting glands
4. Atrophic changes in the mucosal lining of the intestines

190. The parents of a child newly diagnosed with cystic fibrosis ask a nurse what causes the foul-smelling, frothy stool. What should be included in the nurse’s answer?

1. Undigested fat
2. Sodium and chloride
3. Lipase, trypsin, and amylase
4. Partially digested carbohydrates

191. A child with cystic fibrosis has been hospitalized with bacterial pneumonia. The nurse determines that the child has no known allergies. What does the nurse conclude about the reason the health care provider selected a specific antibiotic?

1. Tolerance of the child
2. Sensitivity of the bacteria
3. Selectivity of the bacteria
4. Preference of the health care provider

192. A nurse is assessing a school-age child with cystic fibrosis. What complication of frequent stools and tenacious mucus does the nurse anticipate?

1. Anal fissures
2. Rectal prolapse
3. Intussusception
4. Meconium ileus

193. A nurse teaches a 5-year-old child with cystic fibrosis how to use an inhaler. What is the **most** appropriate way to evaluate understanding of the technique?

1. Asking questions about using the inhaler
2. Showing the nurse how to use the inhaler

3. Explaining how the inhaler will be used at home
 4. Telling the nurse about the technique that was learned
- 194. A 7-year-old child with cystic fibrosis is receiving an intravenous antibiotic. The medication is supplied in a 125-mL bag of 0.45% sodium chloride. It is to be infused over 30 minutes. At what rate should the infusion pump be set to deliver the medication in the prescribed time? **Record your answer using a whole number.**
- Answer: _____ mL/hour
195. What is an important nursing intervention during the care of a hospitalized child with cystic fibrosis?
1. Discourage coughing.
 2. Perform postural drainage.
 3. Encourage active exercise.
 4. Provide small, frequent feedings.
196. When is the **most** appropriate time for the nurse to plan for chest percussion and postural drainage for a toddler with cystic fibrosis?
1. After suctioning
 2. Before aerosol therapy
 3. One hour before meals
 4. Fifteen minutes after meals
197. A child with cystic fibrosis has recurrent episodes of bronchitis and the parents ask the nurse why this happens. What reason should the nurse include in the reply?
1. Associated heart defects cause heart failure and respiratory depression.
 2. Neuromuscular irritability causes spasm and constriction of the bronchi.
 3. Tenacious secretions that obstruct the respiratory tract provide a favorable medium for growth of bacteria.
 4. Elevated salt content in saliva irritates the mucous membranes, resulting in inflammation of the nasopharynx.
198. What should a nurse teach the parents of a toddler newly diagnosed with cystic fibrosis about the administration of vitamins A, D, E, and K?
1. Offer them in a water-miscible form.
 2. Give them during meals and snack time.
 3. Calibrate them based on height and weight.
 4. Present them with fruit juice rather than milk.
- 199. Which medications does the nurse expect to be prescribed for a child newly diagnosed with cystic fibrosis? **Select all that apply.**
1. Steroids
 2. Antibiotics
 3. Antihistamines
 4. Pancreatic enzymes
 5. Fat-soluble vitamins
200. A nurse can assist in confirming a suspected diagnosis of intestinal infestation with pinworms in a 6-year-old child by:
1. teaching the mother the procedure for an anal cellophane-tape test.
 2. asking the mother to collect stools for 3 consecutive days for culture.
 3. having the mother bring in the child's stools for visual examination for 3 days.

4. assisting the mother to schedule a hypersensitivity test of the child's blood serum.
201. A nurse teaches a parent how to perform a cellophane-tape test for pinworms. At what time should the nurse teach the parent to perform the test?
1. Immediately after meals
 2. Following a bowel movement
 3. At bedtime before the child's bath
 4. Early morning before the child gets up
202. Pinworms cause a number of symptoms besides anal itching. A complication of pinworm infestation, although rare, that the nurse should be aware of is:
1. hepatitis.
 2. stomatitis.
 3. pneumonitis.
 4. appendicitis.
203. Mebendazole (Vermox) is prescribed for a child with pinworms. For whom should this medication also be prescribed?
1. The child's infant brother
 2. People using the same toilet facilities as the child
 3. Members of the child's family after they test positive
 4. The child's immediate family members even if they are symptom-free
204. The health care provider prescribes mebendazole (Vermox) for a 4-year-old child with pinworms. What should the nurse prepare the parents to expect when they observe the child's stool?
1. Blood
 2. Constipation
 3. Yellow color
 4. Passage of worms
205. A nurse working at a summer camp is informed of an outbreak of scabies. For what clinical indicator should the nurse screen the children?
1. Pruritic, threadlike lesions in skin folds
 2. Grayish white particles adhering to hair shafts
 3. Central necrotic ulcer surrounded by petechiae
 4. Reddened, round areas of alopecia over the scalp
206. The parent of a 14-month-old toddler asks the nurse about how to proceed with bowel training. What should the nurse recommend to optimize success?
1. Place the child on the toilet every 2 hours.
 2. Start by having the child sit on a potty chair.
 3. Avoid bowel training until the child is 2 years old.
 4. Begin before the child's diet consists mainly of solid foods.
207. A nurse is planning for the discharge of a child after a sickle cell vaso-occlusive crisis (pain episode). What is **most** important for the nurse to emphasize?
1. A high-calorie diet
 2. A rigorous exercise regimen
 3. An increased intake of fluids
 4. An increase in the hours spent sleeping
208. A child is to receive a blood transfusion. What should the nurse do **first** if an allergic reaction to the blood occurs?

1. Shut off the infusion.
2. Slow the rate of flow.
3. Administer an antihistamine.
4. Call the health care provider.

209. When counseling the parents of a child with anemia related to an inadequate diet, a nurse explains that several different nutrients are involved. These nutrients include protein, iron, and vitamin B₁₂. What other nutrient should the nurse include?

1. Calcium
2. Thiamine
3. Folic acid
4. Riboflavin

► 210. A nurse is developing a teaching plan for a child who has anemia related to inadequate nutrition. In addition to iron, which nutrients should the nurse include that are necessary for RBC synthesis? **Select all that apply.**

1. Protein
2. Calcium
3. Vitamin C
4. Vitamin D
5. Carbohydrates

211. A pale, lethargic 1-year-old infant weighs 12.6 kg (28 lb) and has a hemoglobin level of 9 g/dL. The parent tells the nurse that the infant refuses solid food when it is offered by spoon and drinks between four and six full bottles of milk per day. What should the nurse recommend?

1. Begin the weaning process immediately.
2. Take the infant to the metabolic clinic for an examination.
3. Give the infant finger foods such as dry cereal and chopped meat.
4. Puncture a large hole in the nipple and add puréed baby foods to the milk.

212. A nurse is performing health screening of toddlers in a culturally diverse neighborhood. Which child should the nurse consider at risk for β -thalassemia (Cooley anemia)?

1. Two-year-old child of Greek descent with a large abdomen
2. Eighteen-month-old child of Irish descent with very pale skin color
3. Three-year-old child of Spanish descent with an increased hematocrit
4. Twenty-month-old child of Asian descent with edematous knee joints

213. A child with β -thalassemia (Cooley anemia) is admitted to the ambulatory care unit for a transfusion. What instructions should the nurse include in the discharge plan?

1. Encourage fluids.
2. Restrict activities.
3. Protect from infections.
4. Offer small meals frequently.

214. A child with sickle cell disease has a sequestration crisis. The parents ask how it differs from a painful episode (vaso-occlusive crisis). What should the nurse consider before responding?

1. There is peripheral ischemia along with the pain.
2. There is decreased blood volume and signs of shock.
3. Red blood cell production diminishes with severe anemia.
4. Red blood cell destruction is accelerated and jaundice appears.

215. A nurse is caring for a child with sickle cell anemia. What is the **priority** nursing intervention to

prevent thrombus formation in capillaries and the stasis and clotting of blood that occur in the sickling process?

1. Encourage fluids.
2. Encourage bed rest.
3. Administer oxygen.
4. Administer prescribed anticoagulants.

216. A child is admitted to the pediatric unit with a hemoglobin level of 6.4 g/dL. What should be the nurse's **priority** assessment?

1. Manifestations of shock
2. Increased white cell count
3. Presence of hemoglobinuria
4. Signs of cardiac decompensation

217. A child in sickle cell crisis (painful episode) reports right knee pain. What should the nurse anticipate the health care provider will order?

1. Wrap the knee in a cold pack.
2. Apply a warm soak to the knee.
3. Administer 0.5 mg of morphine.
4. Decrease the amount of IV fluids.

218. What nursing care to prevent a crisis is the same for children with sickle cell anemia and celiac disease?

1. Limit activity.
2. Protect from infection.
3. Document color and consistency of stools.
4. Offer a low-carbohydrate, high-protein, low-fat diet.

► 219. A 6-year-old child with sickle cell disease is admitted with a vaso-occlusive crisis (painful episode). What are the **priority** nursing concerns? **Select all that apply.**

1. Nutrition
2. Hydration
3. Pain management
4. Prevention of infection
5. Oxygen supplementation

Nursing Care of Preschoolers

220. A 4-year-old child is brought to the emergency department after falling on the handlebars of a tricycle. The child is guarding the abdomen, crying, and not allowing any physical contact with the staff. Which action **best** enables the nurse to initiate the assessment process?

1. Medicate the child for pain before proceeding.
2. Allow the child to guide the examiner's hand to the area that hurts.
3. Have the parents restrain the child while the abdomen is auscultated.
4. Suggest the health care provider order a computed tomography of the child's abdomen.

221. The parents of a $4\frac{1}{2}$ -year-old child are concerned about the effects of hospitalization on their child. Which behavior should the nurse expect the child to exhibit?

1. Refuse to cooperate with the nurses when the parents are absent
2. Demonstrate despair if the parents do not visit at least once a day
3. Cry when the parents leave and return but not during their absence
4. Be unable to relate to children in the playroom if other parents are present

222. A 4-year-old child is diagnosed with acute lymphoblastic leukemia (ALL). One of the parents tells the nurse, "We just had a discussion with our pediatrician about induction chemotherapy, consolidation therapy, and radiation therapy. We are so confused and don't know what to do. We want to do what is best for our child, but we don't want any unnecessary suffering." What is the nurse's **best** response?

1. "The new treatment protocols have shown to have excellent results."
2. "There are support groups for parents with children who have leukemia."
3. "Let me get you the telephone number of the Leukemia Society, where you can get some advice."
4. "Maybe you could talk with your health care provider about getting a second opinion from a specialist in leukemia."

223. A child with nephrotic syndrome has repeated relapses. As the child gets older, what is **most** important for the nurse to help the child develop?

1. A positive body image
2. The ability to test urine
3. Fine muscle coordination
4. Acceptance of possible sterility

224. A 4-year-old child with nephrotic syndrome is being treated with corticosteroid therapy. A nurse reviews the laboratory reports of the child's urine to evaluate if the treatment has been effective. Which of the following should decrease?

1. Polyuria
2. Hematuria
3. Glycosuria
4. Proteinuria

225. A 4-year-old child being admitted for surgery arrives on the ambulatory surgical unit crying and pulling at the hospital gown while clutching a teddy bear. What is the nurse's **best** response?

1. "Please stop crying. Nobody will hurt you."
2. "Hello, I'm your nurse. Let's go and see your room."
3. "I know you feel scared. This must be your special teddy bear."
4. "We want you to be happy here. Let's go to the playroom and play."

226. A nurse is caring for a preschooler who is being prepared for surgery. What does the nurse

expect to have the **most** influence on the child's response to hospitalization?

1. Fear of separation
2. Fear of bodily harm
3. Belief in death's finality
4. Belief in the supernatural

227. What is a nurse's **best** approach when preparing a 4-year-old child for an otoscopic examination?

1. "This tube will feel like a pencil in your ear."
2. "You can help by holding this tube while I get ready."
3. "Please try to sit very still while I'm looking through the tube."
4. "It won't hurt a bit when I look into your ear through this tube."

228. When a nurse brings a dinner tray to a 4-year-old child hospitalized with pneumonia, the child says, "I'm too sick to feed myself." How should the nurse respond?

1. "Try to eat as much as you can."
2. "You can eat later when you feel better."
3. "Wait a few minutes, and I will be back to help you."
4. "You're really not that sick, and I'm sure you can feed yourself."

229. What is the **best** way for a nurse to meet a 3-year-old child sitting in the waiting room of the pediatric clinic?

1. Walk into the waiting room to greet the child.
2. Call the child by name at the waiting room door.
3. Ask the receptionist to bring the child into the examining room.
4. Stand at the examining room door while the child walks down the hall.

230. A child recovering from a severe asthma attack is given predniSONE 15 mg po twice daily. What is the **priority** nursing intervention?

1. Prevent exposing the child to infection.
2. Have the child rest as much as possible.
3. Check the child's eosinophil count daily.
4. Offer nothing by mouth to the child except oral medications.

231. A child with acute lymphoid leukemia (ALL) is started on chemotherapy protocol that includes predniSONE. What side effect of this medication does the nurse anticipate?

1. Alopecia
2. Anorexia
3. Weight loss
4. Mood changes

232. A nurse is caring for a child with acute lymphoid leukemia who is receiving chemotherapy. The parents ask why the child needs predniSONE. How should the nurse respond?

1. It decreases inflammation.
2. Production of lymphocytes is suppressed.
3. It increases appetite and a sense of well-being.
4. Irradiation skin irritation and edema are reduced.

► 233. A prescription for predniSONE reads 10 mg four times per day. The dose for children is 2 mg/kg/day. How many pounds does the child weigh? **Record your answer using a whole number.**

Answer: _____ pounds

234. A combination of drugs, including vinCRISTine and predniSONE, is prescribed for a child with

leukemia. For what adverse effect should the nurse assess the child that indicates vinCRISine toxicity?

1. Hemolytic anemia
2. Irreversible alopecia
3. Gastrointestinal problems
4. Neurologic complications

235. A young child with acute nonlymphoid leukemia is admitted to the pediatric unit with a fever and neutropenia. What are the **most** appropriate nursing interventions to minimize the complications associated with neutropenia?

1. Placing the child in a private room, restricting ill visitors, and using strict handwashing techniques
2. Encouraging a well-balanced diet, including iron-rich foods, and helping the child avoid overexertion
3. Avoiding rectal temperatures, limiting injections, and applying direct pressure for five minutes after venipuncture
4. Offering a moist, bland, soft diet; using toothettes rather than a toothbrush; and providing frequent saline mouthwashes

236. A nurse is teaching a class of nursing assistants about the differences in providing care among various age groups. Which age group of children does the nurse explain makes the provision of nursing care the **most** challenging?

1. From 1 to 4 years of age
2. Between 6 and 8 years old
3. Between 6 and 12 months old
4. From birth to 6 months of age

237. A nurse in the child life center encourages preschool children to engage in role-playing. The nurse considers this an important part of socialization because it:

1. helps children think about careers.
2. teaches children about stereotypes.
3. encourages expression of concerns.
4. provides guidelines for adult behavior.

238. The nurse observes that a 4-year-old child is having difficulty relating with some of the children in the playroom. What does the nurse identify is the reason that this problem is not unexpected with preschoolers?

1. At this age they engage only in parallel play.
2. At this age they are extremely dependent on their parents.
3. Fierce temper tantrums and negativism are typical behaviors.
4. Exaggerating and boasting to impress others are typical behaviors.

239. Parents express concerns to the nurse that their 4-year-old child is spending a large amount of time playing with an imaginary playmate. How should the nurse respond?

1. "Perhaps your child needs more interaction with friends."
2. "You have reason to be concerned. This is not typical behavior."
3. "Imaginary playmates are an important part of a young child's life."
4. "This is a sign of social immaturity. I recommend psychological counseling."

240. A nurse is caring for a preschooler on the pediatric unit. What does the nurse identify as the child's **greatest** fear at this age?

1. Death
2. Mutilation

3. Painful procedures

4. Isolation from peers

241. A nurse is attempting to involve a hospitalized preschooler in therapeutic play. Why is this so important?

1. The child can work out ways of coping with fears.

2. It provides an opportunity to accept the hospital situation.

3. The child can forget the reality of the situation for a little while.

4. It provides an opportunity to meet other children on the pediatric unit.

242. What nursing intervention is **most** effective in alleviating the fretfulness of a hospitalized 5-year-old child?

1. Reading a story to the child

2. Giving a jigsaw puzzle to the child

3. Supplying the child with videos to watch

4. Offering the child crayons with drawing paper

243. A 5-year-old child is admitted to the pediatric intensive care unit with a diagnosis of acute asthma. A blood sample is obtained to measure the child's arterial blood gases. What finding does the nurse expect?

1. High oxygen level

2. Elevated alkalinity

3. Decreased bicarbonate

4. Increased carbon dioxide level

244. When planning discharge teaching for the parents of a child with asthma, what information should the nurse include?

1. Avoid foods high in fat.

2. Stay at home for two weeks.

3. Increase the protein and calorie intake.

4. Minimize exertion and exposure to cold.

► 245. When preparing a child with asthma for discharge, what must the nurse emphasize to the family? **Select all that apply.**

1. Eliminate allergens in the home.

2. Maintain a dry home environment.

3. Avoid placing limits on the child's behavior.

4. Continue the medications even if the child is asymptomatic.

5. Prevent exposure to infection by having the child tutored at home.

► 246. A child with a history of asthma is brought to the emergency department experiencing an acute exacerbation of asthma. Which nursing assessments support this conclusion? **Select all that apply.**

1. Fever

2. Crackles

3. Wheezing

4. Tachycardia

5. Hypotension

247. A child has been admitted to the pediatric unit with a severe asthma attack. What type of acid-base imbalance should the nurse expect the child to develop?

1. Metabolic alkalosis caused by excessive production of acid metabolites

2. Respiratory alkalosis caused by accelerated respirations and loss of carbon dioxide

- 3. Respiratory acidosis caused by impaired respirations and increased formation of carbonic acid
- 4. Metabolic acidosis caused by the kidneys' inability to compensate for increased carbonic acid formation

248. After a tonsillectomy, which finding alerts the nurse to suspect the initial stage of hemorrhage?

- 1. Noisy snoring
- 2. Asking for water
- 3. Frequent swallowing
- 4. Gradual onset of pallor

249. A child has a tonsillectomy and adenoidectomy for numerous recurrent respiratory tract infections. Postoperatively what should the nurse teach the parents to do?

- 1. Offer ice chips on which to suck.
- 2. Encourage the intake of ice cream.
- 3. Keep the child in the supine position.
- 4. Gargle with a diluted mouthwash solution.

250. A 4-year-old child is diagnosed with mucocutaneous lymph node syndrome (Kawasaki disease). The child is admitted to the pediatric unit and the nurse performs an initial assessment. What clinical finding supports this diagnosis?

- 1. Strawberry tongue
- 2. Copious discharges from the eyes
- 3. Insidious onset of low-grade fever
- 4. Maculopapular rash on the extremities

251. What is the **most** important nursing intervention for a 3-year-old child with a diagnosis of nephrotic syndrome?

- 1. Regulating diet
- 2. Encouraging fluids
- 3. Preventing infection
- 4. Maintaining bed rest

252. A child with nephrotic syndrome visits the clinic for a follow-up visit. During the visit the parent states that the child is always tired and has no appetite. The nurse observes that the child has a muddy, pale complexion. What problem does the nurse suspect?

- 1. Impending renal failure
- 2. Being too active in school
- 3. Developing a viral infection
- 4. Refusing the prescribed medications

253. A health care provider lists orders for a young child with a tentative diagnosis of Wilms tumor. Which order should the nurse question?

- 1. MRI
- 2. CT scan
- 3. Renal biopsy
- 4. Abdominal ultrasound

► 254. A child who has been receiving prolonged steroid therapy develops a cushingoid appearance. What will the nursing assessment probably reveal? **Select all that apply.**

- 1. Truncal obesity
- 2. Thin extremities
- 3. Increased linear growth

4. Loss of hair on the body

5. Decreased blood pressure

255. A 3-year-old preschooler has been hospitalized with nephrotic syndrome. What is the **best** way for the nurse to evaluate fluid retention or loss?

1. Weigh daily at the same time.

2. Have the child urinate in a bedpan.

3. Measure the abdominal girth daily.

4. Test the child's urine for proteinuria.

► 256. A nurse is caring for a child newly diagnosed with acute lymphoblastic leukemia (ALL). What clinical findings does the nurse anticipate when assessing the child? **Select all that apply.**

1. Pallor

2. Fatigue

3. Jaundice

4. Multiple bruises

5. Generalized edema

257. A 4-year-old child newly diagnosed with leukemia is admitted for chemotherapy. While assisting with morning care, the nurse observes bloody expectorant after the child has brushed the teeth. How should the nurse respond to this occurrence?

1. Secure a smaller toothbrush for the child to use.

2. Document the incident without alarming the child.

3. Tell the child to be more careful when brushing the teeth.

4. Rinse the child's mouth with half-strength hydrogen peroxide.

258. A 3-year-old child who has acute lymphoblastic leukemia (ALL) is scheduled to receive cranial radiation. The nurse should explain to the parents that radiation will:

1. avoid the need for chemotherapy.

2. reduce the risk for systemic infection.

3. limit metastasis to the lymphatic system.

4. prevent central nervous system involvement.

Nursing Care of School-Age Children

259. A 6-year-old child begins thumb-sucking after surgery. This was not the child's behavior preoperatively. What is the **best** action for the nurse to take?

1. Accept the thumb-sucking.
2. Distract the child by playing checkers.
3. Report this behavior to the health care provider.
4. Tell the child that thumb-sucking causes buckteeth.

260. Two second-graders are brought to the school health office after a fight during gym class. What should the school nurse say to the children?

1. "Why did you do this?"
2. "Tell me what happened."
3. "You are both in a lot of trouble."
4. "How many fights have you two had?"

261. What should be a school nurse's **first** action when a child tells the nurse of a sore throat?

1. Examine the throat.
2. Have the child sent home.
3. Take the child's temperature.
4. Secure a prescription for an oral analgesic.

262. An 8-year-old child who has been receiving chemotherapy will soon return to school after a prolonged absence. Classmates are aware that the child is being treated for cancer. How should the school nurse prepare the class for the child's return to school?

1. Encourage the students to think about how they feel toward their classmate.
2. Explain to the students why it is important to tolerate those who are different.
3. Ask the students not to make fun of their classmate because of lost weight and having no hair.
4. Initiate a discussion with the students about cancer treatments and the side effects of chemotherapy.

► 263. A child who is known to have the human immunodeficiency virus (HIV) is admitted to the hospital with the diagnosis of *Pneumocystis jiroveci* pneumonia. The nurse administers the prescribed trimethoprim/sulfamethoxazole (Bactrim). Which common side effects should the nurse anticipate?

Select all that apply.

1. Jaundice
2. Vomiting
3. Headache
4. Toxic nephrosis
5. Hypersensitivity reactions

264. A 10-year-old child is diagnosed with lymphocytic thyroiditis (Hashimoto disease). What should the nurse explain to the parents and child about this condition?

1. It is chronic.
2. Treatment is difficult.
3. It is an inherited disorder.
4. Regression occurs spontaneously.

265. A 7-year-old child is expressing fear concerning an uncomfortable sterile dressing change. What should the nurse say to be **most** therapeutic?

1. "Do you want some medicine so it won't hurt?"
2. "Will you help hold the package of bandages for me?"

3. "This won't hurt if you try to relax while closing your eyes."
4. "I'll put on television so you can watch it while I change the bandage."
- 266. A 6-year-old child is waiting with a family member in the pediatric clinic for a well-child visit. What are the **most** appropriate play activities for the office nurse to offer the child? **Select all that apply.**
1. Coloring book
 2. Small metal cars
 3. Simple card game
 4. Large jigsaw puzzle
 5. Children's magazines
267. What toy should a nurse offer two 6-year-old children in the playroom?
1. Clay
 2. Checkers
 3. Board game
 4. Building set
268. A peripheral central venous catheter has just been inserted in the arm of a 7-year-old child on the pediatric unit. A peripheral IV line is still in place. An antibiotic is to be administered immediately. Which intravenous access line should the nurse use for the antibiotic infusion and why?
1. Central venous catheter, because this will help determine its patency
 2. Peripheral line, because the central venous catheter is reserved for fluids
 3. Central venous catheter, because the antibiotic must be given systemically as quickly as possible
 4. Peripheral line, because the central venous catheter placement has not been confirmed by radiograph
- 269. A 9-year-old child who is receiving IV antibiotic therapy becomes bored and irritable. What activities for school-age children should the nurse suggest? **Select all that apply.**
1. Playing solitaire
 2. Starting a collection
 3. Making a model airplane
 4. Doing arithmetic puzzles
 5. Watching game shows on television
270. Which fifth-grader who needs help with social interaction should the school nurse appoint as a health office monitor?
1. One who is reserved, although strong academically
 2. The child who has been identified as the class clown
 3. One who comes to the health office daily for medication
 4. The child who participates in a wide variety of school-related activities
271. What nursing intervention will be **most** effective to help relieve the anxiety of a young school-age child during the postoperative period?
1. Encouraging the child to talk about feelings
 2. Having the child and a parent room together
 3. Telling the child a story about a child with similar surgery
 4. Providing the child with sterile dressing equipment and a doll
272. The school nurse is planning to teach a class about nutrition. Which age group will be **most** receptive to this information?
1. 6-year-old children

2. 8-year-old children
3. 11-year-old children
4. 15-year-old children

273. Obesity in children is an ever-increasing problem. What should a nurse consider before confronting the problem with individual children?

1. Enjoyment of specific foods is inherited.
2. Childhood obesity is not usually a predictor of adult obesity.
3. Children with obese parents and siblings are destined for obesity.
4. Familial and cultural influences are deciding factors in eating habits.

274. An 11-year-old child has gained weight. The mother tells a nurse that she is concerned that her child, who loves sports, may become obese. What is the nurse's **most** appropriate response?

1. Suggest an increase in activity.
2. Encourage a decreased caloric intake.
3. Explain this is expected during preadolescence.
4. Discuss the influence of genetics on weight gain.

275. A 7-year-old child is admitted for surgery. What is an **essential** preoperative nursing intervention?

1. Allow a favorite toy to remain with the child.
2. Document the child's ASO titer and C-reactive protein level.
3. Inspect the child's mouth for loose teeth and report the findings.
4. Encourage a parent to stay until the child leaves for the operating room.

276. A 7-year-old child develops a urinary tract infection. A sulfonamide preparation is prescribed. What is a **major** nursing responsibility when administering this drug?

1. Weigh the child daily.
2. Give the medication with milk.
3. Monitor the child's temperature frequently.
4. Administer the drug at the prescribed times.

► 277. A child is admitted with a diagnosis of acute post streptococcal glomerulonephritis (APSGN). When performing a physical assessment and reviewing the child's laboratory reports, what clinical findings does the nurse expect? **Select all that apply.**

1. Hematuria
2. Proteinuria
3. Periorbital edema
4. Increased specific gravity
5. Slight increase in blood pressure

278. When planning nursing care for a 5-year-old child with acute post streptococcal glomerulonephritis (APSGN), what should the nurse emphasize that the child and family maintain?

1. A bland diet high in protein
2. Bed rest for at least four weeks
3. Isolation from children with infections
4. A daily intramuscular dose of penicillin

279. The parents of a child with acute post streptococcal glomerulonephritis (APSGN) tell the nurse that they are concerned about activity restrictions after discharge. How should the nurse respond?

1. Activity must be limited for 1 month.
2. The child should not play active games.

3. The child must remain in bed for 2 weeks.

4. Activity does not affect the course of the illness.

280. The nurse is providing instruction to a parent of a child with influenza. Which statement by the parent indicates the need for further instruction?

1. "I will manage the fever with baby aspirin."

2. "We will make sure to get a flu shot next season."

3. "Providing fluids will help relieve the symptoms."

4. "Staying home from school will prevent transmission."

281. The parents of a child with acute post streptococcal glomerulonephritis (APSGN) ask a nurse why their child is being weighed every morning. What is the nurse's **best** response?

1. "It is the best way to measure your child's fluid balance."

2. "It provides a measure of how much protein is being lost."

3. "The disease process usually is over when weight loss stops."

4. "Plans for the daily caloric intake are made according to the daily weight change."

► 282. A 7-year-old child is admitted for a diagnostic workup and is transferred from the emergency department to the pediatric unit. The nurse reviews the admission note and physical assessment. The nurse obtains the child's vital signs and talks with the parents. The parents ask the nurse why their child has severe headaches. What explanation should the nurse give for the cause of the headaches?

History and Physical

7-year-old child

Reporting general malaise

Experiencing severe headaches

Hematuria

Admission Note

Tentative diagnosis: acute post streptococcal glomerulonephritis (APSGN)

Vital Signs

Temperature: 98.2° F

Pulse: 96 beats/min

Respirations: 26 breaths/min

Blood Pressure: 150/90 mmHg

1. Rapid respirations

2. Elevated blood pressure

3. Anemia associated with the hematuria

4. Autoimmune response associated with APSGN

283. A 7-year-old child has recently been diagnosed with juvenile idiopathic arthritis (JIA). The parents are concerned about the lifelong effects of the disorder and are investigating other therapies to use with the medications. What referral should the nurse recommend?

1. Physical therapy
2. Special education
3. Nutritional therapy
4. Herbal supplements

284. An 11-year-old child with juvenile idiopathic arthritis (JIA) will be receiving continued nonsteroidal antiinflammatory drug (NSAID) therapy at home. Which important toxic effect of NSAIDs must be included in the nurse's discharge instructions to the child and family?

1. Diarrhea
2. Hypothermia
3. Blood in the urine
4. Increased irritability

► 285. A nurse is teaching the parents of a child with juvenile idiopathic arthritis (JIA) how to prevent loss of joint function. Which activities should be encouraged? **Select all that apply.**

1. Riding a bicycle
2. Walking to school
3. Watching videos after school
4. Swimming in the community pool
5. Playing computer games after school

286. Range-of-motion exercises are prescribed for a child with juvenile idiopathic arthritis (JIA). What criterion should the nurse use to evaluate the effectiveness of the exercises?

1. Pain is relieved.
2. Affected joints can flex and extend.
3. Pedal and radial pulses are diminished.
4. Subcutaneous nodules at the joints recede.

287. The parents of a 12-year-old child with juvenile idiopathic arthritis (JIA) ask a nurse why their child is not receiving steroid therapy because it is so effective for adults with rheumatoid arthritis. The nurse responds that it is not used as the first-choice drug for a preadolescent. On what aspect of the child's development should the nurse explain it will have an adverse effect?

1. Growth
2. Sexuality
3. Emotions
4. Body image

288. A nurse is planning to teach about self-administration of insulin to a school-age child newly diagnosed with diabetes mellitus. What is the nurse's **first** action?

1. Assess the child's developmental level.
2. Determine the family's understanding of the procedure.
3. Discuss community resources for the child in the future.
4. Collaborate with the school nurse for ensuring continuity of care in school.

289. A nurse is planning a teaching program for a child who has recently been diagnosed with type 1 diabetes. What is the nurse's **first** concern relating to the child and parents?

1. Exploring their feelings about diabetes
2. Needing to restrict the child's activities
3. Learning to monitor blood glucose levels
4. Practicing administering insulin injections

290. A nurse is teaching a 12-year-old child with type 1 diabetes about the effects of Novolin N

insulin. If the child receives the insulin at 7:30 AM, what time of day is an insulin reaction likely to occur?

1. 8:30 PM
2. 2:30 PM
3. 9:30 AM
4. 1:30 AM

291. A nurse is planning an evening snack for a child receiving Novolin N insulin. What is the reason for this nursing action?

1. It encourages the child to stay on the diet.
2. Energy is needed for immediate utilization.
3. Extra calories will help the child gain weight.
4. Nourishment helps to counteract late insulin activity.

292. A nurse is developing a teaching plan for an 8-year-old child who has recently been diagnosed with type 1 diabetes. What developmental characteristic of a child this age should the nurse consider?

1. Child is in the abstract level of cognition.
2. Child's dependence on peer influence has reached its peak.
3. Child will welcome opportunities for participation in self-care.
4. Child's developmental stage involves achieving a sense of identity.

293. When teaching an adolescent with type 1 diabetes about dietary management, what should the nurse include?

1. Meals should be eaten at home.
2. Foods should be weighed on a gram scale.
3. Ready source of glucose should be available.
4. Specific foods should be cooked for the adolescent.

294. At 7 AM, a nurse receives the information that an adolescent with diabetes has a 6:30 AM fasting blood glucose level of 180 mg/dL. What is the **priority** nursing action at this time?

1. Encourage the adolescent to start exercising.
2. Ask the adolescent to obtain an immediate glucometer reading.
3. Inform the adolescent that a complex carbohydrate such as cheese should be eaten.
4. Tell the adolescent that the prescribed dose of rapid acting insulin should be administered.

295. What treatment should the nurse suggest to an adolescent with type 1 diabetes if an insulin reaction is experienced while at a basketball game?

1. "Call your parents immediately."
2. "Buy a soda and hamburger to eat."
3. "Administer insulin as soon as possible."
4. "Leave the arena and rest until the symptoms subside."

296. One principle to be followed for children with type 1 diabetes is to provide for the variability of the child's activity. What should the nurse teach the child about how to compensate for increased physical activity?

1. Eat more food when planning to exercise more than usual.
2. Take oral, not injectable insulin, on days of heavy exercise.
3. Take insulin in the morning when extra exercise is anticipated.
4. Eat foods that contain sugar to compensate for the extra exercise.

297. A parent receives a note from school that a student in class has head lice. The parent calls the school nurse to ask how to check for head lice. What instructions should the nurse provide?

1. "Ask the child where it itches."
2. "Check to see if your dog has ear mites."
3. "Look along the scalp line for white dots."
4. "Observe between the fingers for red lines."

298. A 6-year-old child comes to the school nurse reporting a sore throat, and the nurse verifies that the child has a fever and a red, inflamed throat. When a parent of the child arrives at school to take the child home, the nurse urges the parent to seek treatment. The nurse is aware that the causative agent may be beta-hemolytic streptococcus, and the illness may progress to inflamed joints and an infection in the heart. What illness is of **most** concern to the nurse?

1. Tetanus
2. Influenza
3. Scarlet fever
4. Rheumatic fever

299. Based on developmental norms for a 5-year-old child, a nurse decides to withhold a scheduled dose of digoxin (Lanoxin) elixir and notify the health care provider. Below what apical pulse did the nurse withhold the medication?

1. 60 beats/min
2. 70 beats/min
3. 90 beats/min
4. 100 beats/min

300. A child has been diagnosed with classic hemophilia. A nurse teaches the child's parents how to administer the plasma component factor VIII through a venous port. It is to be given 3 times a week. What should the nurse tell them about when to administer this therapy?

1. Whenever a bleed is suspected
2. In the morning on scheduled days
3. At bedtime while the child is lying quietly in bed
4. On a regular schedule at the parents' convenience

301. What medication does a nurse expect to administer to control bleeding in a child with hemophilia A?

1. Albumin
2. Fresh frozen plasma
3. Factor VIII concentrate
4. Factors II, VII, IX, X complex

302. A nurse is explaining how hemophilia is inherited to the parents of a recently diagnosed child. What is the **best** explanation of the genetic factor that is involved?

1. It follows the Mendelian law of inherited disorders.
2. The mother is the carrier of the disorder, but is not affected by it.
3. It is an autosomal dominant disorder in which the woman carries the trait.
4. A carrier can be male or female, but it occurs in the sex opposite that of the carrier.

303. The parent of a child with hemophilia asks the nurse, "If my son hurts himself, is it all right if I give him two baby aspirins?" How should the nurse respond?

1. "You seem concerned about giving drugs to your child."
2. "It is all right to give him baby aspirin when he hurts himself."
3. "Aspirin may cause more bleeding. Give him acetaminophen instead."
4. "He should be given acetaminophen every day. It will prevent bleeding."

► 304. A 12-year-old child with Down syndrome is admitted to the hospital for intravenous antibiotics for pneumonia. Which clinical findings associated with Down syndrome should the nurse expect when performing a physical assessment? **Select all that apply.**

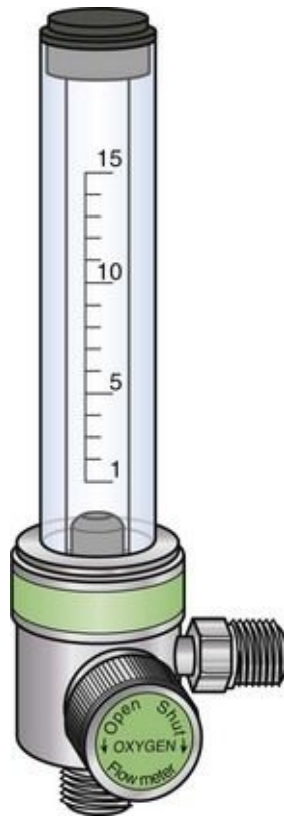
1. Saddle nose
2. Thin fingers
3. Inner epicanthic folds
4. Hypertonic musculature
5. Transverse palmar crease

305. An 8-year-old child is diagnosed with Legg-Calvé-Perthe disease. The health care provider orders an abduction brace 23 hours a day and non-weight-bearing activity. What should the nurse teach the parents to do?

1. Have the child transfer to a wheelchair using the unaffected leg.
2. Explain that kneeling, but not standing, on the affected leg is permitted.
3. Perform range-of-motion exercises to the lower extremities twice a day.
4. Crutches can be used as long as the four-point gait is used when walking.

Nursing Care of Adolescents

► 306. An adolescent is admitted to the hospital in respiratory distress, and the health care provider orders oxygen at 40% via a Venturi mask. The instructions for the Venturi mask indicate 4 L/min: 24% to 28%; 8 L/min: 35% to 40%; and 12 L/min: 50% to 60%. Draw a circle where the ball of the flow meter should be raised to deliver the percent of oxygen ordered by the health care provider.



307. After orthopedic surgery, a 15-year-old adolescent reports a pain rating of 5 on a scale of 0 to 10. A nurse administers the prescribed 5 mg of oxycodone every 3 hours prn. Two hours after having been given this medication, the adolescent reports a pain rating of 10 out of 10. What action should the nurse take?

1. Administer another dose of oxycodone within 30 minutes.
2. Report that the adolescent has an apparent idiosyncrasy to oxycodone.
3. Tell the adolescent that additional medication cannot be given for 1 more hour.
4. Request that the health care provider evaluate the need for additional medication.

► 308. An adolescent is hospitalized for dehydration. An IV of 1000 mL of 0.9% sodium chloride with 20 mEq/L of potassium chloride is prescribed. A 500 mL bag of 0.9% sodium chloride is available. The potassium chloride label reads 2 mEq/mL. How many milliliters of potassium chloride should the nurse add to the 500 mL bag? **Record your answer using a whole number.**

Answer: _____ mL

309. A 15-year-old adolescent who has type 1 diabetes arrives at the diabetic outpatient clinic with a parent. The adolescent sits back in the chair with arms folded, frowns, and displays an “I don’t care” attitude. The adolescent and parent argue in front of the nurse. What is the **best** approach for the nurse to use?

1. Encourage the adolescent to take more interest in and responsibility for treatment.

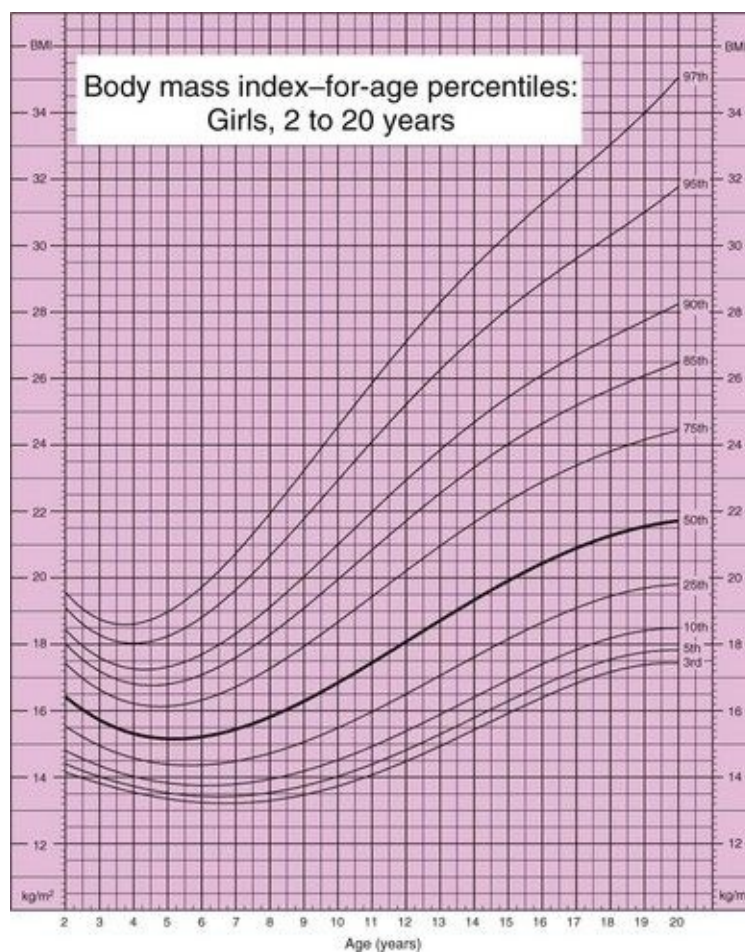
2. Speak separately with each of them, encouraging them to recognize and vent their anger.
3. Try to persuade the two of them to work out their differences together before returning to the clinic.
4. Ask the parent to stay in the waiting room while the adolescent meets with the clinic's staff members.

310. A nurse is teaching growth and development to a group of parents. When discussing puberty, one parent asks at what age a girl will get her first period. How should the nurse respond?

1. Before the pubic hair appears
2. About the same time the breasts develop
3. At the end of the prepubertal growth spurt
4. Near the age the mother had her first period

► 311. A 13-year-old female adolescent comes to the pediatric clinic, and her body mass index (BMI) is 21. Compare the adolescent's BMI to the body mass index-for-age percentiles for girls, 2 to 20 years, graph and determine what percentile this adolescent falls under. **Record your answer using a whole number.**

Answer: _____%



312. A nurse is interviewing an adolescent who is to start on a chemotherapeutic drug regimen that includes vinCRISTine. For which side effect is it **most** important for the nurse to prepare the adolescent?

1. Alopecia
2. Constipation
3. Loss of appetite

4. Peripheral neuropathy

313. How can a nurse **best** accomplish therapeutic communication with an adolescent?

1. Using teen language
2. Relating on a peer level
3. Establishing a relationship over time
4. Interacting by using concrete concepts

314. A nurse is planning to discuss the importance of following the prescribed course of treatment with a group of adolescent clients. What should the nurse **first** consider about their approach to illness and treatment?

1. They are in touch with their feelings and concerns.
2. Their thinking is both concrete and reality oriented.
3. They are involved more with the present than the future.
4. Their developmental goal is striving for industry versus inferiority.

315. A nurse is teaching a group of parents about a developmental expectation that occurs in girls at about 10 years of age. What should the nurse explain about one of the earliest signs of sexual maturity?

1. Interest in the opposite sex
2. Paying attention to grooming
3. The first menstrual period or menarche
4. The appearance of axillary and pubic hair

316. An adolescent sustains a sports-related fracture of the femur, and an open reduction and internal fixation with a rod insertion is performed. After the surgery, a nurse identifies that the adolescent is very upset. Considering the developmental level, what does the nurse conclude is the **most** likely explanation for this distress?

1. The need to navigate in a wheelchair
2. The perception that the rod is a body intrusion
3. Inability to participate in sports for several years
4. Relief of pain will necessitate medication until the bone heals

317. A 13-year-old adolescent is diagnosed as having idiopathic scoliosis. Because exercise and avoidance of fatigue are essential components of care, which sport should the nurse suggest will be **most** therapeutic for this preadolescent?

1. Golf
2. Bowling
3. Swimming
4. Badminton

318. To slow the progression of the curvature, the preadolescent with scoliosis is fitted with a brace. How should the nurse respond to the parents' questions about when the brace will no longer be needed?

1. After cessation of bone growth
2. After the curvature has straightened
3. When the iliac crests are at equal levels
4. When pain-free after prolonged standing

► 319. An adolescent who is receiving chemotherapy for the treatment of bone cancer has stomatitis as a result of chemotherapy. What should the nurse include when teaching the child about self-care?

Select all that apply.

1. Clean the teeth with a swab.
2. Drink fluids through a straw.
3. Brush the teeth three times a day.
4. Rinse frequently with a mouthwash.
5. Avoid food that has extremes in temperature.

320. A nurse on the adolescent unit is planning to discuss smoking prevention. What is the **most** effective approach for the nurse to use?

1. Share personal experiences with a smoking cessation program.
2. Show pictures of the effects of smoking on the cardiopulmonary system.
3. Present information on how smoking affects appearance and odor of the breath.
4. Cite statistics about the relationship between smoking and cardiopulmonary diseases.

321. An adolescent with a serious health problem refuses to wear a medical alert bracelet. How can a nurse foster wearing of the bracelet?

1. Recommend hiding the bracelet under long-sleeved clothes.
2. Suggest wearing the bracelet when engaging in contact sports.
3. Encourage the teenager to ask friends to wear similar bracelets.
4. Help the teenager select a bracelet that is similar to those worn by peers.

322. A 13-year-old boy tells the school nurse that he is getting breasts. How should the nurse respond?

1. "This is expected at your age; let's talk about it."
2. "You should get a physical; I'll talk with your parents about this."
3. "There is nothing to worry about; this happens to a lot of boys your age."
4. "Wear a tight undershirt inside a button-down shirt; that should hide them."

323. An adolescent arrives at the clinic reporting experiencing buzzing in the ears. What assessment data are **essential** for the nurse to obtain?

1. Music preferences
2. Childhood ear infections
3. Recent emotional trauma
4. Familial history of deafness

324. An adolescent with terminal cancer tells the home care nurse, "I would really like to get my high school equivalency diploma. Do you think this is possible?" What is the nurse's **best** approach in response to the adolescent's question?

1. Refocus the conversation on things the adolescent has already accomplished in life.
2. Try to help the adolescent understand that this wish is too taxing and slightly unrealistic.
3. Arrange for a conference with the school and encourage the adolescent to prepare for the test.
4. Suggest to the adolescent that this energy should be directed toward expressing feelings about the illness.

► 325. A 17-year-old adolescent with a history of asthma is brought to the emergency department in respiratory distress. A nurse immediately places the client in a bed with the head of the bed elevated and administers oxygen via a facemask. The health care provider performs a physical assessment, writes orders, and admits the adolescent to the pediatric unit. What is the nurse's **priority** intervention?

Physical Assessment

Dyspnea; flaring of nares; productive cough; sputum is frothy, clear, and gelatinous; wheezing. Adolescent indicates shortness of breath, chest discomfort, headache, and feeling tired

Health Care Provider's Orders

Bed rest

Complete blood count

SMA 12

Albuterol (Proventil) 2.5 mg via nebulizer, one dose

Chest physiotherapy bid

Incentive spirometer

Oxygen via mask at 8 liters

Referral to allergist

Vital Signs

Temperature: 98.8° F

Pulse: 108 beats/min

Respirations: 30 breaths/min

Blood Pressure: 130/86

1. Administering the nebulizer treatment to facilitate breathing
2. Obtaining a blood specimen to send to the laboratory for tests
3. Notifying the respiratory therapist to perform chest physiotherapy
4. Sending a requisition to central supply for an incentive spirometer

Answers and Rationales

Nursing Care of Infants

1. **Answer: 4.5 mL.** To determine the dose, multiply $15 \text{ mg} \times 9.6 \text{ kg} = 144 \text{ mg}$. Use the “Desired over Have” formula of ratio and proportion to solve this problem.

$$\frac{\text{Desired}}{\text{Have}} = \frac{144 \text{ mg}}{160 \text{ mg}} = \frac{x \text{ mL}}{5 \text{ mL}}$$

$$160 x = 720$$

$$x = 720 \div 160$$

$$x = 4.5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Basics of Nursing Practice, Medication Administration, Nursing Responsibilities Related to Medication Administration

2. **4 Based on the family’s decision, extraordinary care does not have to be employed; the infant’s basic needs are met, and nature is allowed to take its course.**

1 If the infant’s physical needs are met and comfort is provided, the infant’s rights are not ignored; “extraordinary,” not “all,” care is being withheld. 2 Euthanasia is a deliberate intervention to cause death. 3 It is not illegal to withhold extraordinary treatment; once such treatment is started, it may become a legal issue.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 29, Nursing Care Related to Meeting the Needs of the Family of a Child with Special Needs

3. **3 The family members are more inclined to share problems with the nurse if they are not feeling pressured; in addition, it aids in the development of a productive relationship.**

1 The father should be included in the visit if at all possible. 2 This may be an inconvenient time for the mother and interfere with productivity. 4 This may be at a time that is inconvenient for the family and thus interfere with productive interaction.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Nursing Care Related to Meeting the Needs of the Family of a Child with Special Needs

4. **2 A pacifier should be given during the feeding to help the infant associate sucking with feeding and to meet oral needs.**

1 This will cause complications if the tube is not in the stomach. 3 This should be done after placement of the tube and verification of a residual return. 4 Upright positioning is essential to prevent regurgitation or reflux and subsequent aspiration.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hospitalization of Infants, General Nursing Care of Infants

5. 1 This helps and encourages parents to put their fears and feelings into words. Once these sentiments are expressed, they can then be examined and addressed.

2 This will not assist the parents in coping with the problem, nor will it demonstrate the supportive, empathetic role of the nurse. **3** This response lacks insight. Parents will worry about their infant anyway. **4** This may or may not be helpful.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Nursing Care Related to Meeting the Needs of the Family of a Child with Special Needs

6. 3 When taking a health history, all areas of concern should be explored fully before deciding how to address the problem.

1 The nurse should gather more data to determine the basis for the problem. **2** More data are needed before recommendations can be made. **4** The data are inadequate to focus on nutrition.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Age Related Responses to Pain, Infant

7. 3 A respiratory rate of less than 30 breaths/min in a young infant is not within the expected range of 30 to 60 breaths/min; a drop to less than 30 breaths/min is a significant change and should be documented.

1 Respirations will accelerate when there is discomfort. **2** Any significant change should be reported immediately. **4** The respiratory tract is fully developed at birth, and the respiratory rate is a cardinal sign of the infant's well-being.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 29, Characteristics of Growth, Respiratory System

8. Answer: 1, 2, 3.

1 This may limit the occurrence of intestinal cramping. **2** This reduces the amount of air entering the intestine, which may limit the occurrence of intestinal cramping. **3** Providing warmth through a hot-water bottle or heating pad over the abdomen may be helpful for some infants because it helps to relax the abdominal muscles and limit intestinal cramping. **4** Although many people try this remedy, it rarely works. **5** A quiet environment may help prevent, not treat, the problem.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Caring; Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Colic, Nursing Care

9. Answer: 30 inches. This infant is 2 inches shorter than expected. At 1 year of age an infant should have increased the birth length by 50%; 50% of 20 inches is 10 inches; 10 inches added to the birth length of 20 inches equals 30 inches.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Growth and Development, Ten to Twelve Months

10. 1 Sucking meets oral needs, which are primary during infancy.

2 An infant a few days old is too young to focus well on a mobile; in addition, the newborn will be placed in a side-lying position postoperatively and thus would not be able to see the mobile. **3** A 2-day-old infant is not developmentally capable of enjoying a soft, cuddly toy. **4** This is not a

developmental need.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hospitalization of Infants, General Nursing Care of Infants

11. **Answer: 2, 4.**

1 Infants who have failure to thrive usually are quiet and lethargic. **2** These children usually have developmental delays, including language, motor, social, and adaptive deficits. **3** Their weight usually is below the fifth percentile. **4** Infants who have failure to thrive usually are frail and are at risk for physical and emotional illnesses. **5** Responsiveness to stimuli is limited or nonexistent.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Failure to Thrive, Data Base

12. **4 Excessively high temperatures can damage the delicate skin of an infant.**

1 Although infants are capable of putting small things in their mouths, they are not yet able to crawl and probably will not be placed on the floor. **2** At 3 months of age infants are not yet able to explore the environment to the point that electric outlets pose a problem. **3** At 3 months of age infants are still too small and have not yet developed motor capabilities to get into containers of poison.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Injury Prevention during Infancy

13. **2 Muscular coordination and perception are developed enough at 6 months for the infant to roll over. If unaware of this ability, the parent may leave the infant unattended for a moment to reach for something, and the infant could roll off an elevated surface.**

1 Sitting up unsupported is accomplished by most infants at 7 to 8 months. **3** Crawling takes place at about 9 months of age. **4** Standing by holding on to furniture is accomplished by most infants between 8 and 10 months of age.

Client Need: Safety and Infection Control; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Injury Prevention during Infancy

14. **4 The 7-month-old infant is accustomed to having the perineal area exposed and cared for and is not in a developmental stage where fears related to sexuality are present.**

1 A “clean catch” at this age is often contaminated; a catheterization has been ordered. **2** The parents do have the right to refuse, but this concern is not realistic for this age infant. **3** The parent’s concern is not appropriate for the developmental age of the infant.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hospitalization of Infants, Data Base

15. **1 The bottom incisors are the first teeth to erupt at about 6 to 8 months of age.**

2 The canine teeth appear at about 18 months. **3, 4** The first molars, both upper and lower, appear at about 20 months.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Growth and Development, Six to Seven Months

16. **1 This position offers the lowest risk for sudden infant death syndrome (SIDS).**

2, 3, 4 The American Academy of Pediatrics does not recommend the lateral position because the infant can fall forward into the prone position.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Sudden Infant Death Syndrome, Data Base

17. 2 A common sign of shaken baby syndrome (SBS) is apnea without stridor or adventitious sounds, resulting from CNS trauma.

1 The age of the infant is beyond the time that respiratory distress caused by immaturity would occur. **3** Short periods of apnea of less than 15 seconds are expected at any age. **4** These findings are indicative of laryngotracheobronchitis, which is common in children younger than 5 years of age, but would not be expected at 3 months.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Shaken Baby Syndrome, Data Base

18. 1 Grunting and rapid respirations are signs of respiratory distress in an infant. Grunting is a compensatory mechanism whereby the infant attempts to keep air in the alveoli to increase arterial oxygenation; increased respirations increase oxygen and carbon dioxide exchange.

2 Sweating in infants usually is scant because of immature functioning of the exocrine glands; profuse sweating rarely is seen in a sick infant. **3** This is not necessarily a sign of illness. **4** This is not necessarily indicative of illness.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Respiratory Tract Infections, Data Base

19. 2 Choanal atresia is a lack of an opening between one or both of the nasal passages and the nasopharynx.

1 Rectal atresia involves the rectum ending in a pouch and the anal canal opening into the other (nonconnected) end of the rectum. **3** Atresias associated with the gastrointestinal tract include esophageal and intestinal atresia involving the ileum, jejunum, or colon. **4** An atresia involving the pharynx and larynx is not commonly seen.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Nasopharyngeal and Tracheoesophageal Anomalies, Data Base

20. 1 There is little or no opening between the nasal passages and the nasopharynx; therefore, the infant can breathe only through the mouth. When feeding, the infant cannot breathe without aspirating some of the fluid; this causes choking.

2 The swallowing reflex is present in these infants. **3** Because it is difficult if not impossible to suck, the infant will be hungry. **4** If choanal atresia is unilateral, there may be no symptoms, and the infant will be able to feed; if bilateral, sucking will be almost impossible.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 30, Nasopharyngeal and Tracheoesophageal Anomalies, Data Base

21. Answer: 4, 1, 5, 2, 3.

4 A patent airway and adequate pulmonary ventilation are always the priorities; inadequate oxygenation can result in cerebral anoxia. **1** Vital signs, including heart rate, are called vital because they reflect the cardiopulmonary and hemodynamic status of a person. **5** Replenishment of body fluids is a significant intervention after surgery; the patency of the catheter must be maintained and the flow rate monitored to ensure that an excessive amount is not instilled and affect the delicate fluid balance in an infant. **2** The operative site should be monitored for signs of

hemorrhage but after the vital signs. An increase in the heart and respiratory rates and a decrease in blood pressure may indicate bleeding. **3** The urinary output should be monitored hourly. This comes after airway, breathing, and circulation, signs of bleeding, and interventions that can influence these vital signs are monitored.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 30, Cardiac Malformations, General Nursing Care of Children with Cardiac Malformations

22. 3 The priority is a patent airway; necessary equipment must be immediately available.

1 Although this is helpful, it is not the priority. **2** This is unnecessary; it may be done if the child has a high fever or a history of febrile seizures. **4** Although appropriate, this is not the priority.

Client Need: Management of Care; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 30, Respiratory Tract Infections, Nursing Care

23. 4 Laryngeal spasms can occur abruptly; patency of the airway is determined by constant assessment for signs of respiratory distress.

1, 2, 3 This is important, but is not the priority.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 30, Respiratory Tract Infections, Nursing Care

24. 2 Often the infant will have decreased pulmonary reserve, and the clustering of care is essential to provide for periods of rest.

1 Antiviral therapy is controversial for this age group and is not given unless there are complications. **3** IV fluids are given during the acute phase to prevent dehydration. **4** Antitussive agents are not used; nasal secretions are aspirated with a bulb syringe whenever necessary.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 30, Respiratory Tract Infections, Nursing Care

25. Answer: 1.5 mL. Use the “Desired over Have” formula of ratio and proportion to solve this problem.

$$\frac{\text{Desire}}{\text{Have}} \frac{375 \text{ mL}}{250 \text{ mL}} = \frac{x \text{ mL}}{1 \text{ mL}}$$

$$250 x = 375$$

$$x = 375 \div 250$$

$$x = 1.5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 2, Basics of Nursing Care, Medication Administration, Nursing Responsibilities Related to Medication Administration

26. 1 Rest reduces the need for oxygen and minimizes metabolic needs during the acute, febrile stage of the disease.

2 The child requiring hospitalization for pneumonia usually is confined to bed and needs to reduce activity to conserve oxygen. **3** This is not a priority; the child is expected to be anorectic during the febrile phase. **4** Elimination usually is not a problem, except as a result of immobility.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Respiratory Tract Infections, Nursing Care

27. 3 Respiratory syncytial virus (RSV) is highly contagious. The infant should be isolated or placed with other infants with RSV. Standard and contact precautions are instituted to limit the spread of pathogens to others.

1 The infant should receive cool, humidified oxygen either by nasal cannula, by mask, or in a croup tent. **2** Because RSV is extremely contagious, the number of visitors should be limited. Uninfected children should not be allowed near the infant, and as few personnel as possible should care for the infant. **4** Antibiotics are not effective and their use is contraindicated.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Respiratory Tract Infections, Nursing Care

28. 3 The bladder membrane is exposed; it must remain moist and, as far as possible, sterile.

1, 2 This will allow the exposed membrane to dry and increase the risk for infection. **4** The jelly will adhere to the membrane, causing trauma.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Exstrophy of the Bladder, Nursing Care

29. 4 The pubic bone and the bladder form during the same time of embryonic development.

1, 2, 3 This defect is not associated with exstrophy of the bladder.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Exstrophy of the Bladder, Data Base

30. 1 The greatest problem facing this infant is infection of the bladder mucosa and excoriation of the surrounding tissue; meticulous hygiene is necessary both preoperatively and postoperatively.

2 Dehydration is not a problem because fluid intake and the amount of urinary output are not affected. **3** Urinary retention is not a problem because the urine drains continuously. **4** The congenital abnormality involves the genitourinary system, not the intestines.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Exstrophy of the Bladder, Nursing Care

31. 1 This provides for collection of more data.

2 This implies that things are not well and that the mother may be to blame. **3** This may make the mother feel guilty about not meeting her baby's needs. **4** This is a negative comment that closes communication.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Exstrophy of the Bladder, Nursing Care

32. 1 Mumps can cause orchitis (inflammation of the testes) in males and oophoritis (inflammation of the ovaries) in females. Although rare, both can render the postpubescent child sterile.

2, 3, 4 This is not associated with mumps.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30,

Immunizations

33. 3 Cardiac anomalies often accompany genetic problems such as Down syndrome; 30% to 40% of these infants have congenital heart defects.

1 These infants do not have increased intracranial pressure; the fontanelles should be flat. **2** The extremities will more likely be relaxed. **4** They have the usual pupillary reactions to light.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Trisomy 21, Data Base

34. 4 Touching the palms of the hands causes flexion of the fingers (grasp reflex); this usually lessens after 3 months of age. An unexpected loud noise causes abduction of the extremities and then flexion of the elbows (startle reflex); this usually disappears by 4 months of age. Persistence of primitive reflexes usually is indicative of a developmental delay.

1 It is not necessary to gather more data because these changes are consistent with expected growth and development. **2** The data do not support making this comment; this may cause needless concern. **3** Sensory stimulation at this age is directed toward experiences to add new motor, language, and social skills.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Growth and Development, Two to Three Months

35. 4 The Hib vaccine may cause a low-grade fever.

1 Lethargy is not expected. **2** Urticaria is more likely to occur with the tetanus and pertussis vaccines. **3** There may be a mild reaction at the injection site, but a generalized rash is not expected.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 30, Immunizations

36. Answer: 50 mL. The correct rate is 50 mL/hr. Divide the total volume to be infused (400 mL) by the number of hours it is to be infused (8): $400 \div 8 = 50$ mL.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 3, Fluid, Electrolyte, and Acid-Base Balance, General Nursing Care of Clients with Fluid and Electrolyte Problems

37. 4 The extracellular body fluid represents 45% at birth, 25% at 2 years of age, and 20% at maturity. Another measurement is fluid's percentage of total body weight, which is 80% at birth, 63% at 3 years, and approximately 60% at 12 years.

1 Cellular metabolism in children is stable, but its rate is higher than that in adults. **2** The proportion of total body water in children (up to 2 years) is greater than it is in adults. **3** Renal function is immature through the second year of life, not until school age, which makes it more difficult to maintain fluid balance.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 29, Characteristics of Growth, Circulatory System

38. 1 Febrile seizures usually are not associated with major neurologic problems. From 95% to 98% of these children do not develop epilepsy or other neurologic problems.

2 The cause of febrile seizures is still uncertain. **3** Most febrile seizures occur after 6 months of age and before age 3 years, with the average age of onset between 18 and 22 months. **4** Boys are affected about twice as frequently as girls.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30,

39. 1 Shivering increases the metabolic rate, which intensifies the body's need for oxygen and increases the body temperature.

2 Restricting fluids is contraindicated because of the risk for dehydration; fluids should be offered. **3** Although monitoring output will provide information about the child's level of hydration, it is more important to take action to prevent increases in the fever. **4** Although monitoring vital signs is important, it is not the priority.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Febrile Seizures, Nursing Care

40. 3 Because the child is in a crib, the nurse should remain, observe, and protect the child from injury to the head or extremities during seizure activity.

1 An individual should never be restrained during a seizure; fractured bones or torn muscles and ligaments can result. **2** This is useless until the seizure is over; the child is apneic during the seizure. **4** Attempts at inserting an airway are futile; this may damage the child's teeth and jaws.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Febrile Seizure, Nursing Care

41. 2 This limits the danger of falling and striking the head.

1 This is unsafe; attempting to open the jaw may result in injury. **3** Protecting the child is the priority; assistance at this time is futile. **4** This may cause airway occlusion by forcing the chin onto the neck.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Febrile Seizure, Nursing Care

42. Answer: 1, 2.

1 Irritability is a classic sign of increased intracranial pressure because of disruption of the central nervous system (CNS). **2** Bradycardia is a classic sign of increased intracranial pressure; it is a late sign. **3** With increased intracranial pressure, there is decreased alertness or loss of consciousness. **4** The pulse pressure increases with increased intracranial pressure. **5** The systolic blood pressure increases with increased intracranial pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Meningitis, Data Base

43. 4 This is what occurs in communicating hydrocephalus.

1 This is often caused by a choroid plexus tumor and does not interfere with the flow of cerebrospinal fluid (CSF) through the ventricles. **2** This is an inaccurate answer; brain cells and the spinal cord are not involved. **3** This reflects the pathophysiologic process of noncommunicating hydrocephalus.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hydrocephalus, Data Base

44. 2 The other children need to be involved with the grieving process and work through their own feelings.

1 This is a long-term goal. **3** It is too early for this goal. **4** It is premature for this goal; also, they may never achieve this goal.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Sudden Infant Death Syndrome, Nursing Care

45. 2 Elevation of the head helps decrease intracranial pressure by the use of gravity.

1 This is done after the insertion of a shunt; if the infant is in the intensive care unit, this is done routinely. **3** This may be disturbing to the infant and impair the ability to rest. **4** Frequent stimulation may cause further irritability to an already traumatized central nervous system (CNS).
Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hydrocephalus, Nursing Care

46. 2 Shunts are revised, and the length of the tubing is increased as the child grows.

1 Although treatment of hydrocephalus by shunt replacement is quite successful, there is danger of malfunction and infection of the shunt. **3** Some brain damage may be reversible during the first year of life. **4** Hydrocephalus necessitates treatment for the life of the child.
Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hydrocephalus, Nursing Care

47. 4 The shunt may obstruct and lead to an accumulation of cerebrospinal fluid (CSF) in the head; the accumulated fluid increases the intracranial pressure, which leads to brainstem hypoxia.

1 Positioning the infant flat helps prevent complications resulting from too rapid reduction of intracranial fluid. **2** Although pain management is essential to minimize an increase in intracranial pressure, sedation is contraindicated because it will mask the infant's level of consciousness (LOC). **3** The infant is positioned on the opposite side from the shunt to prevent pressure on the valve and incisional area.
Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 30, Hydrocephalus, Nursing Care

48. 3 The affected limbs should be exercised to promote circulation and prevent atrophy.

1 Development should be encouraged; the infant's movements should not be restricted. **2** Fluids should be encouraged to provide adequate kidney function and prevent constipation. **4** The infant needs stimulation to develop mentally and socially.
Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hydrocephalus, Nursing Care

49. Answer: 1, 3, 4.

1 A low-grade fever progressing to a high fever occurs. **2** Irritability rather than lethargy results. **3** An infectious process that causes meningitis may result in rigidity and hyperextension of the neck (opisthotonos). **4** Central nervous system (CNS) irritation results in irritability and anorexia. **5** The fontanels will be tense or bulging as increased intracranial pressure progresses.
Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Meningitis, Data Base

50. 4 The anterior fontanel will be widened and tense because of the increased volume of cerebrospinal fluid (CSF).

1 The pulse rate will be decreased with increased intracranial pressure. **2** The reflexes will be hyperactive with increased intracranial pressure. **3** The blood pressure will be higher with increased intracranial pressure.
Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 30, Hydrocephalus, Nursing Care

51. 1 These infants need follow-up care with a variety of health care providers (e.g., neurologist,

physical therapist) to manage the child's condition during growth and development.

2 This is unnecessary. **3** Powder should be avoided; it will create a pasty substance when mixed with urine and when aerosolized it is a respiratory irritant. **4** These children require more frequent perineal care than just routine cleansing and diaper changes.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Defects of Neural Tube Closure, Nursing Care

52. 2 A meningocele is thinly covered and fragile; trauma to the sac can damage functioning neural tissue; an intact sac reduces a potential portal of entry for microorganisms.

1 Although extremely important, it is not the priority; care of the sac is even more important because an intact sac reduces a portal of entry for microorganisms. **3** Although observation for paralysis is an important nursing measure, it is not the priority. **4** The extent of a meningocele will influence the child's ability to control these functions, but control is not developed until the toddler and preschool years.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Defects of Neural Tube Closure, Nursing Care

53. 2 This is the best position for preventing pressure on the sac.

1 Diapers should not be applied because they might irritate or contaminate the sac. **3** Assessment of the area below the defect is essential to determine motor and sensory function. **4** There is no indication for the use of an antiseptic.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Defects of Neural Tube Closure, Nursing Care

54. 3 The surgical closure of the sac decreases the absorptive surface and eliminates a route by which the spinal fluid drains. Since the cranial sutures have not closed, the skull will expand if fluid increases, causing hydrocephalus.

1 The lower extremities of most infants with myelomeningocele are partially or completely paralyzed; performing careful range-of-motion exercise is an important part of nursing care. **2** There is no reason to decrease environmental stimuli for infants who have had surgical correction of a myelomeningocele unless they also have seizures. **4** This is not expected, because damage to the meninges of the brain is not a factor in the surgical treatment of myelomeningocele.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 30, Defects of Neural Tube Closure, Nursing Care

55. 4 Infections of cranial structures can cause meningitis because bacteria travel by direct anatomic route to the meninges and cerebrospinal fluid (CSF).

1, 2, 3 This part of the body does not come into contact with CSF.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Meningitis, Data Base

56. Answer: 1, 3, 2, 4, 5.

1 Bacterial meningitis is transmitted through respiratory droplets. The nurse should first ensure that all who come in contact with the child are appropriately gowned, gloved, and masked. **3** A circulatory access device provides an avenue to administer prescribed fluids and/or medications; also, it provides a circulatory access in case of an emergency. **2** The next priority is to obtain a sample of cerebral spinal fluid (CSF). This will help determine if the etiology is viral or bacterial, and the appropriate pharmacological therapy can be prescribed by the health care provider. **4** Once the CSF sample is obtained and the diagnosis is confirmed, the health care provider can prescribe

the antibiotic that will most likely be appropriate for the causative microorganism. An antibiotic cannot be administered before it is prescribed. 5 Nuchal rigidity (neck stiffness) occurs as the disease progresses; it is not an initial sign of meningitis.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Meningitis, Nursing Care

57. **4 Most children are no longer contagious after 24 to 48 hours of receiving IV antibiotics.**

1 This time period is inadequate even if antibiotics are started immediately. **2, 3** This is an excessive time period and is unnecessary.

Client Need: Safety and Infection Control; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Meningitis, Nursing Care

58. **2 The blood-brain barrier is affected, which permits the passage of protein into the cerebrospinal fluid (CSF).**

1 The cell count will be increased. **3** Glucose levels are decreased in proportion to the duration of the disease. **4** Spinal fluid pressure will be increased.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Meningitis, Data Base

59. **3 Meningococcal meningitis is identified by its epidemic nature and purpuric skin rash.**

1, 4 This is not characteristic of meningococcal meningitis. **2** The fever of meningitis is usually high.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Meningitis, Data Base

60. **Answer: 1, 2, 5.**

1 Irritation of cerebral tissue can cause seizures. **2** Pressure on vital centers can cause vomiting. **3** A 2-year-old child's fontanelles are closed, so bulging fontanelles are not a sign of increased intracranial pressure. **4** The inflammatory process of meningitis causes an elevated temperature. **5** Pressure on the respiratory center results in a decreased respiratory rate.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Meningitis, Data Base

61. **3 Peripheral circulatory collapse (Waterhouse-Friderichsen syndrome) is a serious complication of meningococcal meningitis caused by bilateral adrenal hemorrhage. The resultant acute adrenocortical insufficiency causes profound shock, petechiae, ecchymotic lesions, vomiting, prostration, and hypotension.**

1 Although epilepsy may occur, it is controllable and not as serious as peripheral circulatory collapse. **2** Although blindness may occur, it is not as serious a complication as peripheral circulatory collapse. **4** Although hydrocephalus may occur, it is rare and not as serious as peripheral circulatory collapse.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Meningitis, Data Base

62. **4 Asymmetry of the gluteal dorsal surface of the thighs and inguinal folds indicates developmental dysplasia of the hip; folds on the affected side appear higher than those on the unaffected side.**

1 An inguinal hernia is evidenced by protrusion of the intestine into the inguinal sac. **2** Impaired reflex behavior and a shrill cry indicate central nervous system damage. **3** Peripheral nervous system damage is manifested by limpness or flaccidity of extremities.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Developmental Dysplasia of the Hip, Data Base

63. 4 A foul smell emanating from the cast indicates development of an infection and requires immediate treatment.

1 Soiling of the cast with excreta, although problematic, is not a serious complication. **2** This is not necessary, nor is it desirable. **3** The infant's position should be changed frequently.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Developmental Dysplasia of the Hip, Nursing Care

64. 1 Standard seat belts and car seats are not readily adapted for use by children in spica casts; specially designed devices are available to meet safety requirements.

2 Other strategies in addition to diapers will be necessary to keep the cast clean. **3** This is inadequate; the position should be changed at least every 2 hours. **4** Using the abduction bar for lifting or turning can weaken the cast; the bar is designed to keep the hips in alignment.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Developmental Dysplasia of the Hip, Nursing Care

65. 4 When elevation of the head is desired, the entire mattress or crib should be raised at the head of the crib.

1 There is no reason to place such a short time limit on this position. **2** Pillows under the head or shoulders of a child in a spica cast will thrust the chest forward against the cast, causing discomfort and respiratory distress. **3** This will not help elevate the infant's head.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Developmental Dysplasia of the Hip, Nursing Care

66. 4 Congenital hypothyroidism is the result of insufficient secretion by the thyroid gland because of an embryonic defect. Decreased thyroid hormone affects the fetus before birth during cerebral development, so it is likely that there will be some cognitive impairments at birth. Treatment before 3 months will prevent further damage.

1 Congenital hypothyroidism does not become myxedema. **2** Thyrotoxicosis is another term for hyperthyroidism; it is not expected, but it can occur with an overdose of exogenous thyroid hormone; it is too soon to discuss this with the parents. **3** This occurs only if the infant has cerebral palsy.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Hypothyroidism, Data Base

67. 2 Diaper dermatitis is caused by prolonged repetitive contact with an irritant (e.g., urine, feces, soaps, detergents, ointments, and friction).

1 Both cloth and disposable diapers can cause diaper dermatitis if not changed frequently. **3** An increased pH or alkaline urine can contribute to diaper dermatitis. **4** A change in diet may contribute, but there is no evidence that this is directly related.

Client Need: Basic Care and Comfort; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Diarrhea, Data Base

68. 1 Chalasias allows a reflux of gastric contents into the esophagus and eventual regurgitation. Placing the infant in an upright position keeps the gastric contents in the stomach by gravity and limits the pressure against the cardiac sphincter.

2 This probably will have little effect on chalasias. **3** This will promote regurgitation; it is an unsafe position because of the danger of SIDS. **4** This will promote vomiting; the infant should be allowed

to stop feeding when satiated, not when the bottle is empty.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Nasopharyngeal and Tracheoesophageal Anomalies, Nursing Care

69. 4 Offering a new food after giving some formula associates this activity with eating and takes advantage of the infant's unsatisfied hunger.

1 Solid food should be introduced by spoon to acquaint the infant with new tastes and textures, as well as the use of the spoon. **2** Offering food after the regular feeding decreases the chance of success because the infant's hunger is already satisfied. **3** New foods should be initiated one at a time and continued for 4 to 5 days to assess for an allergic reaction.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Nutrition during Infancy, Guidelines for Infant Nutrition

70. 1 Crying should be prevented because it places tension on the suture line. A metal appliance or adhesive strips are secured to the cheeks to keep the operative site relaxed, which helps prevent trauma.

2 The infant may be positioned on the side and on the back with surveillance. **3** This is not necessary or desirable. **4** The feeding method of choice is by a rubber-tipped syringe or dropper.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cleft Lip and Cleft Palate, Nursing Care

71. 4 Infants with a cleft lip breathe through their mouths, bypassing the natural humidification provided by the nose. As a result, the mucous membranes become dry and cracked and are easily infected.

1 The area can be kept clean by washing with water after each feeding. **2** Circulation in the area is unimpaired. **3** Feeding can be adequate with special equipment and a patient approach.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Cleft Lip and Cleft Palate, Data Base

72. 4 Because the infant with a cleft lip and palate is unable to form the vacuum needed for sucking, a rubber-tipped syringe or dropper is used. This allows formula to flow along the sides to the back of the mouth, minimizing the danger of aspiration.

1 A spoon is ineffective because the infant's extrusion reflex will prevent fluid from entering the mouth. **2** A cross-cut nipple may be used with some infants, but a rapid flow is dangerous because it can cause aspiration. **3** Feeding can be accomplished with special equipment; IV fluids are not necessary.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cleft Lip and Cleft Palate, Data Base

73. 4 A child with a cleft palate has distinctive speech because the airflow required for speech cannot be controlled; although speech therapy usually is needed after surgery, surgery is scheduled before the child starts to speak because correct speech is easier to achieve.

1 This is not the reason the surgery is done at this age. **2** Children with a cleft palate require orthodontic and prosthodontic treatment for many years because of the malformed palate and the malposition of the teeth; the eruption of the teeth may be considered relative to the timing of surgery throughout childhood, but the 2-year molars are of little importance when considering the overall problem. **3** Although this may be true, this is not the reason why the repair is made at this age; these children may need multiple surgeries as the palate develops.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cleft Lip and Cleft Palate, Data Base

74. **Answer: 2, 1, 4, 5, 3.**

2 These infants frequently have difficulty swallowing secretions as well as difficulty breathing after surgery. Nursing measures, such as placing the infant in a partial side-lying position or gently aspirating secretions from the mouth or nasopharynx, may be necessary to prevent aspiration and respiratory complications. 1 Vomiting may compromise the airway and should be prevented. 4 Infants have a delicate fluid and electrolyte balance; parenteral fluid administration should be monitored to ensure that excessive fluids are not administered. These children are transitioned to oral fluids quickly. 5 This eventually will be done after the initial safety needs of the infant are met and the infant is ready for oral fluids. 3 Of the interventions listed, this is the least important in relation to the infant's immediate needs postoperatively.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cleft Lip and Cleft Palate, Nursing Care

75. **3 The olive-like mass is caused by the thickened muscle (hypertrophy) of the pyloric sphincter.**

1 The obstruction is above the intestinal area; the colon is not involved. 2 There is no significant tenderness in the abdomen. 4 There is little or no peristalsis in the intestines.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Hypertrophic Pyloric Stenosis, Data Base

76. **2 Hypertrophy of the pyloric sphincter (HPS) causes partial and then complete obstruction. Nonprojectile vomiting progresses to projectile vomiting, which rapidly leads to dehydration.**

1 The infant's cry is not affected by HPS; there does not appear to be pain associated with this condition, except for the pain of hunger. 3 This can be expected with a tracheoesophageal fistula, but not with HPS. 4 The characteristics of the stool are not relevant when assessing an infant with HPS.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Hypertrophic Pyloric Stenosis, Nursing Care

77. **3 Initial feedings of glucose and electrolytes in water or breast milk are given 4 to 6 hours after surgery. When clear fluids are retained, formula feedings are begun within 24 hours.**

1 This is not necessary. Regular formula should be started within 24 hours after surgery in an attempt to gradually return the infant to a full feeding schedule. 2, 4 This is not necessary.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hypertrophic Pyloric Stenosis, Nursing Care

78. **3 Assessment of the IV site is a priority. The infant will need IV fluids until able to feed orally.**

1 Restraints are not needed. 2, 4 This is not the priority action.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hypertrophic Pyloric Stenosis, Nursing Care

79. **2 An elevated position allows gravity to aid in preventing vomiting.**

1 Movement increases the chance of vomiting. 3 This will not prevent reflux and may result in aspiration. 4 Activity increases the chance of vomiting.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hypertrophic

80. 2 Human milk has a laxative effect that promotes a soft stool; breastfed infants rarely become constipated.

1 There are no data to indicate that this infant has an allergy to milk. **3, 4** This is unnecessary.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Anorectal Anomalies, Data Base

81. 4 Because phenylalanine is an essential amino acid, it must be provided in quantities sufficient for promoting growth while maintaining safe blood levels.

1 Phenylalanine is derived from protein, not fat. **2** An enriched protein diet contains increased amount of proteins, including phenylalanine, which should be ingested in limited amounts. **3** Phenylalanine is an essential amino acid and cannot be totally removed from the diet.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Phenylketonuria (PKU), Data Base

82. 1 In phenylketonuria, the absence of the hepatic enzyme phenylalanine hydroxylase prevents metabolism (hydroxylation to tyrosine) of the amino acid phenylalanine. The increased fluid levels of phenylalanine in the body and the alternate metabolic by-products (phenylketones) are associated with severe mental retardation if not identified and treated early.

2 Testing for PKU cannot be done until after several days of milk ingestion. **3** Medications are not part of therapy for PKU. **4** PKU is transmitted by an autosomal recessive gene.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Phenylketonuria, Data Base

83. 4 To achieve optimal metabolic control, it is recommended that people with classic phenylketonuria (PKU) remain on a low-phenylalanine diet for life.

1, 2 The nurse should respond truthfully and provide clients with up-to-date information; dietary restrictions are recommended for life. **3** This is no longer recommended; dietary restrictions are recommended for life.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Phenylketonuria, Data Base

84. 2 Obesity is a common nutritional problem of children with Down syndrome. It is thought to be related to excessive caloric intake and impaired growth.

1 This is a nutritional disorder related to vitamin D deficiency; it usually is not encountered in these children. **3** This is the most common nutritional problem in children with an iron deficiency. **4** This is an eating disorder of infancy characterized by repeated regurgitation without a gastrointestinal illness.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Trisomy 21, Data Base

85. Answer: 3, 5.

1 Weak pulse is unrelated to intestinal obstruction. **2** Hypotonicity is unrelated to intestinal obstruction. **3** Paroxysmal pain is related to the peristaltic action associated with intestinal obstruction. **4** A high-pitched cry is unrelated to intestinal obstruction; it is related to neurological problems. **5** Abdominal distention pushes the diaphragm upward, causing respiratory distress characterized by grunting respirations.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 30, Intestinal Obstruction, Data Base

86. 2 The traditional efforts to explain and treat colic center on the paroxysmal abdominal pain; multiple factors appear to be involved, such as immaturity of the intestinal nervous system and lack of normal intestinal flora.

1 Peristalsis is effective because these infants thrive physically and gain weight. **3, 4** The etiology of colic is unknown at this time.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Colic, Data Base

87. 2 A full thickness rectal biopsy removes some rectal tissue, which is examined microscopically for the absence of ganglion cells.

1 A colonoscopy is not necessary to obtain a rectal biopsy. **3** Saline enemas may relieve the obstruction, but they are not a definitive diagnostic tool; a barium enema may be used for diagnosis after the age of 2 months. **4** This is not used to diagnose the cause of an intestinal obstruction in infants.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 30, Hirschsprung Disease, Data Base

88. 2 Tap water enemas are hypotonic and are contraindicated; they may cause increased absorption of fluid via the bowel and may upset the balance of fluid in the body. There also is interference with potassium ion balance; this electrolyte can be lost via the large intestine.

1 The enema removes waste products from the bowel, not nutrients. **3** Fear of intrusive procedures is typical of preschoolers, not infants. **4** The temperature of the water is regulated, so this is not a concern.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 30, Hirschsprung Disease, Data Base

89. 3 Unless ordered, no more than 360 mL of solution should be administered to a young child because fluid and electrolyte balance in infants and children is easily disturbed.

1 This quantity may be ordered for a small infant. **2** This quantity may be ordered for an older or larger infant. **4** This quantity is too much for a toddler.

Client Need: Basic Care and Comfort; **Cognitive Level:** Knowledge; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 30, Hirschsprung Disease, Data Base

90. 4 If the circulation is overloaded with too much fluid or the rate is too rapid, the stress on the heart becomes too great and cardiac overload may occur.

1 Increased output is not the primary concern. **2** Although fluid replacement is important, prevention of cardiac problems from fluid overload is critical. **3** This is important, but an infiltrated IV is not as serious as a cardiac complication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 30, Diarrhea, Nursing Care

91. 2 Weight is the best indicator of fluid loss or gain if measured each day at the same time, on the same scale, and with the same amount of clothing; 1 liter of fluid weighs 2.2 pounds.

1 Oral rehydration therapy (ORT) is employed first; IV therapy is instituted only if there is severe dehydration. **3** Nutrition is not a concern at this time. **4** Although important, this is not the priority.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 30, Diarrhea, Nursing Care

92. 2 Excessive vomiting causes an increased loss of hydrogen ions (hydrochloric acid), which leads to metabolic alkalosis, an excess of base bicarbonate.

1 Acidosis is caused by retention of hydrogen ions and a loss of base bicarbonate, which is more likely to occur with diarrhea. **3** Hypokalemia, not hyperkalemia, will occur. **4** With the loss of chloride ions, hyponatremia is more likely to occur.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Vomiting, Data Base

93. 1 An infant's intravascular compartment is limited and cannot accommodate a large volume of fluid administered in a short time. Equipment such as an infusion pump with a volume-control chamber should be used because it controls the prescribed amount of fluid to be infused.

2 IV fluids for an infant are administered via an infusion pump, not through intravenous tubing via gravity. **3** This is the health care provider's role. **4** IV fluids are administered at room temperature.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Diarrhea, Nursing Care

94. 4 The average respiratory rate for infants is 35 breaths/min. Tachypnea requires further investigation.

1 This temperature is within the expected range for infants. **2** This blood pressure is within the expected range for infants. **3** This heart rate is within the expected range for infants.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cardiac Malformations, Data Base

95. 3 Heart failure is characterized by a decrease in the blood flow to the kidneys, causing sodium and water reabsorption, resulting in peripheral edema. The peripheral edema indicates severe cardiac decompensation.

1, 2 This is an early attempt by the body to compensate for decreased cardiac output. **4** This occurs most noticeably in children with acute post streptococcal glomerulonephritis (APSGN), not heart failure.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Cardiac Malformations, Data Base

96. 3 Children with cardiac malformations often require more energy to achieve the activities of daily living; decreased oxygen utilization and increased energy output in the developing child result in a slow growth rate.

1 Mental retardation is not a common finding in children with congenital heart disease. **2** Cardiac anomalies are more often a result of prenatal, rather than genetic, factors. **4** Clubbing is not characteristic of most children with cardiac anomalies, only of those with more severe hypoxia.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Cardiac Malformations, Data Base

97. 3 Polycythemia, reflected in an elevated hematocrit, is a direct attempt of the body to compensate for the decrease in oxygen to all body cells caused by the mixture of oxygenated and deoxygenated circulating blood.

1 This is not characteristic of heart malformations that cause a right-to-left shunting of blood. **2** Edema is not a common finding with heart malformations associated with a right-to-left shunting of blood. **4** This is characteristic of coarctation of the aorta, an obstructive malformation.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Cardiac Malformations, Data Base

98. 2 The intrapleural space must be drained of fluid and air to facilitate the reestablishment of negative pressure in the intrapleural space.

1 The tidal volume increases as the lung reexpands, but it is not the reason for the insertion of chest tubes. **3** Intrapleural pressure should be negative, not positive; positive intrapleural pressure causes collapse of the lung. **4** Closed chest drainage is related to intrapleural pressure, not pericardial and chest wall pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cardiac Malformations, General Nursing Care of Children with Cardiac Malformations

99. 4 Before birth, fetal oxygenated blood is shunted directly into the systemic circulation via the ductus arteriosus, a connection between the pulmonary artery and the aorta. After birth, the increased oxygen tension causes a functional closure of the ductus arteriosus. Occasionally, particularly in preterm infants, this vessel remains open and is known as patent ductus arteriosus.

1 This is not the problem in patent ductus arteriosus. **2** This describes a ventricular septal defect. **3** This describes pulmonic stenosis.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Defects with Increased Pulmonary Blood Flow, Patent Ductus Arteriosus (PDA)

100. 4 With a left-to-right shunt, blood flows through a defect in the ventricular wall of the heart and is shunted from the higher-pressure left side to the lower-pressure right side. The increased blood flow from the right ventricle results in an increased blood flow to the lungs.

1 Polycythemia and an increased hematocrit are not common in children with a left-to-right shunt. **2** This is not common in children with a left-to-right shunt. **3** Clubbing is a more common finding in children with a right-to-left shunt.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Cardiac Malformations, Data Base

101. 4 Coarctation of the aorta is a narrowing of the aorta, usually in the thoracic segment, causing decreased blood flow below the constriction and increased blood volume above it.

1 The radial pulses are bounding. **2** This is not related to coarctation of the aorta. **3** The femoral pulses are weak or absent.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Obstructive Defects, Coarctation of the Aorta

102. 3 Compromised heart functioning causes decreased cardiac output; this often results in cyanosis and fatigue from ineffective sucking and swallowing.

1 When a feeding problem persists in a neonate, it generally is an indication of some pathology. **2** Inadequate sucking is never insignificant; it may be indicative of many problems, such as central nervous system involvement or immaturity as well as heart disease. **4** Healthy newborns are free from mucus within 24 to 48 hours after birth.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Defects with Increased Pulmonary Blood Flow, Ventricular Septal Defect (VSD)

103. 2 Hemorrhage is a major life-threatening complication because arterial blood is under pressure and a catheter has been inserted into an artery.

1 The child is kept in bed for 6 to 8 hours after an arterial catheterization. **3** Fluids may be given as

soon as tolerated. **4** Pulses, not blood pressure, must be compared for quality and symmetry.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cardiac Malformations, General Nursing Care of Children with Cardiac Malformations

104. 3 Circumoral cyanosis is not a specific characteristic of Down syndrome. It is a clinical finding associated with congenital heart disease, which these infants may have as a concurrent problem.

1 A flat occiput and a broad nose with a depressed bridge (saddle nose) are head and facial features of children with Down syndrome. **2** Small, misshapen, low-set ears are a clinical manifestation of Down syndrome. **4** Children with Down syndrome often keep their mouths open and their tongue protrudes; the surface of the tongue is often wrinkled.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Trisomy 21, Data Base

105. 3 Tetralogy of Fallot consists of four defects. Three of them are anatomic: ventricular septal defect, pulmonic stenosis, and overriding aorta. The fourth defect, right ventricular hypertrophy, is secondary to increased resistance to blood flow in that ventricle.

1, 4 Although there is right ventricular hypertrophy, the other defects are not associated with tetralogy of Fallot. **2** These are the characteristics of transposition of the great vessels.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Defects with Decreased Pulmonary Blood Flow, Tetralogy of Fallot

106. 2 Decreased tissue oxygenation stimulates erythropoiesis, resulting in excessive production RBCs.

1, 4 This is not a direct cause of polycythemia. **3** This may or may not affect the production of RBCs.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Defects with Decreased Pulmonary Blood Flow, Tetralogy of Fallot

107. 2 Hypoxia leads to poor peripheral oxygenation of tissues; clubbing develops over time as a result of tissue hypertrophy and additional capillary development in the fingers.

1 The respirations generally are rapid to compensate for oxygen deprivation. **3** These children have polycythemia. **4** These do not occur in children with tetralogy of Fallot.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Defects with Decreased Pulmonary Blood Flow, Tetralogy of Fallot

108. 3 Forceful evacuation results in taking a deep breath, holding it, and straining (Valsalva maneuver). This increases intrathoracic pressure, which puts excessive strain on the heart sutures.

1 Crying is not a problem after cardiac surgery; it may, in fact, help prevent respiratory complications. **2** Coughing and deep breathing are essential for the prevention of postoperative respiratory complications. **4** Activity is gradually increased.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cardiac Malformations, Data Base

109. 2 This is a priority because inadequate antibiotic therapy may predispose the infant to the development of bacterial endocarditis.

1, 3, 4 This is not a priority because instructions usually are printed on the label.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Cardiac Malformations, Data Base

110. 3 Gavage feeding is preferred for weak infants, those with respiratory distress or ineffective sucking-swallowing coordination, and those who are easily fatigued. It conserves energy and reduces the workload of the heart.

1 This is not a reason for instituting gavage feedings; however, vomiting may be lessened because the amount and rapidity of the feeding can be controlled. **2** Feeding the infant quickly is not desirable; vomiting with aspiration may occur. **4** The amount can be regulated with oral formula feeding as well.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Cardiac Malformations, Data Base

111. 3 Antibodies received in utero through the placenta and in the newborn via the mother's breast milk provide the infant with immunity against most viral, bacterial, and fungal infections during the first several weeks after birth. Then, as the titer of maternal antibodies drops and is not replaced by the infant's own antibodies, prolonged and repeated infections occur.

1 This is not enough to prevent infections in these infants. **2** Bacteria do not produce antibodies. **4** This probably does not occur in infants born without an immune system.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Immunizations

112. 2 This is the expected hematocrit range for a 1-year-old infant.

1 This is too low; it occurs with problems such as prolonged blood loss. **3** This is too high; this is the expected hematocrit for an adult female. **4** This is too high; this is the expected hematocrit for a newborn.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Growth and Development, Ten to Twelve Months

113. 2 Toxoids are modified toxins that stimulate the body to form antibodies that last up to 10 years against the specific disease.

1 Passive immunity, even the natural type derived from the mother, does not last longer than the first year of life. **3** Only having had the disease can provide lifelong natural immunity. **4** This is provided by tetanus immune globulin.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Immunizations

114. Answer: 2, 4, 5.

1 Rubella (measles) vaccine is made from a live attenuated virus. **2** Pertussis (whooping cough) vaccine is made from inactivated toxins. **3** Varicella (chicken pox) vaccine is made from a live attenuated virus. **4** It is safe to receive the inactivated poliovirus vaccine; it is not a live attenuated virus vaccine. **5** Tetanus immune globulin is an antitoxin that provides transient passive immunity; tetanus toxoid is contraindicated.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 30, Immunizations

115. 1 Varicella (chickenpox) is caused by a virus and may be followed by encephalitis. It is characterized by skin lesions.

2 Scarlet fever is caused by a bacterium and does not result in encephalitis. **3** Although poliomyelitis is caused by a virus, it does not result in encephalitis. **4** Whooping cough (pertussis) is caused by a bacterium and does not result in encephalitis.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Immunizations

116. 1 The signs and symptoms of rubeola (measles) include a high fever, photophobia, Koplik spots (white patches on mucous membranes of the oral cavity), and a rash. Rubella (German measles) usually does not cause a high fever, runs a 3- to 6-day course, and never causes Koplik spots.

2 The rash of rubeola (measles) spreads over most of the body. **3** These clinical findings are vague and occur with many illnesses. **4** Some signs and symptoms may be similar to those of a severe cold, but rubeola is associated with high fever.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Immunizations

117. 1 The American Academy of Pediatrics and the Centers for Disease Control and Prevention are not recommending the IM polio vaccine because of the danger of acquiring vaccine-associated polio paralysis (VAPP) with the oral vaccine.

2 Both vaccines are not equally safe; the intramuscular one is safer. **3** Cost is not the issue; safety is. The oral vaccine is less expensive. **4** If the infant is immunocompromised, the health care provider will discuss with the parents whether the vaccine should be administered.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Immunizations

118. 2 Steroids have an immunosuppressive effect. It is thought that resistance to certain viral diseases, including varicella, is greatly decreased when a child takes steroids regularly.

1 There is no known correlation between varicella and insulin. **3** Because varicella is a viral disease, antibiotics will have no effect. **4** There is no known correlation between varicella and anticonvulsants.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Immunizations

119. 3 Varicella (chickenpox) begins with a slight fever, malaise, and anorexia. After 24 hours a highly pruritic rash begins with a macule, progressing to papules, and then vesicles that break easily. The rash spreads in a centripetal manner from the trunk to the face and proximal extremities. Secondary bacterial complications (e.g., encephalitis, pneumonia, and hemorrhagic varicella) are potential complications.

1 This is a benign childhood communicable disease; complications are rare; women of childbearing age should be vaccinated because rubella, if contracted in early pregnancy, can cause congenital anomalies in the newborn. **2** Rubeola (measles) produces coldlike respiratory symptoms and, after 3 or 4 days, a dark-red macular or maculopapular skin rash. **4** Scarlet fever is a bacterial infection that responds to antibiotic therapy and does not cause major complications.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Immunizations

120. 4 Scheduled immunizations for preschool children include DTaP, IPV, and MMR at 4 to 6 years (usually required by law).

1 Hepatitis immunization is given in three doses between birth and 9 months; tetanus/diphtheria vaccine is given at 7 to 10 years of age, with subsequent doses based on the age when the vaccine was first received. **2** Hepatitis B immunization is not required once immunity is established; a subsequent dose of tetanus/diphtheria vaccine is given based on the age when first received. **3** *Haemophilus influenzae* vaccine is given at 12 to 15 months.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Immunizations

121. 2 The recommended immunization schedule for infants is administration of the combined diphtheria, tetanus, acellular pertussis (DTaP), and inactivated poliovirus (IPV) vaccines at ages 2, 4, and 6 months.

1 Measles vaccine is not usually administered until the infant is a minimum of 12 months old. **3** Rubella vaccine is not usually administered until a minimum of 12 months of age; there is no tuberculosis vaccine. **4** Measles, mumps, and rubella vaccines are not given until a minimum of 12 months; there is no tuberculosis vaccine.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Knowledge; **Nursing Process:** Evaluation/Outcomes, **Reference:** Ch 30, Immunizations

122. 2 The protocol of the Centers for Disease Control and Prevention (CDC) for administering parenteral medications requires standard precautions, which include the use of gloves.

1 It is the nurse's responsibility to maintain standard precautions within the clinic environment. **3** Gloves are needed and must be worn when children receive parenteral medications. **4** The child's appearance is not a factor; the CDC protocol for administering parenteral medications requires standard precautions.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

123. 2 The MMR vaccine is composed of live attenuated viruses, and its administration could be life-threatening for an immunosuppressed child.

1 When the infant reaches 12 to 15 months of age and if the blood values have returned to normal, the MMR vaccine should be given. **3** Because the MMR vaccine is composed of live viruses, giving it while the infant is immunosuppressed can be as life-threatening as having the disease. **4** It is the nurse's responsibility to provide this information at the time of discharge.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Immunization

124. 1 The blue-white spots in the mouth are Koplik spots, which appear before the rash and subside about 2 days after the rash is visible. They are a cardinal sign of rubeola (measles).

2 The rash of varicella (chickenpox) is distinctive because the papules become vesicles. There are no Koplik spots. **3** Erythema infectiosum (fifth disease) has a characteristic erythematous rash that appears first on the face and then spreads to the extremities. There are no Koplik spots. **4** Scarlet fever is caused by group A beta-hemolytic streptococcus bacteria. Although the mouth is affected, as evidenced by the typical "strawberry tongue," there are no Koplik spots.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 30, Immunizations

Care of Toddlers

125. Answer: 9.5 mg. Since there are 2.2 pounds per kilogram, the child's weight of 28 lb is equal to 12.7 kg. The safe dose is determined by multiplying the child's weight in kilograms by 35 (12.7×35), which is 444.5 mg/24 hours. To calculate the child's dose in 24 hours, multiply the prescribed dose (145 mg) by 3, which equals 435 mg in 24 hours. Subtract 435 from 444.5, which equals 9.5 mg. Because the daily dose is 9.5 mg less than the maximum safe daily dose of 444.5 mg, it is safe to administer this amount of medication.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

126. 4 A specific dose per kilogram of body weight prevents overdose; there is a large range in weight for specific ages, and a uniform dose based on age could be unsafe or ineffective.

1 This may result in an inadequate dose. **2** Medication is important; the child has a fever. **3** This is unsafe because of the wide range of weights for a specific age group.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

127. 2 When unexplained injuries are found, further assessment is required because it is the nurse's legal responsibility to report suspected child abuse.

1 This is just one aspect of assessment for child abuse. **3** This is not related to scars on the child's back. **4** Although chickenpox may leave scars, there are no welts.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Child Maltreatment, Nursing Care

128. 2 The nurse should obtain clarification as to the parent's specific concerns regarding the child's behavior.

1 Although this may be true, it cuts off communication; further communication should be encouraged. **3** This response assumes the parents have been inconsistent; the nurse needs more information. **4** This is inappropriate because the nurse is explaining a developmental factor without exploring what the parent means.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Growth and Development, Developmental Timetable

129. 3 It is the nurse's legal responsibility to report child abuse to the appropriate agency.

1 Although the police may be notified, this is not the nurse's responsibility at this time. **2** This may be done later, but it is not the priority. **4** The girl's pregnancy has not been confirmed; at this time it is most important to protect her and her sisters.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Child Maltreatment, Data Base

130. 4 A child who exhibits signs of abuse needs close supervision, especially when members of the family visit.

1 The child needs close monitoring and should not be left alone. **2** An older child who exhibits signs of friendliness may be threatening to this child. **3** This may be desirable from a developmental

level, but it does not meet the child's safety needs.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 31, Child Maltreatment, Nursing Care

131. 2 If able to handle personal anxiety and give comfort to the toddler, parents can be helpful to the staff as well as the child. If, however, the parents have moderate to severe anxiety, their anxiety can be transmitted to the child.

1 It is how the parents cope with the situation, rather than the situation itself, that helps determine how helpful their presence may be. **3** Developmentally, toddlers fear separation from their parents; also they are cognitively unable to make decisions of this nature. **4** Parents usually want to participate in their child's care despite the child's response to pain.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Assessment/Analysis; **Reference:** Ch 31, Hospitalization of Toddlers, General Nursing Care of Toddlers

132. 4 A 2-year-old toddler is still attached to and dependent on the parents. Fear of separation is a great stress.

1 This is neither possible nor desirable. **2** This probably will not be remembered accurately. **3** This is not possible in a health care setting.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hospitalization of Toddlers, General Nursing Care of Toddlers

133. 2 The second stage of separation anxiety is despair, in which the child is depressed, lonely, and disinterested in the surroundings.

1 The third stage of separation, denial or detachment, occurs later as hospitalization becomes prolonged. **3** The child is suffering from separation anxiety, which does not include a stage of mistrust. **4** The child is suffering from separation anxiety, which does not include a stage of rejection.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 31, Hospitalization of Toddlers, Data Base

134. 1 Superficial interest in the environment and friendly interactions with strangers are typical responses of a toddler who has experienced prolonged separation from parents because of illness. It is the third stage of separation anxiety known as detachment.

2, 4 This behavior is typical of the second stage of separation anxiety known as despair. **3** This behavior is typical of the first stage of separation anxiety known as protest.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 31, Hospitalization of Toddlers, Data Base

135. 1 Detachment is the result of trying to escape the emotional pain of desiring the mother by repressing feelings for her.

2 This interpretation is not appropriate to the situation. **3** This conclusion cannot be drawn from this situation. **4** This response lacks insight.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Communication/Documentation; **Nursing Process:** Planning/Implementation;

Reference: Ch 31, Hospitalization of Toddlers, Data Base

136. Answer: 1, 2, 3.

1 Toddlers are entering the developmental stage of creative and imaginative play. Having an imaginary tea party is a safe, appropriate activity for a toddler. **2** Using clay to make shapes, both

with and without a mold, enhances toddlers' creativity and improves their fine motor coordination. **3** Creative, imaginative, and imitative play is associated with toddlers. **4** A 3-year-old child is too young to manipulate a pen or pencil and may cause self-injury or an injury to others. **5** A 3-year-old child does not have the cognitive ability or the fine motor coordination to play simple video games.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Play during Toddlerhood

137. 1 The medicine cabinet is not a safe place for medications; toddlers are curious, and capable of climbing and opening cabinets.

2 Toddlers are curious and love to climb. They must be protected from dangerous areas such as stairs. Secured gates at the top and bottom of stairs provide a barrier. **3** At a height of 36 inches a toddler is ready to use a bed; the average toddler reaches this height at age $2\frac{1}{2}$ years. **4** Shoes with Velcro can be secured without leaving trailing shoelaces that can untie and cause falls.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 31, Health Promotion of Toddlers, Injury Prevention during Toddlerhood

138. Answer: 3, 1, 4, 2, 5.

3 A compromised airway may occur with burns to the face and chest due to inhalation of hot gases and smoke; they cause mucosal damage and edema. **1** Deep partial thickness burns are painful; pain management is a priority after maintenance of a patent airway and promotion of gas exchange. **4** Because of the fluid and electrolyte losses within the first 24 to 36 hours and the resulting shift of electrolytes after the first 24 to 36 hours, fluid and electrolyte balance become a priority after airway maintenance and pain management. **2** Prevention of infection becomes a priority after airway maintenance, pain management, and maintenance of fluid and electrolyte balance; the potential for infection increases as the postinjury time frame progresses because of the damaged dermis. **5** Body image becomes more of a priority after immediate physiological needs are met.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Burns, Nursing Care

139. 2 The poison control center has the most current and up-to-date information on how to treat any poison. Also, the center can advise whether to bring the child to the hospital and what data to collect to bring with them if they go to the hospital.

1 The administration of syrup of ipecac is no longer recommended by the American Academy of Pediatrics. It is contraindicated if the ingested poison is a corrosive substance or a hydrocarbon; also, it is contraindicated if the child is comatose or having seizures. In addition, prescribing medication is outside the legal role of the nurse. **3** A potential poisoning may or may not require emergency intervention; with expert advice the child may be treated in the home. Also, the experts at the poison control center can provide advice about initial interventions at home before going to the hospital. **4** This is unsafe. No treatment should begin before obtaining information about the amount and kind of substance ingested and the advice of a health care provider.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Poisoning, Nursing Care

140. Answer: 2, 4, 5.

1 At 15 months, children do not have the emotional ability to share toys; this begins during the preschool years. **2** At 15 months, children have the dexterity and swallowing ability to drink from a cup and use a spoon. **3** This ability usually occurs when the child is 2 years old. **4** At 15 months, strength and balance have improved, and the toddler can stand and walk alone. **5** At 15 months, children enjoy throwing objects and picking them up.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Growth and Development, Fifteen Months

141. 2 The psychosocial need during the early toddler age is the development of autonomy. The toddler objects strongly to discipline.

1 Excessive discipline leads to feelings of shame and self-doubt, the major crisis at this stage of development. **3** It is frightening for a toddler to be left alone; it leaves the child with feelings of rejection, isolation, and insecurity because toddlers do not understand the reason for the punishment. **4** The development of initiative is attained during the preschool age, not during the toddler age.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Growth and Development, Eighteen Months

142. 1 Children who are expressing negativism need to have a feeling of control. One way of achieving this within reasonable limits is for the parent or caregiver to provide a choice of two items, rather than force one on the child.

2 This will not achieve the goal of giving fluids. **3** This probably will not be successful with a toddler. **4** This will complicate the situation and further inhibit the child's willingness to take fluids.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Childhood Nutrition

143. 3 The nurse should try to comfort the child by staying near until the child feels more relaxed. The bathing can be postponed until the child has had time to test the environment and is less anxious.

1 This may frighten the child more because the nurse is a stranger. **2** This action does not attempt to relieve the child's anxiety and will probably cause it to increase. **4** Basic physiological needs must be met and postponing the bath for a day would be negligent. However, the nurse should attempt to reduce the child's anxiety first.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hospitalization of Toddlers, General Nursing Care of Toddlers

144. 3 Appropriate limit setting and discipline are necessary for children to develop self-control while learning the boundaries of their abilities.

1 Learning to share occurs during the preschool years. **2** Roles within society are learned by the school-age child. **4** Internal controls begin in the preschool years.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Growth and Development, Major Learning Events

145. Answer: 1, 2.

1 Common developmental norms of the toddler, who is struggling for independence, are an inability to share easily, egotism, egocentrism, and possessiveness. **2** Toddlers have a basic understanding

of language and the cognitive ability to follow simple directions. **3** This task is too advanced for toddlers. **4, 5** This is true of preschool-age children.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Growth and Development, Two Years

146. 2 The child should be taken to the dentist between 2 and 3 years of age, when most of the 20 deciduous teeth have erupted.

1, 3 This is too late. **4** This is too indefinite.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Growth and Development, Thirty Months

147. 4 The toddler is in Erikson's stage of acquiring a sense of autonomy. The negativism is the result of the child's need for self-expression and for testing the environment.

1 This is the developmental goal achieved in infancy. **2** Although this is a factor, toddlers assert themselves in an attempt to attain more autonomy. **3** Children do not assert themselves to obtain discipline.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Growth and Development, Two Years

148. 2 Ignoring the tantrum while staying close by provides security while not giving attention to and reinforcing the behavior.

1 Although toddlers may be easily distracted, offering a toy will reinforce the negative behavior.

3 It is unreasonable to tell the parent to find someone to baby-sit the child; this may not be a viable option. **4** Giving the child the item acknowledges the tantrum and reinforces the behavior.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hospitalization of Toddlers, General Nursing Care of Toddlers

149. 4 These are foods that a toddler enjoys and can handle; in addition, they are nutritious.

1 Grapes are dangerous because toddlers may choke on the skins and shape of the grape. **2** These fried foods have a high fat content and if eaten regularly can lead to obesity. **3** The skin and shape of a hot dog may cause choking, and potato chips are not nutritious.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Childhood Nutrition

150. 3 Bed-wetting accidents are not uncommon in this age group, especially during hospitalization when regression may occur. Therefore, the best approach is to ignore the event.

1 The child may interpret this as punishment; punishment for regressive behavior is inappropriate. **2** Because skin breakdown is a concern, rubber sheets are contraindicated; they hold moisture close to the skin. **4** This may make the child feel guilty for the behavior.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hospitalization of Toddlers, General Nursing Care of Toddlers

151. 4 This is a task expected of 3-year-old children.

1 This is a task expected of 4- or 5-year-old children. **2, 3** This is a task expected of 4-year-old children.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Growth and Development, Thirty Months

152. **Answer: 3, 5.**

1 This is unsafe; a toddler may choke because of the shape of the grape and its skin. **2** Cold food and fluids may precipitate bronchospasms and should be avoided. **3** Apple slices are easy to handle and chew and provide excellent nutrition for a toddler. **4** Cookies are high in fat and sugar and are not as healthy as fruit. **5** Vegetables cut up into small pieces can be handled and chewed effectively by a 2-year-old child; also, they are nutritious and prevent constipation. **6** Cold fluid may cause bronchospasms.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Childhood Nutrition

153. **1 The toddler is still dependent on the primary care giver, is narcissistic, and plays alone, but is aware of others playing nearby.**

2 Solitary play or onlookers' play is characteristic of infants. **3** Cooperative play starts in the preschool years. **4** Competitive play is seen in school-age children.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Play during Toddlerhood

154. **3 It is not until 2 years of age that toddlers are able to use their feet to walk upstairs instead of crawling.**

1 Talipes equinovarus is identified using other criteria. **2** At 18 months of age the inability of the toddler to use the feet to go upstairs is not a problem; it is expected. **4** Developmental dysplasia of the hip (DDH) is identified using other criteria.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Growth and Development, Eighteen Months

155. **Answer: 3, 4.**

1 An infant will enjoy a mobile. **2** This is too advanced for a 2-year-old child. **3** A pounding toy allows for gross motor movements as well as an avenue to expend energy and feelings. **4** Clay (Play-Doh) is age-appropriate and nontoxic; manipulating, rolling, and pounding it may help work out feelings about being hospitalized. **5** This may be too complicated for a toddler.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Play during Toddlerhood

156. **2 More information is needed; developmental delays suggest some milestones for age are not being met at the average time; it is not synonymous with cognitive impairment.**

1 This is inappropriate; more information must be obtained. **3** Although the health care provider may help, it is not yet known if such a program is needed. **4** The nurse does not know this without more information.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cognitive Impairment, Nursing Care

157. **3 Echolalia in a 2-year-old child may be a sign of autism; imitation of sounds begins at about 6 months of age and may continue for several more months. The average 2-year-old child has a 300-word vocabulary and uses 2- to 3-word phrases.**

1 It is not until 30 months of age that the toddler is able to stand on one foot. **2** Building a tower of 5 to 6 blocks is expected at the age of 2 years. **4** Although the pincer grasp is achieved at 11 months, it is not until age 30 months that the toddler is expected to hold crayons with the fingers rather than the fists and be able to color within the lines of a picture.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Growth and Development, Two Years

158. 1 The parents' attitude, approach, and understanding of the child's physical and psychologic readiness are essential to letting the child proceed at his or her own pace with appropriate parental intervention.

2 This is not the major motivation for toilet training. **3** Although this is definitely a factor, it is not a major one. **4** This, of course, is a factor, but the major factor is the child, who is strongly influenced by the parents' attitudes and approach.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Growth and Development, Major Learning Events

159. 4 A pounding board with pegs to hammer into holes is a safe toy for toddlers because it is fairly large, easy to manipulate, and sturdy. A pounding board provides an acceptable way for anger to be expressed.

1 The child's motor and hand-eye coordination are too immature for using these. **2** This is not as effective for releasing anger; it may be thrown about, causing injury or damage. **3** This is appropriate for an older child with more mature motor coordination to compensate for a moving object.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hospitalization of Toddlers, General Nursing Care of Toddlers

160. 4 Until trust has been reestablished, the child will be unable to develop an emotional tie to the mother.

1 After trust has been reestablished, the child may then test the parent's love by being very demanding. **2** At this stage of separation anxiety, the child is too detached to be hostile. **3** The child will be despairing and withdrawn, not cheerful.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hospitalization of Toddlers, Data Base

161. 3 A 15-month-old toddler will have difficulty complying with directions to remain still and may be extremely frightened by the equipment. Sedatives usually are prescribed.

1 This is not necessary; the head must remain still but need not be shaved. **2** This is not necessary unless a contrast medium is being used. **4** The child is too young to understand even a simple explanation of the procedure.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hospitalization of Toddlers, General Nursing Care of Toddlers

162. 2 Braces are worn to enable the spastic child to control movement. They also prevent deformities that can occur from misalignment.

1 Early ambulation is promoted by maintaining muscle strength and tone, but it is not the reason for applying braces. **3** Exercises, not braces, are used to stretch ligaments and improve muscle strength and tone. **4** This is not the purpose of braces and shoes. The child is in Erikson's stage of industry versus inferiority, and the braces and shoes will promote independence.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cerebral

163. 1 Individuals whose thermoreceptive senses are impaired are unable to detect changes or degrees of temperature. They must be taught to first test the temperature in any water-related activity to prevent scalding and burning.

2 Overtightening brace straps may lead to circulatory impairment and/or skin breakdown. **3** The child with cerebral palsy has uncontrolled movement of voluntary muscles and does not need to change positions at night to prevent skin breakdown. **4** This is dangerous because this action alters the center of gravity; with practice the child will be able to place the legs in the appropriate position for walking without looking down.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cerebral Palsy, Nursing Care

164. 1 The damage is fixed. It does not progressively worsen.

2 Cerebral palsy (CP) is a nonprogressive chronic condition, and its effects are predictable. **3** Although mental retardation may be present in some children with cerebral palsy, all children with this disorder are not mentally retarded. **4** A variety of prenatal, perinatal, and postnatal factors contribute to the development of CP. It is estimated that the cause of CP is unknown in as many as 80% of people with the disorder.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Cerebral Palsy, Data Base

165. 3 Lead poisoning is caused by lead in the environment. Sources of lead may be deteriorating paint in a home (inhaled or ingested); lead in products that are used daily, such as batteries, pottery, and glass (ingested); and lead in the atmosphere (which can be inhaled or fall on food that is then ingested).

1 Unless the fat has been exposed to lead, it is not a causative factor. **2** The role of parents is not an identified factor. **4** This is just one causative factor; there are many others.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Lead Poisoning, Data Base

166. 3 Damaged nerve cells do not regenerate. Once mental retardation has occurred, it is not reversible.

1 Damage to kidneys is reversible with treatment. **2** Skeletal changes are not significant and are reversible as lead leaves the body. **4** Effects of lead in bone marrow are reversible when lead is mobilized for excretion in urine or deposition in bone by chelation therapy.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Lead Poisoning, Data Base

167. 2 Irreversible neurologic and intellectual damages are the most serious consequences of lead poisoning because of cortical atrophy and encephalopathy.

1 Although there may be a nutritional deficit, it is not the priority. **3, 4** These do occur, but they are reversible.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Lead Poisoning, Data Base

168. 4 The child should be given an outlet for tension, and therapeutic play using the equipment needed for the injections is the most appropriate activity.

1 This may ease discomfort, but an outlet for feelings takes priority. **2** Fear is not directed at unfamiliar adults but at the painful treatments. **3** This is part of the preparation, but it is not the most

important; the child must be encouraged to express feelings.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:**

Planning/Implementation; **Reference:** Ch 31, Lead Poisoning, Nursing Care

169. 4 Amblyopia is reduced visual acuity that may occur when an eye weakened by strabismus is not forced to function.

1 The lack of binocularity may result in impaired depth and spatial perceptions, not dyslexia. **2** Depth and spatial perceptions are impaired when vision in one eye is severely impaired. **3** Only vision in the affected eye will be diminished.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31,

Visual Impairment, Data Base

170. 4 In children younger than 3 years old the eustachian tube is shorter, wider, and straighter. Pulling the pinna down and back straightens the ear canal facilitating passage of fluid to the eardrum.

1 Pulling the pinna forward does not straighten the canal. **2** Pulling the pinna up and back is the technique used for older children and adults. **3** Pulling the pinna straight back does not help to straighten the canal.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Comprehension;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:**

Ch 29, Principles Related to Medications for Children, Nursing Care

171. 4 If the strabismus is not corrected, sight in the affected eye will be lost because of lack of use.

1 Cataracts do not result from strabismus. **2** Glaucoma is caused by increased intraocular pressure, not strabismus. **3** Refractive errors are related to visual acuity rather than strabismus.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31,

Visual Impairment, Data Base

172. 2 By 3 to 4 months of age, an infant should localize sound by looking in the direction of the sound.

1 The nurse's observation does not provide information about the infant's ability to see. **3** This response is not within the norm for this age group. **4** This response indicates that the infant's hearing is not developmentally appropriate.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 31, Hearing Impairment, Data Base

173. 2 Water in the ears after a myringotomy may be a source of infection.

1 There is no reason that the child cannot be around other children because there is no infectious process. **3** This will clog the ear canal and serves no purpose. **4** These may be used occasionally in the outer ear but should not be inserted into the ear.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Otitis Media,

Nursing Care

174. 4 This degree of hearing loss causes the child to miss approximately 25% to 40% of conversations. This loss may result in speech deficits if not corrected. Hearing aids usually help improve functioning.

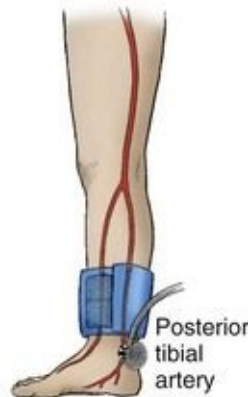
1 There is no evidence that this hearing loss is progressive. **2** The child is missing approximately

25% to 40% of conversations, which may interfere with the educational process unless corrected. **3** The significance of the hearing loss requires further analysis and intervention.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Hearing Impairment, Data Base

175. The posterior tibial artery is posterior to the medial malleolus on the inner aspect of the ankle. The blood pressure cuff should be positioned 1 inch above the ankle.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Fractures throughout Childhood, Nursing Care



176. 4 Abusive parents may “shop” for hospitals that do not have a previous record of their child; the skeletal survey will provide a revealing injury history if there were abuse.

1 Pinpointing the exact location of a fracture is necessary to plan appropriate treatment and can be done by a single x-ray film of the area; a skeletal survey is more extensive and helpful when abuse is suspected. **2** A CT scan and MRI are not required unless internal injuries are suspected. **3** Cost-effectiveness is not the primary concern if abuse is suspected.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Child Maltreatment, Nursing Care

177. Answer: 2, 4, 5.

1 This is not significant; it may be related to increased fluid intake. **2** A cast is not flexible and can inhibit circulation. Cold toes, loss of sensation in toes, pain, and inability to move the toes should be reported immediately. **3** The expected pulse rate for a 9-year-old child ranges from 70 to 110 beats/min. **4** A tingling sensation in the foot may indicate excessive pressure on the nerves and circulatory system in the casted extremity. **5** A fiberglass cast dries within minutes; if it remains damp, it should be reported before 4 hours have elapsed.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 31, Fractures Throughout Childhood, Nursing Care

178. 3 This is the safest way to dry the cast evenly.

1 Besides the danger of burning the child, the cast may dry on the outside and remain damp within. **2** This may create a draft and be uncomfortable for the child. **4** This will impede the circulation of air and delay drying.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Fractures Throughout Childhood, Nursing Care

179. Answer: 2, 3.

1 Rest with elevation of the extremity is recommended; strenuous activity should be avoided for several days. **2** When swelling of the fingers occurs, the cast can become too tight, resulting in neurovascular damage; permanent damage can occur in 6 to 8 hours. **3** The casted arm should be in a sling when the child is upright to promote venous return. **4** Joints above and below the cast should be moved to maintain flexibility. **5** The casted arm should be elevated when resting to promote venous return.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Fractures Throughout Childhood, Nursing Care

180. 1 The immediate postburn period is marked by dramatic changes in fluid and electrolyte balance. Alterations in electrolyte balance can produce confusion, weakness, cardiac irregularities, and seizures. Secondary to large fluid losses through the denuded skin, vasodilation, and edema formation, hypovolemic shock may develop.

2 Pneumonia is a later complication associated with immobility. **3** Contractures are a later complication associated with scarring and aggravated by improper positioning and splinting. **4** Hypotension, not hypertension, occurs with hypovolemic shock.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Burns, Data Base

181. 2 Inhalation burns usually are present with facial burns, regardless of the depth; the immediate threat to life is asphyxia from irritation and edema of the respiratory passages and lungs.

1 Although wound sepsis is a possible complication, it will not be evident until the third to fifth day. **3** Although the child is probably fearful, maintaining a patent airway is the priority. This child is too old for separation anxiety; however, complications related to stress can occur later. **4** Fluid losses can be extremely high but reach their maximum about the fourth day; the initial priority is maintaining a patent airway.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Burns, Nursing Care

182. Answer: 3, 4.

1 This is a generalization that is not necessarily true. **2** This is not a consideration in this situation. **3** The medication begins to work in minutes; doses can be controlled. **4** Intramuscular medications are avoided when possible to prevent inadequate absorption of the medication because of damaged tissue. **5** The length of effectiveness of an analgesic is based on its therapeutic level in the body regardless of what route is used.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Burns, Nursing Care

183. 4 The early school-age child has become a cooperative member of the family and will mimic parents' attitudes and food habits readily.

1 This does not have a major influence on eating habits. **2** This certainly has some influence, though not major, on eating habits. **3** The peer group does not become influential until a later school age and during adolescence.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Childhood Nutrition

184. 4 Positioning on the right side after feeding facilitates digestion because the pyloric sphincter is on this side and gravity aids in emptying the stomach.

1 The feeding may begin immediately after opening the tube. **2** This may result in aspiration; the child's head and torso should be elevated. **3** If the gastrostomy tube is flushed before or after a feeding, water, not normal saline, is used.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Burns, Nursing Care

185. 2 It is the nurse's responsibility to assess tube placement before each feeding; withdrawing gastric contents before each feeding ensures that the tip of the tube is in the stomach.

1, 3, 4 This is not frequent enough; the tube could be displaced between feedings.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Burns, Nursing Care

186. 3 Children with celiac disease have a gluten-induced enteropathy and are unable to absorb fats from the intestinal tract, resulting in the typical characteristics of their stools.

1 The stools are large and fatty or frothy, not mucoid. **2** Although the stools are large and frothy, they are pale in color because of their high fat content. **4** The stools are large and foul-smelling and have little color.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Celiac Disease, Data Base

187. 2 Products composed of corn, rice, and millet do not contain gluten and are permitted on a low-gluten diet; tortilla chips are made from corn flour.

1 Pretzels contain wheat flour, which is not permitted on a low-gluten diet; products containing rye, oats, and barley are also restricted. **3** Oatmeal cookies contain oats, which are not permitted on a low-gluten diet. **4** Peanut butter crackers contain wheat flour, which is not permitted on a low-gluten diet.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Celiac Disease, Nursing Care

188. 3 Both parents are carriers; the gene for cystic fibrosis is recessive and the parents do not have the disease.

1 The gene for cystic fibrosis is not a mutant gene. **2** The gene for cystic fibrosis is not located on the X or Y chromosome. **4** The gene for cystic fibrosis is inherited as a recessive, not dominant, gene.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Cystic Fibrosis, Data Base

189. 3 Mucous secretions increase in viscosity and precipitate or coagulate to form concentrations in glands and ducts, which in turn cause obstructions. Decreased amounts of pancreatic enzymes cause impairment in the digestion and absorption of nutrients.

1 The eccrine (sweat) glands are not hyperactive, but there is an increased concentration of sweat electrolytes (e.g., sodium and chloride). **2** The autonomic nervous system does not play a role in the pathology of cystic fibrosis. **4** There is no alteration in the mucosal lining of the intestines.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Cystic Fibrosis, Data Base

190. 1 Because of a lack of the pancreatic enzyme lipase, fats remain unabsorbed and are excreted in excessive amounts in the stool.

2, 4 This does not cause the typical characteristics of the stools. **3** These are the pancreatic enzymes,

whose passage into the intestine is prevented by blocked pancreatic ducts.

Client Need: Physiological Adaptation; **Cognitive Level:** Knowledge; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cystic Fibrosis, Data Base

191. 2 When the causative organism is isolated, it is tested for antimicrobial susceptibility (sensitivity) to various antimicrobial agents. When a microorganism is sensitive to a medication, the medication is capable of destroying the microorganism.

1 The tolerance of the child to the particular antibiotic is unknown, since up to this time the child has not developed any allergies. **3** Bacteria are not selective. **4** Although the health care provider may have a preference for a particular antibiotic, it first must be determined if the bacteria have exhibited sensitivity to it.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 30, Respiratory Tract Infections, Data Base

192. 2 Rectal prolapse is a common gastrointestinal complication of cystic fibrosis and results from wasting of perirectal supporting tissues, secondary to malnutrition.

1 Anal fissures may or may not occur with cystic fibrosis. **3** Intussusception is not associated with cystic fibrosis. **4** Meconium ileus is associated with cystic fibrosis in newborns; it prevents the passage of meconium.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Cystic Fibrosis; Data Base

193. 2 The nurse can best evaluate teaching by asking the learner for a return demonstration. Behavior, rather than words, more readily shows what has been learned.

1 The child may be too young to know if there are any questions. **3** A demonstration rather than an explanation can be evaluated more readily. **4** This is difficult for a 5-year-old child; the ability to articulate a concept is not that advanced, nor is the vocabulary.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

194. Answer: 250 mL/hr. Volume control devices function on the concept of mL/hr; since the 125 mL must infuse in 30 minutes, the rate should be set at 250 mL/hr to infuse 125 mL in 30 minutes.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

195. 2 Because the mucous glands secrete thick mucoid secretions that accumulate, reducing ciliary action and mucus flow, the nurse should perform postural drainage, which promotes the removal of mucopurulent secretions by means of gravity.

1 Coughing should be encouraged; it helps bring up secretions from the respiratory tract. **3** Although the nurse should encourage activities appropriate for the child's physical capacity, the child's energy should be conserved during acute phases of illness. **4** This is not necessary; the child with cystic fibrosis can eat regular meals at the usual times.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cystic Fibrosis, Nursing Care

196. 3 This regimen will give the child an opportunity to rest before eating.

1 The child should be encouraged to cough; if it is not effective, suctioning can be done after chest

percussion and postural drainage. **2** Chest percussion and drainage should be done after aerosol therapy. **4** This may cause the child to vomit.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cystic Fibrosis, Nursing Care

197. 3 Cystic fibrosis is characterized by an overproduction of viscous mucus by exocrine glands in the lungs. The mucus traps bacteria and foreign debris that adhere to the lining and cannot be expelled by the cilia, thus obstructing the airway and favoring growth of microorganisms and infection.

1 Cardiac defects are not associated with cystic fibrosis. **2** Neuromuscular irritability of the bronchi does not occur in cystic fibrosis. **4** Although there is increased sodium and chloride in the saliva, these do not irritate or inflame the mucous membranes.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cystic Fibrosis, Data Base

198. 1 Because children with cystic fibrosis do not absorb the fat-soluble vitamins effectively, they should be given in a water-miscible form.

2 These vitamins can be given with other vitamins once a day; pancreatic enzymes are administered with meals and snacks. **3** The nurse does not have to calibrate a dose of these vitamins based on the child's height and weight. **4** There is no reason to select juice over milk when administering these vitamins.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Cystic Fibrosis, Data Base

199. Answer: 2, 4, 5.

1 Steroids are not indicated in the treatment of cystic fibrosis. **2** Antibiotics are prescribed to treat recurrent respiratory tract infections. **3** Antihistamines are not used because of the drying effect on the already tenacious mucus secretions. **4** Thick secretions obstruct the pancreatic ducts, and essential pancreatic enzymes are blocked from reaching the duodenum; therefore, pancreatic enzymes are administered with meals to assist with digestion. **5** Fat-soluble vitamins are necessary secondary to the decreased absorption of fat.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Cystic Fibrosis, Nursing Care

200. 1 Pinworms emerge nocturnally to lay eggs in the perianal area; eggs are transferred onto transparent tape in the morning before toileting.

2 A culture will not reveal the presence of parasites. **3** Ova cannot be seen with the naked eye; the parasite is rarely observed in the stool. **4** This is not a test to diagnose pinworms.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Pinworms, Data Base

201. 4 The adult pinworm lives in the rectum or colon and emerges onto the perirectal skin during the hours of sleep, depositing its eggs during this time.

1, 2, 3 Pinworms attach to the bowel wall and do not emerge from the rectum at this time.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Pinworms, Data Base

202. 4 Pinworms attach to the bowel wall in the cecum and appendix and can damage the mucosa,

causing appendicitis.

1 Pinworms do not migrate to the liver. **2** Although pinworms (and their ova) are ingested by mouth, they do not attach there; inflammation of the mouth is not a complication of pinworm infestation. **3** Pinworms do not migrate to the respiratory system.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Pinworms, Data Base

203. 4 All household members should be treated at the same time unless they are younger than 2 years of age or pregnant.

1 This drug is not recommended for children under the age of 2 years. **2** This is not a significant criterion for administration of medication because the eggs are airborne. **3** Positive testing is not a criterion for administration to family members.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Pinworms, Nursing Care

204. 4 This is the expected response because the medication causes death of the worms.

1 Neither the drug nor the worms cause intestinal bleeding. **2** Transient diarrhea, not constipation, may occur. **3** The medication can color the stool red, not yellow.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 31, Pinworms, Nursing Care

205. 1 As the mite burrows into skin folds (e.g., interdigital, axillary, inguinal), it creates threadlike burrows that are intensely pruritic.

2 Grayish white particles adhering to hair shafts are nits, an indicator of pediculosis capitis, not scabies. **3** This is not an indicator of scabies; the bite of a brown recluse spider causes a lesion that progresses to necrotic ulceration in 7 to 14 days. **4** Reddened areas of alopecia are consistent with ringworm, not scabies.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch. 33, Scabies, Data Base

206. 2 A potty chair allows the child to display its contents with pride; sitting on top of a toilet seat is frightening for many children. Potty chairs also allow the child to place feet on the floor for an effective Valsalva maneuver for bowel evacuation.

1 Sitting on a toilet seat can be frightening for a toddler; timing of bowel training should coincide with the gastrocolic reflex. **3** Bowel training should begin when the child shows readiness. **4** A diet consisting mainly of solid foods will make stools more bulky and easier to control.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Growth and Development, Major Learning Events

207. 3 Dehydration promotes the sickling of erythrocytes. Increased fluid intake minimizes the chance that a sickle cell pain episode will reoccur.

1 This is not necessary or helpful for a child with sickle cell anemia. **2** Rigorous exercise is contraindicated because the decrease in oxygenation may cause sickling. **4** This is not necessary.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Sickle Cell Anemia, Nursing Care

208. 1 The child is having an allergic reaction, and the infusion must be stopped immediately to prevent serious complications.

2 Slowing the rate of infusion will not halt the allergic reaction to the transfused blood. **3** This is dangerous as an initial action because the degree of allergic reaction cannot be determined at this time. Also, it requires a health care provider's prescription. **4** The health care provider should be notified after the infusion has been stopped.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, β -Thalassemia, Nursing Care

209. 3 Folic acid acts as a necessary coenzyme in the formation of heme, the iron-containing protein in hemoglobin.

1 Calcium is not involved in the production of RBCs. **2** Thiamine is a coenzyme in carbohydrate metabolism. **4** Riboflavin is a control agent for energy production and tissue formation.

Client Need: Basic Care and Comfort; **Cognitive Level:** Knowledge; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Iron Deficiency Anemia, Nursing Care

210. Answer: 1, 3.

1 Protein is essential for the synthesis of the blood proteins, albumin, fibrinogen, and hemoglobin. **2** Calcium is not involved in the synthesis of red blood cells. **3** Vitamin C (ascorbic acid) influences the removal of iron from ferritin (making more iron available for the production of heme) and influences the conversion of folic acid to folinic acid. **4** Vitamin D is not involved in the synthesis of red blood cells. **5** Carbohydrates are not involved in the synthesis of red blood cells.

Client Need: Basic Care and Comfort; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Iron Deficiency Anemia, Nursing Care

211. 3 A diet of only milk is not sufficient to meet the infant's iron needs. Meat and fortified cereals are high in iron. Finger foods are appropriate for older infants.

1 At this age weaning from the bottle is not the issue; supplementary iron intake is. **2** Although health care and monitoring will be required, the metabolic clinic is not the appropriate referral. **4** Although this will increase iron intake, it is not appropriate for a 1-year-old infant, nor is it desirable.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Iron Deficiency Anemia, Nursing Care

212. 1 β -Thalassemia is common in children who are black or of Mediterranean descent (Italian, Greek, Syrian); an enlarged abdomen may be due to hepatomegaly or splenomegaly.

2 Pale skin is expected in children of Irish descent; children with β -Thalassemia may have a bronze skin color from hemosiderosis if not chelated. **3** Defective hemoglobin leads to damaged RBCs and a decreased hematocrit. **4** Asian descent is not a risk factor for β -Thalassemia.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch. 31, β -Thalassemia, Nursing Care

213. 3 Children with a chronic illness, such as hemolytic anemia, should not be exposed to the additional stress of infection.

1 A regular intake of fluid is recommended. **2** Activity is not restricted, although the child may self-restrict activity because of anemia-induced fatigue. **4** Regular meals with the family should be encouraged.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, β -Thalassemia, Nursing Care

214. 2 In this type of episode there is a pooling of blood in the liver and spleen, with a decreased circulating blood volume and subsequent shock.

1 These are the characteristics of a vaso-occlusive crisis. **3** Decreased RBC production and the profound anemia that ensues are characteristics of aplastic crisis. **4** Increased RBC destruction and a concomitant anemia, jaundice, and reticulocytosis are characteristics of hyperhemolytic crisis.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Sickle Cell Anemia, Data Base

215. 1 Dehydration, stress, infection, and electrolyte imbalance can cause the sickling process. Red blood cells change to the sickle shape when deoxygenated because of polymerization of the abnormal hemoglobin. This process damages the RBC membrane, which causes the cells to become entangled in the blood vessels. This deprives the tissues that are distal to the occlusion of oxygen, resulting in ischemia and infarction, which can result in organ damage.

2 The child's condition determines the activity level; although bed rest may be required during a pain episode, at other times it is rarely necessary. **3** This will not prevent thrombus formation. **4** Anticoagulants do not help prevent thrombus formation in sickle cell anemia.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Sickle Cell Anemia, Nursing Care

216. 4 Cardiac decompensation results because the heart attempts to maintain tissue oxygenation by increasing its workload.

1 Shock occurs with hemorrhage because the body does not have time to adapt to the sudden loss of blood. With chronic anemia, compensatory mechanisms take over. **2** An elevated WBC count indicates that there is an infection; however, the data do not indicate the presence of an infection. **3** Hemoglobin in the urine suggests hemolytic anemia. Although it is important to assess for the cause of the anemia, it is not the priority.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Iron Deficiency Anemia, Data Base

217. 2 Warmth causes vasodilation, which will lessen the pain of the vaso-occlusive crisis.

1 Cold will cause more vasoconstriction and increase pain. **3** This is an inadequate dose for an adolescent. **4** IV fluids should be increased to dilute the blood and prevent further sickling.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Sickle Cell Anemia, Nursing Care

218. 2 Children with both illnesses have inadequate resistance to infection. Sickling results from low oxygen levels; celiac crisis results from malnourishment and immunologic defects.

1 Activity need not be limited in celiac disease; strenuous activity should be limited in sickle cell anemia. **3** This is important for children with celiac disease; it is not necessary for children with sickle cell anemia. **4** This diet is not particularly helpful for children with sickle cell anemia or celiac disease.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Sickle Cell Anemia, Nursing Care

219. Answer: 2, 3.

1 Although nutrition is important, it is not a major concern during a crisis. **2** Hydration is necessary to promote and maintain hemodilution. **3** Pain in the area of involvement is a major problem and demands priority care. **4** Although important for these children, during a crisis prevention of

infection is not the major concern. **5** Oxygen may be helpful to prevent further sickling, but it is not effective in reversing sickling because it cannot penetrate the sickled RBCs in the clogged blood vessels

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 31, Sickle Cell Anemia, Nursing Care

Nursing Care of Preschoolers

220. 2 The child will self-move the hand over the abdomen; the nurse can then engage the child's cooperation and do a general assessment.

1 Further assessment is necessary; it should be determined whether the crying is due to pain or fear. **3** The parents may hold, but not restrain, the child, because this may increase anxiety. **4** This is not an initial intervention; the child's cooperation will be needed for this procedure.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

221. 3 Preschoolers generally have learned to cope with parents' absence; however, emotions associated with separation are difficult to hide when parents arrive or leave. Anger at being left also may account for the emotional outburst.

1 Preschoolers enjoy social interaction and probably will be cooperative. **2** Preschoolers have learned to cope with their parents' absence. **4** Preschoolers have developed social skills with peers and will be able to interact with them even when the other children's parents are present.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

222. 4 Referring the parent back to the health care provider with a suggestion that addresses the need for more information is an appropriate initial intervention. The health care provider can coordinate the referral to the appropriate specialists (e.g., oncologist, hematologist).

1 Although this is a true statement, it minimizes the parent's concern. **2** Although this may be done eventually, it does not address the parent's need for information. **3** The Leukemia Society may disseminate information, but it does not give advice on a personal level. This referral may be done eventually.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

223. 1 Children with nephrotic syndrome are treated with immunosuppressive agents, including steroids. During exacerbations they may have a characteristic pale, overweight appearance from edema. Steroid side effects include growth retardation, cataracts, obesity, and hirsutism. Children may become very sensitive about these changes as they grow older.

2 Although this may be indicated, body-image problems pose a greater threat. **3** Engaging in usual childhood activities between attacks should promote the development of fine muscle coordination. **4** Sterility is not associated with nephrotic syndrome.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Nephrotic Syndrome, Nursing Care

224. 4 A classic sign of nephrotic syndrome is gross proteinuria; a decrease indicates that treatment is successful.

1 A child with nephrotic syndrome has gross edema and oliguria; increased urine output is the desired outcome. **2** Children with glomerulonephritis have hematuria; it is not expected in children with nephrotic syndrome. **3** Children with diabetes mellitus have glycosuria; it is not expected in children with nephrotic syndrome.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 32, Nephrotic Syndrome, Data Base

225. 3 This focuses on the child's feelings and a familiar object of security.

1 The child may experience pain as part of the treatment, so the statement is untruthful. **2, 4** Diverting the child's attention will not alleviate fear and anxiety.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Hospitalization of Preschoolers, General Nursing Care of Preschoolers

226. 2 Fear of mutilation is typical of the preschooler because they have vague views of body boundaries.

1 Toddlers are more likely to fear separation from parents. **3** Preschoolers do not view death as final. **4** Although preschoolers do indulge in magical thinking, they have not yet developed the concept of supernatural beliefs.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

227. 2 The anxiety that occurs in a 4-year-old child regarding invasive procedures will be lessened when the child holds the scope and realizes how it will be used.

1 This is suggesting an unsafe activity. **3** This request will more likely be accepted after the child has handled the scope and recognizes what to expect. **4** Stating the word "hurt" may increase anxiety; a 4-year-old child thinks in concrete terms and probably will not believe the nurse until experiencing the procedure.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

228. 3 A few minutes will be enough time for the child to begin self-feeding. The nurse should provide both physical and emotional support because the child's request for help indicates regression and the need for dependence during a period of stress.

1 This does not provide the child with the help that may be needed. **2** It may be a while until the child feels better; in the meantime, adequate nourishment to provide for healing is needed. **4** This can cause stress, feelings of guilt, and embarrassment to a sick child.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

229. 1 The child may be fearful of the examining room experience. If the nurse greets the child while in the safety of the waiting room, it might help to make the experience less threatening.

2 Calling the child without entering the room is an authoritarian approach that will not limit the child's anxiety. **3** Having someone else bring the child into the examining room is an authoritarian approach that may make the child more fearful. **4** Standing at the examining room door while the child walks down the hall is an authoritarian approach that may increase the child's anxiety.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Hospitalization of Preschoolers, General Nursing Care of Preschoolers

230. 1 PredniSONE reduces the child's resistance to certain infectious processes. Also predniSONE is an antiinflammatory drug that masks infection.

2 The child will self-limit activity based on the respiratory status. **3** Eosinophil counts are often consistently elevated in children with asthma. **4** The child will need adequate hydration to assist

with loosening and removing mucus.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Asthma, Nursing Care

231. 4 Euphoria and mood swings may result from steroid therapy.

1 Alopecia does not result from steroid therapy. **2** An increased appetite, not anorexia, results from steroid therapy. **3** Weight gain, not weight loss, results from steroid therapy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 32, Leukemia, Nursing Care

232. 1 PredniSONE is a synthetic glucocorticoid that has an active antiinflammatory effect by stabilizing lysosomal membranes and thus inhibiting proteolytic enzyme release.

2 PredniSONE does not affect the lymphocytes. **3** Although predniSONE increases the appetite and creates a sense of well-being, these are not the reasons it is administered. **4** There is no indication the child is receiving radiation.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Leukemia, Data Base

233. Answer: 44 pounds. The child's daily dose is 40 mg (10 mg × 4 times a day). Divide the daily dose of 40 mg by 2 mg/kg/day, which equals 20 kg. Since 1 kg is equal to 2.2 lb, multiply 20 × 2.2, which equals 44 lb.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

234. 4 VinCRISTine is highly neurotoxic, causing paresthesias, muscle weakness, ptosis, diplopia, paralytic ileus, vocal cord paralysis, and loss of deep tendon reflexes.

1 Hematologic effects are rare. **2** Alopecia is reversible with cessation of the drug. **3** There are no severe gastrointestinal effects.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 32, Leukemia, Nursing Care

235. 1 Children with leukemia most often die of infection; a low neutrophil count is associated with myelosuppressant therapy.

2 These measures are not appropriate to prevent infection resulting from neutropenia; they are appropriate for treating the anemia. **3** These measures are not appropriate to prevent infection resulting from neutropenia; they are more appropriate for preventing bleeding. **4** These measures are not appropriate to prevent infection resulting from neutropenia; they are used to treat stomatitis.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Leukemia, Nursing Care

236. 1 The child from 1 to 4 years of age is learning to use the body and manipulate and experiment with all aspects of the environment; these abilities may challenge the nursing assistant, especially when taking vital signs.

2 The school-age child is able to cooperate and understand when receiving care; however, modesty should be respected. **3** From 6 to 12 months of age, it usually is helpful while giving care to have the infant held on the parent's lap to limit stranger anxiety or to allow the parent to provide basic care (e.g., changing diapers, bathing). **4** Infants usually are not a challenge to care for. The infant usually is easily distracted with sounds and smiles.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

237. 3 Role-playing encourages expression of concerns through behavior, since children's ability to verbalize feelings is limited.

1 The preschooler is too young to think about careers. **2** This may occur, but it is not a purpose of role-playing. **4** Although preschoolers try to imitate adults, providing guidelines for adult behavior is premature.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 32, Health Promotion of Preschoolers Play

238. 4 It is common for 4-year-old children to boast and exaggerate and to be impatient, noisy, and selfish.

1 More advanced, cooperative play is expected of 4-year-old children. **2** This is unusual for 4-year-old children, since they are striving toward more initiative and less dependence. **3** The toddler's tendency toward tantrums and negativism should have waned by 4 years of age.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Nursing**

Process: Assessment/Analysis; **Reference:** Ch 32, Health Promotion of Preschoolers Play

239. 3 Most 4-year-old children are imaginative; because the line between fantasy and reality is blurred, imaginary playmates are common at this age. Generally, they are given up when the child starts school.

1 This assumption is not relevant at this age; it becomes a concern when the child reaches school age.

2, 4 This response may cause unnecessary concern; it provides false information.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Health Promotion of Preschoolers, Play

240. 2 Fear of mutilation and intrusive procedures is most common at this age because of fantasies and active imagination. These children also connect illness with being bad and view intrusion as punishment.

1 Death is seen as reversible and not final. **3** A child this age usually has little previous contact with pain and therefore little experience on which to base fear. **4** Fear of isolation from peers is a problem for school-age children and adolescents.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated**

Process: Caring; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Hospitalization of Preschoolers, Data Base

241. 1 Because their ability to express feelings verbally is limited, preschool children act out their feelings via play.

2 Acceptance of hospitalization will not occur until the child has coped with fears. **3** The child needs to cope with feelings rather than forget them. **4** Therapeutic play does not necessarily involve other children.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Nursing Process: Planning/Implementation; **Reference:** Ch 32, Hospitalization of Preschoolers, General Nursing Care of Preschoolers

242. 1 Nonstrenuous, diversional activities involving interpersonal relationships with another person provide better support and resting conditions than does more active play.

2 A jigsaw puzzle is too complicated for a 5-year-old child and does not provide the human contact needed. **3, 4** Although this is an age-appropriate distraction, it does not provide the human contact needed.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Hospitalization of Preschoolers, General Nursing Care of Preschoolers

243. 4 Gas exchange is limited because of narrowing and swelling of the bronchi; the carbon dioxide level increases.

1 The oxygen level will be decreased, not increased. **2** The pH will decrease; the child is in respiratory acidosis, not alkalosis. **3** The bicarbonate level will be increased to compensate for acidosis.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Asthma, Data Base

244. 4 Cold and exercise can precipitate bronchospasm, and increased exercise depletes oxygen.

1 Treatment of asthma does not involve a low-fat diet. **2** Asthma is a chronic condition. Return to usual activities after the acute stage is essential for growth and development. **3** Although increased protein and calories may be needed to support the child during a coexisting bacterial infection in the acute stage, a return to usual eating habits is indicated by the time of discharge.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Asthma, Nursing Care

245. Answer: 1, 4.

1 Parents should be taught to limit allergens in the home that can precipitate asthma attacks (e.g., no carpets, no down pillows, wet-mop floors, vacuum when the child is not in the home, no scented household products). **2** Environmental moisture is necessary for these children; in addition, cold environments should be avoided. **3** Consistent limits should be placed on the child's behavior regardless of the illness; a chronic illness does not eliminate the need for limit setting. **4** Medications to control inflammation, including inhaled corticosteroids and long-acting beta 2-agonists, must be continued to suppress exacerbations of asthma. **5** The child should return to school and continue to interact with schoolmates and friends.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Asthma, Nursing Care

246. Answer: 3, 4.

1 An elevated temperature is a characteristic of sepsis, not asthma. **2** Crackles are associated with pulmonary edema, not asthma. **3** Bronchial constriction with mucus production causes wheezing. **4** With the decrease in arterial oxygenation associated with asthma, the heart rate will increase. **5** Hypertension, not hypotension, may occur with asthma.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Asthma, Data Base

247. 3 The restricted ventilation accompanying an asthma attack limits the body's ability to blow off carbon dioxide. As carbon dioxide accumulates in the body fluids, it reacts with water to produce carbonic acid; the result is respiratory acidosis.

1 The problem basic to asthma is respiratory, not metabolic. **2** Respiratory alkalosis is caused by exhaling large amounts of carbon dioxide; asthma attacks cause carbon dioxide retention. **4** Asthma is a respiratory problem, not a metabolic one; metabolic acidosis can result from an increase of nonvolatile acids or a loss of base bicarbonate.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Asthma, Data Base

248. 3 The seepage of blood from the operative site drains into the oral cavity, causing the child to swallow.

1 Snoring can be expected after a tonsillectomy because of edema. **2** Because the child has been NPO for an extended time and is not able to swallow fluids easily, the child will probably ask for fluids. **4** This may be a later sign of hemorrhage.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 32, Tonsillectomy and Adenoidectomy, Nursing Care

249. 1 Ice chips are soothing and promote vasoconstriction.

2 Milk and milk products coat the mouth, causing the child to clear the throat, which may precipitate bleeding. **3** The supine position promotes edema and does not allow oral secretions to drain from the mouth. The head of the bed should be elevated, and the child should be positioned on the side. **4** Mouthwash solution is too caustic; a warm saltwater solution is preferred.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Tonsillectomy and Adenoidectomy, Nursing Care

250. 1 The characteristic “strawberry tongue” is due to sloughing of the normal coating of the tongue, leaving the papillae exposed.

2 There is bilateral congestion of the ocular conjunctiva without an exudate. **3** The fever associated with Kawasaki disease is high and has an abrupt onset; it is unresponsive to antibiotics and antipyretics. **4** A maculopapular rash on the extremities does not occur; peripheral edema and erythema occur with desquamation of the palms of the hands and soles of the feet.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Mucocutaneous Lymph Node Syndrome, Data Base

251. 3 Infection is a constant threat because of a poor general state of nutrition, a tendency toward skin breakdown in edematous areas, corticosteroid therapy, and lowered immunoglobulin levels.

1 Although intake of foods with high nutritional value should be encouraged, this is not the priority. **2** Fluid monitoring is important in determining whether a fluid restriction is indicated. **4** Bed rest may be needed for severe edema, but ambulation is preferred.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Nephrotic Syndrome, Nursing Care

252. 1 Poor appetite and decreased energy are associated with the accumulation of toxic waste; anemia accounts for the pallor.

2 Activity does not cause these signs and symptoms. **3** An elevated temperature probably will be present, but an infection will not cause a muddy pallor. **4** Discontinuing the corticosteroids and diuretics that usually are prescribed will probably result in recurrence of edema in steroid-dependent children.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 32, Nephrotic Syndrome, Nursing Care

253. 3 A renal biopsy is an invasive procedure. In the early stages, Wilms tumor is encapsulated. Any disruption of the tumor capsule may precipitate metastasis.

1 An MRI is helpful in making the diagnosis. **2** A CT scan is helpful in making the diagnosis. **4** An abdominal ultrasound is helpful in making the diagnosis.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32,

254. **Answer: 1, 2.**

1 There is an increase in appetite that results in deposition of fat on the abdomen and trunk. **2** Muscle wasting results in thin extremities. **3** Increased excretion of calcium causes a retarded linear growth with a short stature. **4** Because of the excess production of androgens, virilization and hirsutism occur. **5** Increased salt and water retention cause hypertension and hypernatremia.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 32, Nephrotic Syndrome, Nursing Care

255. **1 Comparison of daily weights is the most accurate way to assess fluid retention or loss.**

2 This is difficult for a child this age and will not be accurate. **3** This is a measure for the degree of ascites; it indirectly measures fluid retention. **4** Assessment of urine for protein gives information about the disease process but not about the amount of fluid retention.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:**

Evaluation/Outcomes; **Reference:** Ch 32, Nephrotic Syndrome, Nursing Care

256. **Answer: 1, 2, 4.**

1 Pallor is the result of anemia associated with leukemia. **2** Fatigue is the result of anemia associated with leukemia. **3** Jaundice usually indicates liver damage or excessive hemolysis and is not an early sign of leukemia. **4** Multiple bruises are the result of thrombocytopenia associated with leukemia. **5** Edema is not a manifestation of the disease because the pathophysiology does not involve transport of fluids.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 32, Leukemia, Data Base

257. **2 Because of the increased capillary fragility and decreased platelet count that accompany leukemia, even the slightest trauma can cause hemorrhage. Brushing the teeth has caused gingival bleeding, and the incident should be documented; this information may also assist in defining the treatment plan.**

1 It is wiser to eliminate a toothbrush and use a sponge-type applicator. **3** It cannot be assumed that a 4-year-old child will or can follow such a direction. **4** This can irritate the gums, causing more trauma. If oral ulcers develop, the mouth should be rinsed with an isotonic solution such as normal saline.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Communication/Documentation; **Nursing Process:** Evaluation/Outcomes;

Reference: Ch 32, Leukemia, Nursing Care

258. **4 Radiation is used to destroy leukemic cells in the brain because chemotherapeutic agents are inadequately absorbed through the blood-brain barrier.**

1 Chemotherapy is required to treat the systemic leukemic process. **2** Radiation does not reduce the risk for infection. **3** Cranial radiation has no effect on the systemic leukemic process.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Leukemia, Data Base

Nursing Care of School-Age Children

259. 1 Regression is expected in times of stress. It is a transient need that should be accepted because it helps reduce anxiety.

2 Distraction works only as long as it is employed. **3** It is the nurse's responsibility to identify the child's response to hospitalization and address the child's needs at this time. **4** Cause (thumb-sucking) and future effect (buckteeth) will not be meaningful to a 6-year-old child; furthermore, thumb-sucking may or may not cause malocclusion.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hospitalization of School-Age Children, General Nursing Care of School-Age Children

260. 2 The nurse is seeking clarification while encouraging each child to communicate verbally, rather than expressing their differences physically.

1 This is accusatory and nontherapeutic. **3** This is a threatening response. **4** This is not relevant; the nurse should be concerned with the present situation.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Communication/Documentation; **Nursing Process:** Planning/Implementation;

Reference: Ch 32, Health Promotion of School-Age Children, Play

261. 1 The priority is to assess the throat to determine the extent of inflammation. Significant swelling can create the potential for airway obstruction.

2, 3, 4 Assessment of the child's problem must be done before initiating any other actions.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Nursing Process:**

Assessment/Analysis; **Reference:** Ch 30, Respiratory Tract Infections, Nursing Care

262. 4 According to Piaget's cognitive development theory, school-age children use concrete operational thinking; a general discussion in concrete terms will be understood and transferred to the actual situation.

1, 2 This requires conceptual thinking, which is just beginning to develop during the school-age years; 8-year-old children are not ready for this thought process. **3** These children are capable of understanding a concrete explanation; this request belittles them.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated**

Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33,

Growth and Development, Developmental Timetable

263. Answer: 2, 5.

1 Hepatic side effects, such as jaundice, may occur but are not common. **2** Nausea and vomiting may occur due to gastrointestinal irritation. **3** CNS side effects, such as headache, are rare adverse reactions. **4** This is a rare side effect. **5** Hypersensitivity reactions such as skin rash, erythema, fever, and pruritus occur with much greater frequency in children and adults with AIDS.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing**

Process: Evaluation/Outcomes; **Reference:** Ch 3, Infection, Related Pharmacology, Sulfonamides

264. 4 The goiter associated with Hashimoto disease usually is transient and regresses spontaneously in 1 or 2 years. The child usually is euthyroid but may show signs of hypothyroidism or hyperthyroidism.

1 This is not a chronic disease. **2** This is not an untreatable or fatal disorder; it can be controlled with a medical regimen. **3** There seems to be a strong genetic predisposition, but no mode of inheritance has been identified.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Hypothyroidism, Data Base

265. 2 Allowing the child to participate in the procedure provides the child with some control over a frightening experience.

1 Offering medication and using the word “hurt” may increase anxiety. **3** Using the word “hurt” may increase anxiety. The child will be hypervigilant and will not follow the directions to close the eyes. **4** Distraction will be unsuccessful in this situation; the child is afraid, and a passive activity will be insufficient to reduce anxiety.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hospitalization of School-Age Children, General Nursing Care of School-Age Children

266. Answer: 1, 2, 3.

1 School-age children are creative and have the manipulative skills to color in coloring books. **2** School-age children enjoy collections, and many 6-year-old children collect small metal cars; it also supports imaginative play. **3** School-age children enjoy competition and have manipulative skills necessary to manipulate cards. **4** This is more appropriate for the toddler or preschooler, who is developing fine motor skills. **5** This activity is too passive and ignores the 6-year-old child’s developmental needs.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Health Promotion of School-Age Children, Play

267. 4 Six-year-old children are aware of their hands as tools and enjoy building simple structures.

1 This is more appropriate for preschoolers. **2, 3** This is more useful for an older school-age child, who has a longer attention span and a better ability to follow instructions.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Health Promotion of School-Age Children, Play

268. 4 The peripheral line must be used until the placement of the central venous line is confirmed by radiography or fluoroscopy; this prevents fluid from entering the lung or interstitial space if the catheter is misplaced.

1, 3 The central line should not be used until placement is confirmed. **2** Drugs and fluids can be administered through central venous lines; most devices have multiple ports.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

269. Answer: 2, 3.

1 This is a solitary activity that will increase the child’s boredom. **2** School-age children have an interest in hobbies or collections of various kinds as a means of gathering information and knowledge about the world in which they live. **3** School-age children are industrious, and making a model airplane is an appropriate age-related activity. **4** This will not interest the average 9-year-old child. **5** These probably will not interest a 9-year-old child.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Health Promotion of School-Age Children, Play

270. 1 The reserved student should be given the opportunity to interact with peers.

- 2** The class clown may not be able to accept the responsibility needed for a leadership role. **3** The child who has an established nurse-client relationship may have difficulty interacting with the nurse in a new role. **4** Although the outgoing child probably will be able to take on added responsibility, the child does not need help with social interaction.
- Client Need:** Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Health Promotion of School-Age Children, Play
- 271. 4 Because young children have difficulty verbalizing their fears or anxiety, therapeutic play helps them express these feelings.**
- 1** A child this age is unable to express feelings entirely through words. **2** This may be helpful for a toddler or preschooler; school-age children need to act out their fears. **3** Young school-age children are still somewhat egocentric and therefore interested in their own experiences and sensations.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hospitalization of School-Age Children, General Nursing Care of School-Age Children
- 272. 2 Eight-year-old children are beginning to achieve a sense of industry and accomplishment. They are in Piaget's stage of concrete operations wherein they are able to use their thought processes to experience actions. Their growing independence enables them to make decisions based on what they have learned.**
- 1** Six-year-old children are just beginning to experience the developmental goals of the school-age child. They are not ready to make choices based upon what they have learned. **3** Preadolescents are beginning to assert their independence and probably will rebel if taught what they should eat. **4** Adolescents need to conform to their peer group. What is learned in a nutrition class probably will be ignored in favor of preestablished preferences.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 33, Growth and Development, Developmental Timetable
- 273. 4 Studies have shown that culture and family eating habits have an impact on a child's eating habits.**
- 1** Inheritance is not known to influence eating habits, although it is believed that there may be hereditary factors associated with obesity. **2** Childhood obesity is a known predictor of adult obesity. **3** Although there is a trend toward this, with intervention it can be prevented.
- Client Need:** Psychosocial Integrity; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 33, Obesity, Nursing Care
- 274. 3 There may be a weight gain caused by the influence of hormones before the growth spurt. Most 10- to 12-year-old children can eat an adult-size meal without becoming obese, especially if they are active.**
- 1** Before advising increased activity, the nurse should assess the child's present activity level. **2** An adequate caloric intake is needed for the growth spurt that will occur during adolescence. **4** Family eating patterns appear to have more effect on weight than do genetics.
- Client Need:** Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Growth and Development, Developmental Timetable
- 275. 3 School-age children lose their primary teeth, which may be aspirated during surgery. Special precautions must be taken to maintain safety.**

1 This is a comforting gesture, but it is not essential. **2** There is no reason to obtain an antistreptolysin O (ASO) titer or a C-reactive protein level. **4** This is important but not always possible.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hospitalization of School-Age Children, General Nursing Care of School-Age Children

276. 4 To maintain the desired blood level, the medication must be administered in the exact amount at the times directed. If the blood level of the drug falls, the microorganisms have an opportunity to build resistance to the drug.

1 Weighing is important with drugs that affect fluid balance. **2** Sulfa medications should be given on an empty stomach to promote absorption. **3** Monitoring the temperature is important with antipyretic drugs.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

277. Answer: 1, 2, 3, 4, 5.

1 The inflammatory process in the kidney allows red blood cells to enter the urine, which manifests as hematuria. **2** Capillary permeability in the kidney allows protein to pass into the urine. **3** The glomerular filtration rate is reduced, resulting in sodium retention; fluid accumulation is evidenced by periorbital edema in the morning, which spreads to the rest of the body as the day progresses. **4** When the glomerular filtration rate is reduced, fluid is retained as evidenced by a decreased urinary output; with a decreased urinary output the specific gravity will increase (1.030). **5** The retention of fluid causes an increase in the intravascular volume, resulting in an increased blood pressure.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 33, Acute Post Streptococcal Glomerulonephritis, Data Base

278. 3 During the acute stage, anorexia and general malaise lower the child's resistance to infection.

1 A bland diet is not necessary, but high-protein and high-sodium foods should be avoided. **2** Bed rest is not a necessary restriction. It is encouraged when the child is easily fatigued. **4** Antibiotics are not necessary for all children with acute glomerulonephritis, only those with persistent streptococcal infections. The intramuscular route is not used.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Acute Post Streptococcal Glomerulonephritis, Nursing Care

279. 4 When urinary findings are within the expected range (e.g., no hematuria or proteinuria), the child may resume preillness activities.

1, 2 This restriction is unnecessary. **3** Bed rest is unnecessary.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Acute Post Streptococcal Glomerulonephritis, Nursing Care

280. 1 The use of aspirin to treat the fever associated with influenza is contraindicated; it is associated with Reye syndrome, a syndrome that involves a toxic encephalopathy and hepatic dysfunction.

2 Inactivated influenza viral vaccines are effective in prevention of influenza. **3** Fever may lead to dehydration; fluids help maintain hydration. **4** The influenza virus can be spread by direct contact

or contact with surfaces contaminated with the virus; staying home prevents the spread of the disease to other students.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcome; **Reference:** Ch. 33, Reye Syndrome, Nursing Care

281. 1 Daily changes in weight are indicators of fluid changes; loss or gain of muscle and fat does not cause daily fluctuations in weight.

2 Protein molecules do not weigh enough to be reflected in the child's weight on a daily basis. **3** When fluid weight gain, not loss, stops, the disease is being controlled. **4** It is not beneficial to plan the child's daily caloric intake on fluid weight loss or gain.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Acute Post Streptococcal Glomerulonephritis, Nursing Care

282. 2 The child has an elevated blood pressure that can cause hypertensive encephalopathy, resulting in hyperperfusion of the brain and cerebral edema; one of the early signs of encephalopathy is a severe headache.

1 Rapid respirations do not cause a severe headache. **3** Anemia does not cause a severe headache. **4** The autoimmune response associated with APSGN is not the cause of the severe headache.

Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Acute Post Streptococcal Glomerulonephritis, Data Base

283. 1 A physical therapist can prescribe an exercise protocol to keep the joints as mobile as possible; a routine can be developed to help the child alleviate morning stiffness.

2 Although this might be necessary in the future, there is no evidence that it is needed at this time. **3** Although nutrition is an appropriate part of therapy, it is the physical therapy program that can most directly influence movement. **4** Over-the-counter medications should not be used without the supervision of a health care provider.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Juvenile Idiopathic Arthritis, Nursing Care

284. 3 Hematuria may result from the use of nonsteroidal antiinflammatory drugs (NSAIDs) because they may cause nephrotoxicity.

1 This can occur but is not a sign of toxicity. **2** This does not occur with NSAIDs. **4** Drowsiness, not hyperactivity, may occur.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 33, Juvenile Idiopathic Arthritis, Nursing Care

285. Answer: 1, 2, 4.

1 This helps maintain joint mobility while not creating weight-bearing on the joints. **2** This promotes functional movement. It is a low-impact activity compared to most outdoor activities that may employ running or jumping. **3** Prolonged sitting or lying in one position can lead to stiffness and flexion contractures. **4** This helps maintain muscle tone while providing freedom of movement without weight-bearing on the joints. **5** Prolonged sitting in one position can lead to stiffness and flexion contractures.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Juvenile Idiopathic Arthritis, Nursing Care

286. 2 The exercises are done to preserve joint function.

1 Exercises do not necessarily relieve pain. **3** Circulation is not affected by the arthritic process. **4** Exercising does not affect the subcutaneous nodules.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 33, Juvenile Idiopathic Arthritis, Nursing Care

287. 1 Preadolescence is a critical period of growth, and steroids could lead to growth retardation.

2 The effect of steroids on sexuality is unclear. **3** Although mood changes have been documented, this is not the reason why steroids are avoided during preadolescence. **4** Impaired body image is a result of many variables, not just medications.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 33, Juvenile Idiopathic Arthritis, Data Base

288. 1 Teaching methods in each age group are different depending on the children's cognitive ability; individual differences depend on a variety of factors, including intelligence and emotional status. The child's readiness to learn must be assessed before developing a teaching plan that will bring success.

2, 3, 4 This will be important later, but not initially.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 29, Growth and Development of the Child, Principles of Growth

289. 1 Helping families understand their feelings about diabetes is essential in assisting them to develop positive attitudes; these attitudes will motivate them to achieve optimal control of the disease and promote a healthy lifestyle for the child.

2 The child should participate in age-appropriate activities; adequate exercise is an important part of the treatment regimen for children who have diabetes. **3** This is important; however, if feelings are not addressed first, compliance with glucose monitoring is less likely. Also, the age and developmental level of the child must be considered before teaching can begin. **4** This is important; however, if feelings are not addressed first, compliance with insulin administration is less likely. Also, the age and developmental level of the child must be considered before teaching can begin.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring; Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Diabetes Mellitus, Nursing Care

290. 2 Novolin N is an intermediate acting insulin; its peak action is 4 to 12 hours.

1, 4 The peak action of Novolin N insulin is 4 to 12 hours; this is too late. **3** This is the peak time for regular insulin, not Novolin N insulin.

Client Need: Pharmacological and Parenteral Therapies; **Integrated Process:** Teaching/Learning; **Cognitive Level:** Comprehension; **Nursing Process:** Evaluation/Outcomes; **Reference:** Ch 33, Diabetes Mellitus, Nursing Care

291. 4 A bedtime snack is needed for the evening. Novolin N insulin is intermediate-acting insulin, which peaks 4 to 12 hours later and lasts for 18 to 24 hours. Protein and carbohydrate ingestion before sleep prevents hypoglycemia during the night when the Novolin N is still active.

1 The snack is important for diet/insulin balance during the night, not encouragement. **2** There are no data to indicate such a need; a bedtime snack is routinely provided to help cover intermediate-acting insulin during sleep. **3** The snack must contain mainly protein-rich foods, not simple carbohydrates, to help cover the intermediate-acting insulin during sleep.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 33, Diabetes Mellitus, Nursing Care

292. 3 An 8-year-old child is in the stage of industry vs inferiority and strives to complete assigned tasks.

1 This is true of an older child (adolescent). **2** Peer influences increase as the child enters the preadolescent and adolescent years. **4** This stage occurs during adolescence.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 33, Growth and Development, Developmental Timetable

293. 3 An adolescent with type 1 diabetes must carry a source of simple sugar (e.g., glucose tablets, Insta-Glucose, sugar-containing candy such as Life Savers) to rapidly counteract the effects of hypoglycemia. This should be followed by a complex carbohydrate and a protein.

1 This is an unrealistic and unnatural pattern for an adolescent. **2** This is an unnecessary and time-consuming procedure. **4** The adolescent should be made to feel a part of the family; the recommended diet is nutritious and no different from that of the rest of the family. The timing of when food is eaten in relation to insulin administration is important.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Diabetes Mellitus, Nursing Care

294. 4 A blood glucose level of 180 mg/dL is above the average range, and the prescribed rapid acting insulin, is needed.

1 Although exercise does decrease insulin requirements and does lower blood glucose levels, the immediate action of insulin is needed. **2** This action will not correct the problem; the blood glucose level is already known. **3** Food intake at this time will increase the level of blood glucose.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Diabetes Mellitus, Nursing Care

295. 2 The adolescent needs immediate and easily absorbable glucose, such as soda, and long-lasting complex carbohydrates and protein, which are supplied by the bun and hamburger.

1 This can be done after some glucose has been ingested; otherwise, the adolescent's hypoglycemia can become severe. **3** Extra insulin will further aggravate the problem. **4** This is unsafe; appropriate intervention is necessary.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Diabetes Mellitus, Data Base

296. 1 By increasing the caloric intake, thereby increasing the protein and carbohydrate intake, a hypoglycemic reaction caused by exercise is less likely to occur.

2 An oral hypoglycemic is an inappropriate treatment for individuals with type 1 diabetes. **3** This will not prevent a hypoglycemic reaction when the child exercises more vigorously than usual. **4** This type of intake is less effective than other nutrients, such as protein, that are absorbed more slowly and provide a more consistent blood glucose level.

Client Need: Reduction of Risk Potential; **Cognitive Level:** Application; **Integrated Process:**

Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Diabetes Mellitus, Nursing Care

297. 3 The white dots are nits, the eggs of head lice (*Pediculosis capitis*); they can be seen on the shaft of hair along the scalp line, behind the ears, and at the nape of the neck.

1 This is too vague; objective visualization will confirm the presence of nits. **2** Canine ear mites are not transferable to humans. **4** This is a sign of scabies, which is the *Sarcoptes scabiei* mite.

Client Need: Safety and Infection Control; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Pediculosis Capitis, Data Base

298. 4 Rheumatic fever is an inflammatory disease involving the joints, heart, central nervous system (CNS), and subcutaneous tissue. It is thought to be an autoimmune process that causes connective tissue damage.

1 Tetanus is not caused by a streptococcal infection. **2** The disorder described is not influenza. **3** The disorder described is not scarlet fever.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 33, Rheumatic Fever, Data Base

299. 2 The purpose of digoxin (Lanoxin) is to slow and strengthen the apical rate. The apical rate for a healthy child of 5 years is 70 to 110 beats/min. If the apical rate is slow, administration of the drug may lower the apical rate to an unsafe level. Many health care providers set individual parameters to be followed.

1 This rate is too far below that which necessitates withholding digoxin for children; it is the correct rate for withholding digoxin in adults. **3, 4** This is within the expected heart rate range of 5-year-old children and does not necessitate withholding digoxin.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Characteristics of Growth, Circulatory System

300. 2 Factor VIII has a short half-life; therefore, prophylactic treatment involves administering the factor on the scheduled days in the morning so that the child will get the most benefit during the day when most active.

1 Prophylactic treatment is done on a scheduled basis to prevent a bleed from occurring. **3** Administering the drug at bedtime will limit its effectiveness, since bleeds are more common when the child is active. **4** This does not take into consideration the properties of the drug.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hemophilia, Nursing Care

301. 3 Factor VIII is the missing plasma component necessary to control bleeding in a child with hemophilia A.

1, 4 Factor VIII, the missing component, is not provided by this blood derivative. **2** Although fresh frozen plasma does contain factor VIII, there is an insufficient amount in a plasma transfusion; a higher volume is required.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Knowledge; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hemophilia, Data Base

302. 2 The hemophilia gene is carried on the X chromosome but is recessive. Therefore, the female is the carrier (an unaffected XO and an affected XH). If the male receives the affected XH

(XHYO), the disorder is manifested.

1 Hemophilia is carried by the female; the Mendelian laws of inheritance are not sex-specific. **3** Hemophilia is a sex-linked recessive disorder. **4** Females only carry the trait; males usually are affected.

Client Need: Physiological Adaptation; **Cognitive Level:** Comprehension; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hemophilia, Data Base

303. 3 Aspirin has an anticoagulant effect, and it may harm a child with bleeding problems; in addition, aspirin is contraindicated for all children because of its relationship to Reye syndrome.

1 This response does not answer the mother's question; it may cause the mother to feel defensive. **2** Aspirin is contraindicated because of its anticoagulant effect. **4** Acetaminophen cannot prevent bleeding episodes; it is an analgesic.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Hemophilia, Nursing Care

304. Answer: 1, 3, 5.

1 Children with Down syndrome have a broad nose with a depressed bridge (saddle nose). **2** Children with Down syndrome have broad, short, stubby hands and feet. **3** Children with Down syndrome have inner epicanthic folds and oblique palpebral fissures; they also have speckling of the iris (Brushfield spots). **4** Children with Down syndrome have hypotonic, not hypertonic, musculature. **5** Children with Down syndrome have a transverse palmar crease (simian crease) formed by fusion of the proximal and distal palmar creases.

Client Need: Physiological Adaptation; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Trisomy 21, Data Base

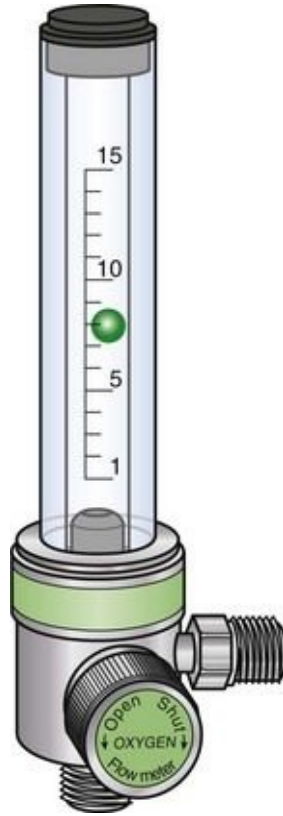
305. 1 A wheelchair must be used when there is an order for non-weight-bearing activity; a transfer using the unaffected leg prevents weight-bearing on the affected leg.

2 Kneeling applies pressure to the acetabulum and is considered a weight-bearing activity; it is contraindicated. **3** Range-of-motion exercises are contraindicated; an abduction brace is to be used 23 hours a day; the other hour is for bathing and toileting. **4** Using a four-point gait with crutches equally distributes the weight-bearing to all four extremities.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Legg-Calvé-Perthes Disease, Nursing Care

Nursing Care of Adolescents

306. The ball of the oxygen flowmeter should be set at 8 to deliver 40% oxygen when using the Venturi mask.



Client Need: Physiological Adaptation; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 30, Respiratory Tract Infections, Nursing Care

307. **4 The nurse made the assessment that the medication was ineffective in relieving the adolescent's pain for the duration prescribed. This information should be communicated to the health care provider for evaluation.**

1 The prescription is for administration every 3 hours; legally it can be given only within these guidelines. **2** There are no data to support this; the amount of medication was probably inadequate for the adolescent's pain tolerance level. **3** The nurse should not ignore the adolescent's need for pain relief.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Age-Related Responses to Pain, Nursing Care Related to Pain Assessment

308. **Answer: 5 mL. For a 500 mL bag, 10 mEq of potassium chloride is needed to equal a concentration of 20 mEq/L. Use the "Desired over Have" formula of ratio and proportion to solve this problem.**

$$\frac{\text{Desired}}{\text{Have}} \frac{10 \text{ mg}}{2 \text{ mg}} = \frac{x \text{ mL}}{1 \text{ mL}}$$

$$2x = 10$$

$$x = 10 \div 2$$

$$x = 5 \text{ mL}$$

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 29, Principles Related to Medications for Children, Nursing Care

309. 2 Anger interferes with communication; recognition and ventilation of anger help to resolve it and can help increase productive communication.

1 Anger is interfering with the acceptance of responsibility and must be addressed first. **3** They are too angry with each other to work this out alone; they may continue to express anger toward each other, which probably will escalate the conflict in their relationship. **4** The parent should be involved with the therapy and therefore must be present when treatment is discussed.

Client Need: Psychosocial Integrity; **Cognitive Level:** Analysis; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Hospitalization of Adolescents, General Nursing Care of Adolescents

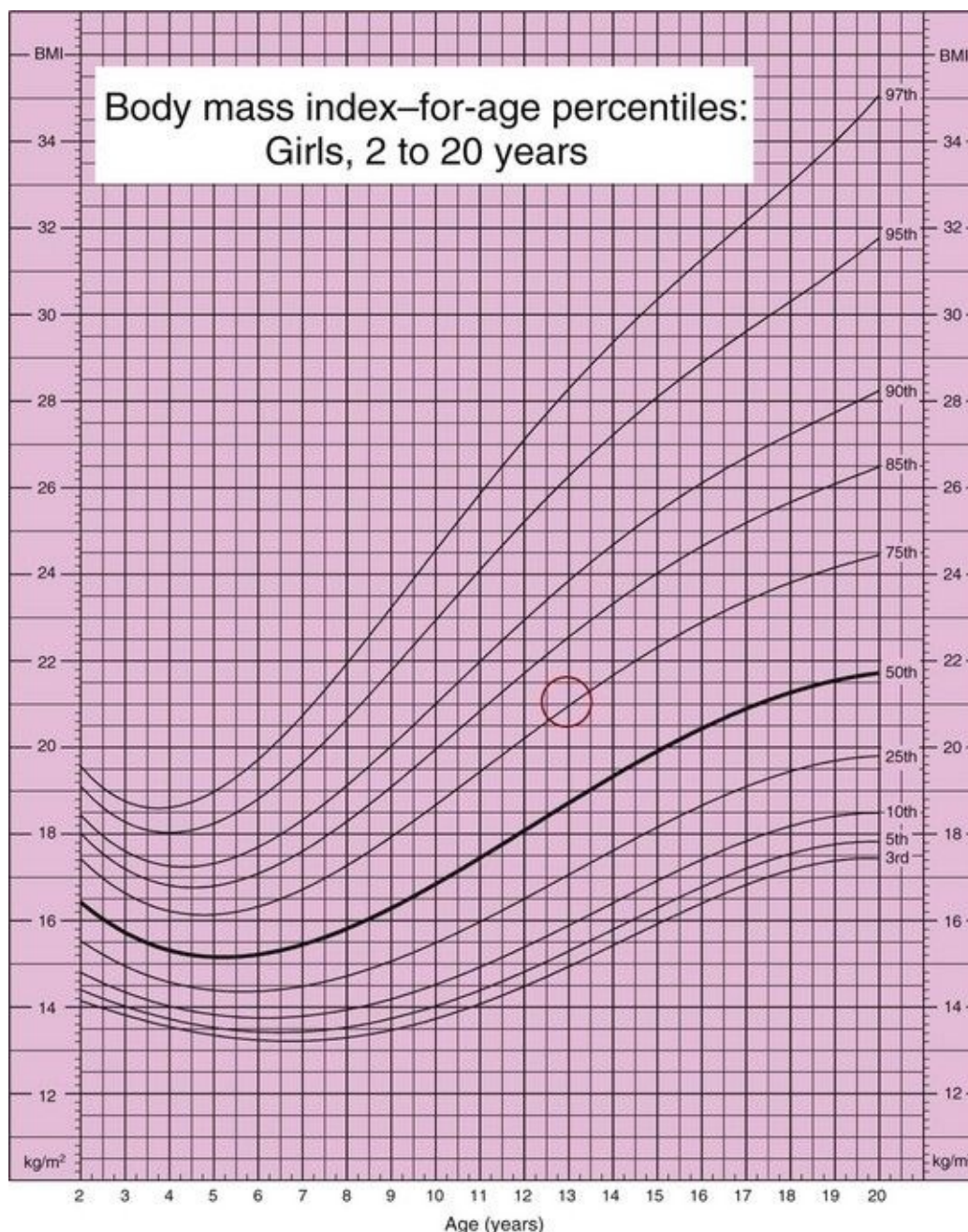
310. 3 The menarche occurs when the prepubertal growth spurt is almost completed and after the primary and secondary sexual characteristics are almost fully developed.

1 Pubic hair is apparent about 6 months after the breasts begin to develop and before menarche occurs. **2** The breasts are the first secondary sexual characteristics to develop early during the prepubertal growth and development period. **4** Although there may be a familial tendency to reach the menarche at the same age, there are too many variables to use this as a guideline.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Growth and Development, Developmental Timetable

311. Answer: 75th percentile. Find the age of 13 along the horizontal scale at the bottom of the graph. Follow the line vertically up the graph to the student's BMI of 21. The two lines bifurcate on the line for the 75th percentile.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Nursing Process:** Planning/Implementation; **Reference:** Ch 33, Obesity, Nursing Care



312. 1 A side effect of vinCRISTine is alopecia. To adolescents, who are very concerned with identity, this represents a tremendous threat to their self-image.

2 Constipation, although very serious, is not as important to the adolescent as a side effect that affects appearance. **3** Although anorexia will be a concern while undergoing chemotherapy, it is not as important before the start of the regimen. **4** Although neurologic side effects are serious, they are not as important to the adolescent before the start of chemotherapy.

Client Need: Pharmacological and Parenteral Therapies; **Cognitive Level:** Application;

Integrated Process: Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Bone Tumors, Nursing Care

313. 3 Several meetings with an adolescent provide an opportunity to develop trust and establish a relationship.

1 This is not necessary and may not help in establishing a relationship. **2** This is not realistic because the nurse is not the teenager's peer. **4** It is not necessary to communicate in concrete terms because the average adolescent is past this cognitive level.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Caring;

Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Hospitalization of Adolescents, General Nursing Care of Adolescents

314. 3 The future seems far away; immediate gratification takes priority.

1 Adolescents are often confused about their feelings. **2** School-age children (7 to 11 years) use concrete operational reasoning; adolescents are learning to think in abstract terms and use formal operational reasoning. **4** This is the developmental stage of children 6 to 12 years of age; identity versus role confusion is the developmental stage of the adolescent.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 34, Growth and Development, Developmental Timetable

315. 4 The hypothalamic-pituitary-gonadal-adrenal mechanism is responsible for the physiologic and structural changes that occur at puberty. In girls the adrenal glands secrete androgens that are responsible for the appearance of axillary and pubic hair.

1 This is not an indicator of sexual maturity. **2** This is not a reliable indicator of sexual maturity. **3** Menarche usually occurs about 2 years after initial pubescent changes; ovulation usually begins within a year after the first menstrual period.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Comprehension; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Growth and Development, Developmental Timetable

316. 2 Adolescents are concerned about body image and fitting in with a peer group; the stabilizing rod may be viewed as an insult to the intactness of the body. The nurse should obtain additional information to confirm this assumption.

1 Weight-bearing can be prevented with crutches, which provide greater mobility than a wheelchair. **3** After open reduction and internal fixation with a rod insertion, adolescents generally return to activities after several months. **4** Although pain may be a concern, an adolescent is old enough to understand that analgesics are available; this probably is not the reason the adolescent is upset.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 34, Hospitalization of Adolescents, Data Base

317. 3 The hyperextension required in swimming aids in strengthening back muscles and increases deeper respirations, both of which are necessary before surgery and/or before wearing a brace or cast.

1, 2, 4 This involves twisting the back muscles, which is not therapeutic for a child with this condition.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Scoliosis, Nursing Care

318. 1 Continuing growth causes changes in muscle, bone structure, and position. The brace is worn for 6 months after physical maturity, which is confirmed by radiographic examination showing cessation of bone growth.

2 The brace is used to halt the progression of the curvature, not correct it. **3** This is not an appropriate criterion for removal of the brace. **4** Pain is not usually a symptom of scoliosis.

Client Need: Basic Care and Comfort; **Cognitive Level:** Application; **Integrated Process:** Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Scoliosis, Data Base

319. Answer: 1, 2, 5.

1 A soft-tipped applicator should be used to reduce trauma to the oral mucosa. **2** This allows the fluid to bypass the sores in the mouth and may be less irritating to the mucosa; it provides for comfort. **3** This will injure the oral mucosa and should be avoided. **4** This may irritate the oral mucosa and should be avoided; if prescribed, it should be diluted. **5** Extremes in temperature may injure the oral mucosa and cause discomfort.

Client Need: Safety and Infection Control; **Cognitive Level:** Analysis; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Bone Tumors, Nursing Care

320. 3 Establishing an identity is the major developmental task of the adolescent; to achieve this task, there is a need to conform to group norms that include appearance and acceptance.

Appealing to this need may achieve more success than other teaching strategies.

1 This teaching strategy may be successful with an older, more secure group of people. **2** Adolescents tend to believe that they are invincible and probably will not relate to this teaching strategy. They are also concerned about the present, not the future. **4** Because adolescents believe they are invincible, they would not relate to this teaching strategy.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Growth and Development, Developmental Timetable

321. 4 Because adolescents have a developmental need to conform to their peers, the adolescent should be able to select a bracelet with a similar configuration to those worn by peers.

1 Hiding the bracelet under long-sleeved clothes might be acceptable in cool weather, but not when it is warm and friends are wearing T-shirts. **2** The bracelet should be worn at all times when not with responsible family members. The rules of contact sports may not permit the players to wear jewelry that could harm themselves or others. **3** This is unrealistic, especially if the adolescent does not want to tell friends why the bracelet is needed.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Application; **Integrated Process:** Caring; Teaching/Learning; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Hospitalization of Adolescents, General Nursing Care of Adolescents

322. 1 Although the adolescent should be told that this is a common occurrence at this age, to relieve his anxiety he should be helped to understand and expect both this and other changes that occur during puberty.

2, 4 This response may increase the adolescent's anxiety because it implies that he has a problem. **3** This response is not sensitive to the adolescent's concern; it does not offer follow-up discussion, education, or counseling.

Client Need: Psychosocial Integrity; **Cognitive Level:** Application; **Integrated Process:** Teaching/Learning; Caring; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Growth and Development, Developmental Timetable

323. 1 Tinnitus in adolescents is usually related to hearing loud music, especially via headphones.

2 Long-resolved ear infections usually have no sequelae, such as buzzing in the ears. **3** Tinnitus is a concrete occurrence; it is doubtful that it will emerge when there is emotional trauma. **4** Familial deafness is not related to the recent development of an adolescent's tinnitus.

Client Need: Health Promotion and Maintenance; **Cognitive Level:** Analysis; **Nursing Process:** Assessment/Analysis; **Reference:** Ch 31, Hearing Impairment, Data Base

324. 3 Passing the high school equivalency test is the client's desire, and the nurse should do everything possible to assist the client to achieve the goal.

1 This response is not therapeutic; the client has an unmet need, and the nurse should not try to refocus the client away from the stated objective. **2** The client should be encouraged, not discouraged; mental activity is not too taxing and is not unrealistic if the client wishes to do it. **4** There are no data that support the conclusion that the client needs to work through feelings about the illness.

Client Need: Management of Care; **Cognitive Level:** Application; **Integrated Process:** Caring; Communication/Documentation; **Nursing Process:** Planning/Implementation; **Reference:** Ch 34, Hospitalization of Adolescents, General Nursing Care of Adolescents

325. **1 Albuterol (Proventil) relaxes smooth muscles in the respiratory tract, resulting in bronchodilation. The priority is to facilitate respirations. This intervention follows the ABCs of emergency care—Airway, Breathing, Circulation.**

2 This is not the priority. The results will not influence the priority intervention. **3** This is not the priority. Chest physiotherapy is performed after the respiratory airways are opened. In many facilities, chest physiotherapy is the responsibility of the nurse, not a respiratory therapist. **4** The use of an incentive spirometer can be taught after the acute episode of respiratory distress. It will take time to receive the device and teach the adolescent.

Client Need: Management of Care; **Cognitive Level:** Analysis; **Nursing Process:** Planning/Implementation; **Reference:** Ch 32, Asthma, Nursing Care

UNIT 6

NCLEX Preparation Toolkit



Comprehensive Examination 1

Review Questions: Part A

1. What should the nurse do to assess the neurovascular status of an extremity casted from the ankle to the thigh?

1. Palpate the femoral artery.
2. Assess for a positive Homan sign.
3. Compress and release the client's toenails.
4. Instruct the client to flex and extend the knee.

► 2. A nurse is assessing a client who is experiencing postmenopausal bleeding. The tentative diagnosis is endometrial cancer. Which findings in the client's history are risk factors associated with endometrial cancer? **Select all that apply.**

1. Obesity
2. Multiparity
3. Cigarette smoking
4. Early onset of menopause
5. Family history of endometrial cancer
6. Previous hormone replacement therapy

3. A client who has breast cancer had postlumpectomy chemotherapy and is now scheduled for radiation on an outpatient basis. What is an important nursing intervention while the client is receiving radiation?

1. Assess the radiated site daily for redness or irritation.
2. Rinse the radiated site with an antibacterial solution after each treatment.
3. Instruct the client to apply lotion twice daily to the skin on the radiated area.
4. Encourage the client to wear a snug-fitting bra between radiation treatments.

4. A client's problem with ineffective control of type 1 diabetes is identified when a sudden decrease in blood glucose level is followed by rebound hyperglycemia. What should the nurse do when this event occurs?

1. Give the client a glass of orange juice.
2. Seek an order to increase the insulin dose at bedtime.
3. Encourage the client to eat smaller, more frequent meals.
4. Collaborate with the health care provider to alter the insulin prescription.

5. A client with the diagnosis of personality disorder with antisocial behavior is hospitalized. The client is openly discussing interpersonal difficulties with family members and the boss at work from whom money has been stolen. The client presently is facing criminal charges. Which behavior indicates that the client is meeting treatment goals?

1. Expression of feelings of resentment toward the employer
2. Discussion of plans for each of the possible outcomes of a trial
3. Expression of resignation about difficult spousal and children relationships
4. Discussion of the decision to file a grievance against the employer after discharge from the hospital

6. A client with severe preeclampsia is hospitalized. What should a nurse do **first** to ensure her physical safety?

1. Decrease environmental stimuli.
2. Place her on seizure precautions.
3. Administer the prescribed sedatives.

4. Strictly monitor her intake and output.
7. Which statement by a client with type 2 diabetes indicates to the nurse that additional teaching about the diet is needed?
 1. "I can eat as much dietetic fruit as I want."
 2. "I can have a lettuce salad whenever I want it."
 3. "I know that half of my diet should be carbohydrates."
 4. "I need to reduce the amounts of saturated fats in my diet."
8. A child is found to be allergic to dust. The nurse is preparing a teaching plan for the parents. What should the nurse include in the plan?
 1. Housework must be done by professional house cleaners.
 2. Damp-dusting the house will help limit dust particles in the air.
 3. The condition must be accepted because dust in a house cannot be limited.
 4. The house must be redecorated because the environment must be dust-free.
9. A client who has just started on a regimen of haloperidol (Haldol) is observed pacing and shifting weight from one foot to another. What side effect does the nurse document in the client's chart?
 1. Akathisia
 2. Parkinsonism
 3. Tardive dyskinesia
 4. Acute dystonic reaction
10. A client who has been on a psychiatric unit for several weeks continually talks about delusional material. What response by the nurse is **most** therapeutic?
 1. Ask the client to explain the delusion.
 2. Allow the client to maintain the delusion.
 3. Encourage the client to focus on reality issues.
 4. Explain to the client why the thoughts are not true.
11. A client has a tonic-clonic seizure. What is the **priority** nursing intervention during the tonic-clonic stage of the seizure?
 1. Go for additional help.
 2. Establish a patent airway.
 3. Turn the client on the side.
 4. Protect the client from injury.
12. A nurse admits an adolescent to the psychiatric unit with the diagnosis of anorexia nervosa. What is the **primary** gain a client with anorexia achieves from this disorder?
 1. Reduction of anxiety through control over food
 2. Separation from parents secondary to hospitalization
 3. Release from school responsibilities because of illness
 4. Increased parental attentiveness related to massive weight loss
13. A nurse is caring for a newborn with a myelomeningocele. What should immediate nursing care for this infant include?
 1. Changing diapers immediately when moist
 2. Placing the infant in the reverse Trendelenburg position
 3. Applying sterile, moist, nonadherent dressings to the sac
 4. Positioning the infant prone with the legs slightly adducted
- 14. Oxytocin (Pitocin) augmentation via IV piggyback (IVPB) is prescribed for a client in labor after a period of ineffective uterine contractions. What nursing interventions are most important if

strong contractions that last 90 seconds or longer occur? **Select all that apply.**

1. Stop the infusion.
2. Turn the client on her side.
3. Notify the health care provider.
4. Verify the length of contractions.
5. Administer oxygen via a face mask.

15. The cervix of a client in labor is dilated 8 cm. She tells a nurse that she has a desire to push and is becoming increasingly uncomfortable. She requests pain medication. How should the nurse respond?

1. Help her to take panting breaths.
2. Prepare the birthing bed for the birth.
3. Assist her out of bed to the bathroom.
4. Administer the prescribed butorphanol (Stadol).

16. A nurse administers an intramuscular injection of vitamin K to a newborn. What is the purpose of the injection?

1. Maintains the intestinal floral count
2. Promotes proliferation of intestinal flora
3. Stimulates vitamin K production in the baby
4. Provides protection until intestinal flora is established

17. A child with acute poststreptococcal glomerulonephritis requests a snack. Which is the **most** therapeutic selection of food the nurse can provide?

1. Peanuts
2. Pretzels
3. Bananas
4. Applesauce

18. A client reports experiencing nausea, dyspnea, and right upper quadrant pain unrelieved by antacids. The pain occurs most often after eating in fast-food restaurants. Which diet should the nurse instruct the client to follow?

1. Low fat
2. Low carbohydrate
3. Soft-textured and bland
4. High protein and kilocalories

19. A person sustains deep partial-thickness burns while working on a boat in a town marina and seeks advice from the nurse in the first aid station. The nurse encourages the client to seek medical attention, but the client refuses. The nurse advises the person to go to a health care provider if:

1. blisters appear.
2. urinary output decreases.
3. edema and redness occur.
4. low-grade fever develops.

20. A client with a history of gambling has legal difficulties for embezzling money and is required to obtain counseling. During an intake interview, the client says, "I never would have done this if I had been paid what I am worth." What factor will create the greatest difficulty when assisting this client to develop insight?

1. Feelings of boredom and emptiness
2. Grandiosity related to personal abilities
3. Projection of reasons for difficulties onto others

4. Anger toward those who are in authority positions

► 21. A nurse is working with a client who has the diagnosis of borderline personality disorder with antisocial behavior. What personality traits should the nurse expect the client to exhibit? **Select all that apply.**

1. Engaging
2. Indecisive
3. Withdrawn
4. Manipulative
5. Perfectionistic

22. A client has a urinary retention catheter in place after surgery. What should the nurse do when planning for the client's safety needs in relation to this device?

1. Empty the bag every six hours.
2. Maintain the tension on the tubing.
3. Keep the system closed at all times.
4. Attach the bag to the side rail of the bed.

23. What is the **most** important test the nurse should check to determine whether a transplanted kidney is functioning?

1. Renal ultrasound
2. Serum creatinine level
3. White blood cell count
4. Twenty-four-hour urinary output

24. A pregnant adolescent at 10 weeks' gestation visits the prenatal clinic for the first time. The nutrition interview indicates that her dietary intake consists mainly of soft drinks, candy, French fries, and potato chips. Why does the nurse consider this diet inadequate?

1. Caloric content will result in too great a weight gain.
2. Ingredients in soft drinks and candy can be teratogenic in early pregnancy.
3. Salt in this diet will contribute to the development of gestational hypertension.
4. Nutritional composition of the diet places her at risk for a low-birth-weight infant.

25. A nurse in the prenatal clinic is assessing a woman at 34 weeks' gestation. The client's blood pressure is 166/100 mm Hg and her urine is +3 for protein. She states that she has a severe headache and occasional blurred vision. Her baseline blood pressure was 100/62 mm Hg. What is the **priority** nursing action?

1. Arrange transportation to the hospital.
2. Obtain a prescription for an antihypertensive.
3. Recheck the blood pressure within half an hour.
4. Obtain a prescription for acetaminophen to relieve the headache.

26. A child has cystic fibrosis. Which statement by the parents about their plan for the child's dietary regimen provides evidence that they understand the nurse's instructions?

1. "I will restrict fluids during mealtimes."
2. "I will discontinue the use of salt when cooking."
3. "I should provide high-calorie foods between meals."
4. "I should eliminate whole-milk products from the diet."

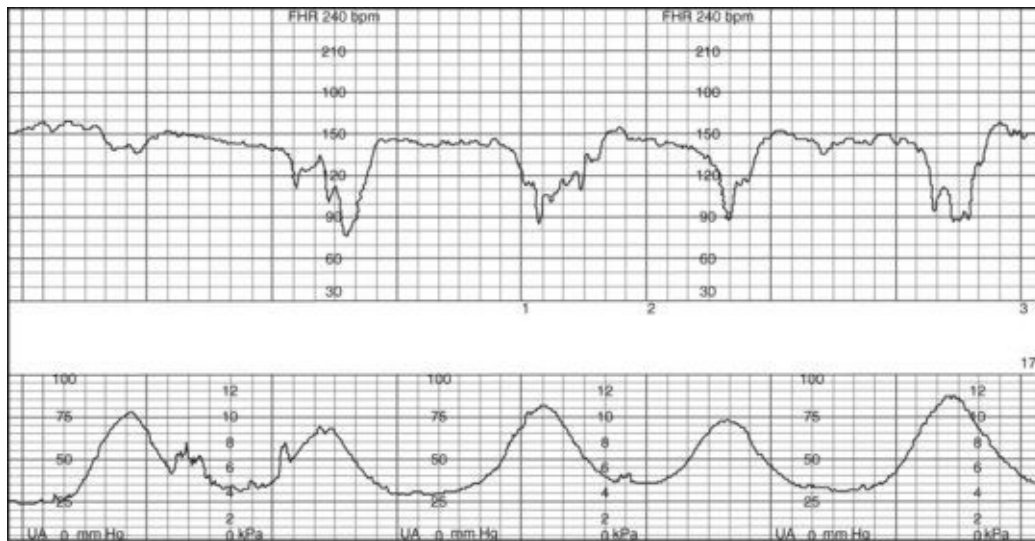
27. A nurse is caring for a client with glaucoma. What rationale associated with the need for treatment of this condition should the nurse include in a teaching program?

1. Total blindness is inevitable.

2. Lost vision cannot be restored.
 3. Use of both eyes usually is restricted.
 4. Surgery will help the problem only temporarily.
28. A nurse is caring for a client with a below-the-knee amputation. What should the nurse encourage the client to do to prepare the residual limb for a prosthesis?
1. Abduct the residual limb when ambulating.
 2. Dangle the residual limb off the bed frequently.
 3. Soak the residual limb in warm water twice a day.
 4. Press the end of the residual limb against a pillow periodically.
29. A client is admitted to the hospital with a diagnosis of an exacerbation of asthma. What should the nurse plan to do to **best** help this client?
1. Determine the client's emotional state.
 2. Give prescribed drugs to promote bronchiolar dilation.
 3. Provide education about the impact of a family history.
 4. Encourage the client to use an incentive spirometer routinely.
30. A health care provider orders daily sputum specimens to be collected from a client. When is the **most** appropriate time for the nurse to collect these specimens?
1. After activity
 2. Before meals
 3. On awakening
 4. Before a respiratory treatment
31. Which factor is essential to consider when a nurse evaluates whether a unit environment is conducive to psychologic safety for a confused client with dementia?
1. Needs are met entirely.
 2. Nursing care is flexible.
 3. Realistic limits and controls are set.
 4. Physical surroundings are clean and orderly.
32. A client is extubated in the postanesthesia care unit after surgery. For which common response should the nurse be alert when monitoring the client for acute respiratory distress?
1. Restlessness
 2. Bradycardia
 3. Constricted pupils
 4. Clubbing of the fingers
- 33. What clinical findings does a nurse expect when assessing a child with acute laryngotracheobronchitis. **Select all that apply.**
1. Fever
 2. Crackles
 3. Hoarseness
 4. Barking cough
 5. Inspiratory stridor
34. An IV infusion of magnesium sulfate is prescribed for a client with severe preeclampsia. The dose is twice the usual adult dose. When a nurse questions the dosage, the health care provider insists that it is the desired dose and directs the nurse to administer the medication. How should the nurse respond to this directive?
1. Administer the dose and monitor the client.

2. Withhold the dose and notify the nurse manager.
 3. Administer the dose and document it on the client's record.
 4. Withhold the dose and notify the director of the obstetric department.
- 35. A client who is lying in the supine position while in active labor has an IV oxytocin (Pitocin) infusion and external monitors in place. Using the monitoring strips below, identify the appropriate nursing interventions. **Select all that apply.**

1. Administer oxygen.
2. Turn the client on the side.
3. Increase the rate of infusion.
4. Discontinue the oxytocin infusion.
5. Request a prescription for an antibiotic.



36. Which nursing action should be included in the plan of care for a child with acute poststreptococcal glomerulonephritis?

1. Encouraging fluids
2. Monitoring for seizures
3. Measuring abdominal girth
4. Checking for pupillary reactions

37. A nurse is caring for an older adult who is taking acetaminophen (Tylenol) for the relief of chronic pain. Which substance is **most** important for the nurse to determine the client is taking because it intensifies the most serious adverse effect of acetaminophen?

1. Alcohol
2. Caffeine
3. Saw palmetto
4. St. John's wort

38. The parents of a child who is dying of cancer ask the nurse whether they should tell their 7-year-old son that his sister is dying. What is the **most** appropriate response by the nurse?

1. "Your child cannot comprehend the real meaning of death, so don't tell him until the last moment."
2. "Your son probably fears separation most and wants to know that you will care for him, rather than what will happen to his sister."
3. "You should talk this over with your health care provider, who probably knows best what is happening in terms of your daughter's prognosis."

4. “Your son probably doesn’t understand death as we do but fears it just the same. He should be told the truth to let him prepare for his sister’s possible death.”
- 39. A nurse is caring for an underweight adolescent girl who is diagnosed with anorexia nervosa. What are common characteristic of girls with this disorder that the nurse should identify when obtaining a health history and performing a physical assessment? **Select all that apply.**
1. Fatigue
 2. Pyrexia
 3. Tachycardia
 4. Heat intolerance
 5. Secondary amenorrhea
40. A client with major depression is admitted to the hospital. What is the **most** therapeutic initial nursing intervention?
1. Introducing the client to one other client
 2. Requiring participation in therapy sessions
 3. Encouraging interaction with others in small groups
 4. Conveying an attitude of concern that is not intrusive
41. During the first trimester, a client tells a nurse at the prenatal clinic that she frequently feels nauseated. What should the nurse teach her about reducing the nausea?
1. Eat small, frequent meals.
 2. Take an antacid between meals.
 3. Drink cinnamon tincture before rising.
 4. Take dimenhyDRINATE (Dramamine) at bedtime.
42. A nurse is caring for a client with a history of chronic obstructive pulmonary disease (COPD). What complications are most commonly associated with COPD?
1. Cardiac problems
 2. Joint inflammation
 3. Kidney dysfunction
 4. Peripheral neuropathy
43. A new parent asks a nurse how to care for the baby’s umbilical cord stump. What should the nurse include in the teaching?
1. Expect a moderate amount of drainage.
 2. Keep the area moist with sterile normal saline.
 3. Provide sponge baths until the stump falls off.
 4. Cover the site with a small sterile dressing twice a day.
44. After resection of a lower lobe of the lung, a client has excessive respiratory secretions. Which independent nursing action should the nurse implement?
1. Postural drainage
 2. Turning and positioning
 3. Administration of an expectorant
 4. Percussion and vibration techniques
45. A health care provider explains a cystectomy and an ileal conduit to a client with invasive carcinoma of the bladder. Later the client expresses concerns about the possibility of offensive odors associated with this procedure. What is the **best** response by the nurse?
1. “Tell me more about what you are thinking.”
 2. “Products are available to limit this problem.”

3. "This is a problem, but the surgery is necessary."
4. "Most people who have this surgery share this same concern."
46. Using Piaget's theory of cognitive development, what should the nurse expect a 6-month-old infant to demonstrate?
 1. Early traces of memory
 2. Beginning sense of time
 3. Repetitious reflex responses
 4. Beginning of object permanence
47. An internal fetal monitor is applied while a client is in labor. What should the nurse explain about positioning while the monitor is in place?
 1. The most comfortable position can be assumed.
 2. Monitoring is more accurate in the side-lying position.
 3. The monitor leads can be detached when sitting on the bedpan.
 4. Maintaining a supine position holds the internal electrode in place.
48. During a newborn assessment a nurse reports a sign of respiratory distress. What clinical manifestation did the nurse identify?
 1. Flaring nares
 2. Rapid heart rate
 3. Abdominal respirations
 4. Decreased respiratory rate
49. On the third postpartum day, a woman who is breastfeeding calls the nurse at the clinic and asks why her breasts are tight and swollen. What should the nurse consider before explaining why her breasts are engorged?
 1. There is an overabundance of milk.
 2. Breastfeeding probably is ineffective.
 3. The breasts have been inadequately supported.
 4. The lymphatic system in the breasts is congested.
50. A person on the beach sustains a deep partial-thickness burn because of a severe sunburn. What is the **best** first-aid measure that a nurse should instruct the person to apply before seeking health care?
 1. Cool, moist towels
 2. Dry, sterile dressings
 3. Analgesic sunburn spray
 4. Vitamin A and D ointment
51. A nurse is assessing a newborn. What finding indicates the need for follow-up care?
 1. Babinski reflex is positive.
 2. Head circumference is 33 cm.
 3. Hips are abducted at 30 degrees.
 4. Umbilical cord has three vessels.
52. A nurse is assessing a group of older adults. Which should the nurse consider to be **least** likely to be affected by aging?
 1. Sense of taste or smell
 2. Gastrointestinal motility
 3. Muscle or motor strength
 4. Strategies to handle stress
- 53. Nurses who care for the terminally ill apply the theories of Kübler-Ross in planning care.

According to Kübler-Ross, individuals who experience a terminal illness go through a grieving process. Place the stages of this process in the order identified by Kübler-Ross.

1. _____ Anger
2. _____ Denial
3. _____ Bargaining
4. _____ Depression
5. _____ Acceptance

54. What should be the **initial** nursing action after the birth of a preterm infant with an Apgar score of 6?

1. Check and clamp the umbilical cord.
2. Dry the infant and place in a warm environment.
3. Obtain a footprint and apply an identification band.
4. Get resuscitative equipment and assist the health care provider.

55. Which is **most** important for the nurse to do when providing care to a client who has had a transurethral resection of the prostate?

1. Maintain patency of the cystostomy tube.
2. Ensure patency of the indwelling catheter.
3. Keep the abdominal dressing clean and dry.
4. Observe the wound for hemorrhage and infection.

► 56. A client is to receive 125 mL of IV fluid every hour. The drop factor of the IV tubing is 10 gtt/mL. How many drops per minute should the nurse administer? **Record your answer using a whole number.**

Answer: _____ gtt/min

57. A client on a psychiatric unit who has been hearing voices is receiving a neuroleptic medication for the first time. The client takes the cup of water and the pill and stares at them. What is the **most** therapeutic statement the nurse can make?

1. "You have to take your medicine."
2. "Your doctor wants you to have this medicine. Swallow it."
3. "There must be a reason why you don't want to take your medicine."
4. "This is the medication that your doctor ordered for you to make you well."

58. After a therapy session with a health care provider in the mental health clinic, a client tells the nurse that the therapist is uncaring and impersonal. What is the nurse's **best** response?

1. "Your therapist is really very good."
2. "I hope that the rest of the staff is caring."
3. "The therapist is there to help you; try to cooperate."
4. "You have strong feelings about your therapy session and your therapist."

59. A client who has just had a kidney transplant is transferred from the postanesthesia care unit (PACU) to the intensive care unit (ICU). How often should the nurse in the ICU monitor the client's urinary output?

1. Every hour.
2. Every 2 hours.
3. Every half hour.
4. Every 15 minutes.

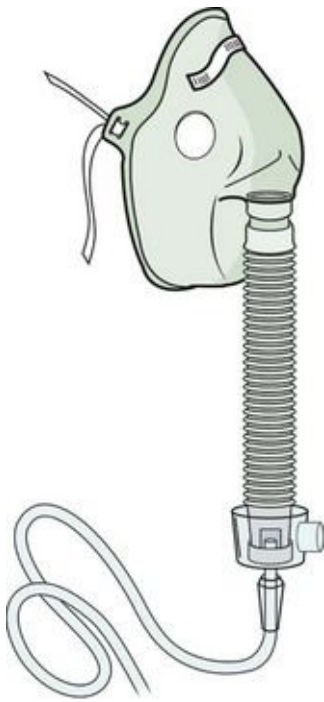
60. A client who uses ritualistic behavior taps other clients on the shoulders three times while going through the ritual. The nurse infers that this client has a:

1. blurred personal identity.
 2. poor control of sudden urges.
 3. disturbance in spatial boundaries.
 4. reduced ability to adapt to life's stresses.
61. A pregnant client with severe preeclampsia is receiving IV magnesium sulfate. What should the nurse keep at the bedside to prepare for the possibility of magnesium sulfate toxicity?
1. Oxygen
 2. Naloxone
 3. Calcium gluconate
 4. Suction equipment
62. A person who is hospitalized for alcoholism becomes boisterous and belligerent and verbally threatens the nurse. What is the **most** appropriate response by the nurse?
1. Place the client in restraints.
 2. Sedate and place the client in a controlled environment.
 3. Encourage the client to play Ping Pong with another client.
 4. Set firm limits on the client's behavior and enforce adherence to them.
63. A family of a client with myasthenia gravis asks the nurse whether the client will be an invalid. What is the nurse's **best** response?
1. "Medications will mask the signs of the disease."
 2. "With continuous treatment, the progression of the disease usually can be controlled."
 3. "There will be periods when bed rest will be necessary and times when regular activity will be possible."
 4. "The progression generally is slow, so people with myasthenia will spend their younger life with few problems."
64. A parent of a 2-year-old child who was just diagnosed with cystic fibrosis expresses concern about the child's frailty and low weight. What is the nurse's **most** appropriate reply?
1. "Digestive enzymes will be given to help your child digest food."
 2. "Your child's appetite will improve once respiratory therapy is initiated."
 3. "Your child's coughing and shortness of breath prevent adequate chewing of food."
 4. "I suggest that you offer baby foods to your child because they are more easily digested."
65. During the first well-baby visit after discharge from the hospital, the parents inform the nurse that their baby has difficulty sucking and swallowing and tires easily. What should the nurse consider when assessing this infant?
1. Newborns tend to tire easily, especially when feeding.
 2. Decreased sucking is insignificant in the absence of cyanosis.
 3. Difficulty when feeding may be an early indication of a heart defect.
 4. Some infants retain mucus for several days that may interfere with feeding.
66. For which clinical indicator should the nurse monitor a child with chronic hypoxia?
1. Clubbing of fingers
 2. Slow, irregular respirations
 3. Subcutaneous hemorrhages
 4. Decreased red blood cell count
67. A nurse is caring for a client with a fracture of the head of the femur. The health care provider places the client in a Buck extension. What explanation does the nurse give the client for why the traction is being used?

1. Reduces muscle spasms.
 2. Prevents soft tissue edema.
 3. Reduces the need for cast application.
 4. Prevents damage to the surrounding nerves.
68. A client has a total hip arthroplasty. What should the nurse do when caring for this client after surgery?
1. Use a pillow to keep the legs abducted.
 2. Elevate the client's affected limb on a pillow.
 3. Turn the client using the log-rolling technique.
 4. Place a trochanter roll along the entire extremity.
69. Which client in a psychiatric unit needs immediate therapeutic intervention from the nurse?
1. 50-year-old woman who is pacing around the dayroom and picking fights with other clients
 2. 25-year-old man who is making sounds and actions like a machine gun in front of the nurse's station
 3. 45-year-old man who sits quietly in the corner of the room, watching the movements of other clients
 4. 33-year-old woman who wanders aimlessly around the unit, saying, "I just don't know what to do. I feel so lost."
70. A client in a psychiatric hospital with the diagnosis of major depression is tearful and refuses to eat dinner after a visit with a friend. What is the **most** therapeutic nursing action?
1. Allow the client to skip the meal.
 2. Offer an opportunity to discuss the visit.
 3. Reinforce the importance of adequate nutrition.
 4. Provide the client with adequate quiet thinking time.
71. A person with a history of alcoholism states, "I have been drinking since last Friday to celebrate my son's graduation from college." What defense mechanism does the nurse identify the client is using?
1. Projection
 2. Suppression
 3. Identification
 4. Rationalization
- 72. A nurse is caring for a client in respiratory distress. The health care provider orders oxygen via a nonrebreather mask. Which mask should the nurse obtain to implement the oxygen order?
- 1.



2.



3.



4.



73.

The parents of a child with spasmodic croup ask why their child is receiving humidified oxygen. What effect of humidified oxygen should the nurse include in the explanation?

1. Minimizes tissue edema

2. Provides a mode for giving inhalant drugs

3. Increases the surface tension of the respiratory tract

4. Provides an environment free of pathogenic organisms

74. A client has a surgical creation of a colostomy. What is the **most** effective nursing intervention to initially help the client accept the colostomy?

1. Introduce equipment needed to care for the colo-stomy.

2. Provide literature containing factual data about colostomies.

3. Ask a member of a support group to come to speak with the client.

4. Point out the number of important people who have had colostomies.

75. When planning care for a child with autism, the nurse understands that given a choice, the child with autism usually enjoys playing:

1. on a jungle gym.

2. with a cuddly toy.

3. with a small yellow block.

4. on a playground merry-go-round.

► Denotes alternate format question.

Review Questions: Part B

76. A client who is at 26 weeks' gestation arrives at the clinic for her scheduled examination. Her blood pressure is 150/86. She tells the nurse that she has gained 5 pounds in the last 2 weeks. What is the **priority** nursing action?

1. Test the client's urine for albumin.
2. Take the client's body temperature.
3. Prepare the client for a vaginal examination.
4. Schedule the client for an appointment in a week.

77. What behavior does a nurse expect of a newborn about 1 hour after birth?

1. Crying and cranky
2. Hyperresponsive to stimuli
3. Relaxed and sleeping quietly
4. Intensely alert with eyes wide open

78. A client who has a phobia about dogs is about to begin systematic desensitization. The client asks what the treatment will involve. What is the nurse's **best** response?

1. "You will be exposed to dogs until you no longer feel anxious."
2. "Rewards will be given when you do not become anxious around dogs."
3. "Your contact with dogs will increase while using relaxation techniques."
4. "There will be in-depth discussions to identify what caused your phobia."

79. A nurse is providing dietary teaching for a client who is receiving a high-protein diet while recovering from an acute episode of colitis. What should the nurse include is the rationale for this diet?

1. Repairs tissues
2. Slows peristalsis
3. Corrects the anemia
4. Improves muscle tone

80. A nurse is caring for a client experiencing an acute episode of bronchial asthma. What outcome should be achieved?

1. Raising mucous secretions from the chest
2. Curing the client's condition permanently
3. Limiting pulmonary secretions by decreasing fluid intake
4. Convincing the client that the condition is emotionally based

81. When a developmental appraisal is performed on a 6-month-old infant, which observation is **most** important to the nurse in light of a diagnosis of hydrocephalus?

1. Head lag
2. Positive Babinski reflex
3. Inability to sit unsupported
4. Absence of the grasp reflex

82. A new mother refuses to look at her newborn who has a severe birth defect. What is the nurse's **most** therapeutic approach?

1. Request that the family try to distract her.
2. Clarify why she should stop blaming herself for the baby's handicap.
3. Reinforce the explanation of the handicap and allow time for her to discuss her fears.
4. Wait until she has sufficiently recovered from the stress of birth and then bring the baby to her

again.

83. When teaching a class about parenting, the nurse asks the participants what they do when their toddlers have a temper tantrum. Which statement demonstrates one parent's understanding of the origin of temper tantrums?

1. "After a temper tantrum, I discipline my child by restricting a favorite food or activity."
2. "When a temper tantrum begins, I isolate and ignore my child until the behavior improves."
3. "During a temper tantrum, I partially gives in to my child before the tantrum becomes excessive."
4. "I try to prevent a temper tantrum by allowing my child to choose between two reasonable alternatives."

84. A nursing assistant interrupts the performance of a ritual by a client with obsessive-compulsive disorder. What is the **most** likely client reaction?

1. Anxiety
2. Hostility
3. Aggression
4. Withdrawal

85. When a nurse is working with a client with psychiatric problems, a primary goal is the establishment of a therapeutic nurse-client relationship. What is the **major** purpose of this relationship?

1. Increase nonverbal communication
2. Present an outlet for suppressed hostile feelings
3. Assist the client in acquiring more effective behavior
4. Provide the client with someone who can make decisions

86. An African-American woman is diagnosed with primary hypertension. She asks, "Is hypertension a disease of African-American people?" What is the nurse's **best** response?

1. "The prevalence of hypertension is about equal for women of all races."
2. "The higher-risk population is composed of African-American men and women."
3. "The highest-risk population consists of older Caucasian-American men and women."
4. "The prevalence of hypertension is greater for African-American women than for African-American men."

87. A health care provider prescribes a diuretic for a client with hypertension. What should the nurse include in the teaching when explaining how diuretics reduce blood pressure?

1. Facilitates vasodilation
2. Promotes smooth muscle relaxation
3. Reduces the circulating blood volume
4. Blocks the sympathetic nervous system

88. A nurse is caring for a client who is receiving a thiazide diuretic for hypertension. Which food selected by the client indicates to the nurse that dietary teaching about thiazide diuretics was effective?

1. Apples
2. Broccoli
3. Cherries
4. Cauliflower

89. A 20-year-old college student comes to the college health clinic reporting increasing anxiety, loss of appetite, and an inability to concentrate. What is the **most** appropriate response by the nurse?

1. "With whom have you shared your feelings of anxiety?"
2. "What have you identified as the cause of your anxiety?"

3. "It has been difficult for you. How long has this been going on?"
4. "Let's talk about your problems. Are you having difficulty adjusting?"
90. A nurse is caring for a client who attempted suicide. What is the **most** desirable short-term client outcome during this crisis situation?
1. Strengthening coping skills
 2. Establishing a no-suicide contract
 3. Learning problem-solving techniques
 4. Recognizing why suicide was attempted
91. A $3\frac{1}{2}$ -year-old child is admitted to the hospital for an appendectomy. What should the nurse use to **best** prepare the child for the hospital experience?
1. A diagram
 2. Puppet play
 3. A storybook
 4. Therapeutic play
92. A client with adrenal insufficiency reports feeling weak and dizzy, especially in the morning. What should the nurse determine is the **most** probable cause of these symptoms?
1. A lack of potassium
 2. Postural hypertension
 3. A hypoglycemic reaction
 4. Increased extracellular fluid volume
93. A client is admitted to the hospital with a diagnosis of chronic kidney failure. For signs of what electrolyte imbalance should the nurse monitor the client?
1. Hypokalemia
 2. Hypocalcemia
 3. Hypernatremia
 4. Hyperglycemia
94. During her sixth month of pregnancy, a woman visits the prenatal clinic for the first time. As part of the initial assessment, a CBC and a urinalysis are performed. Which laboratory finding should alert the nurse that further assessment is required?
1. WBC count of 9000/mm³
 2. Hemoglobin level of 10 g/dL
 3. Urine specific gravity of 1.020
 4. Glucose level of 1+ in the urine
95. Two hours after an uneventful labor and birth, a client's uterus is four fingerbreadths above the umbilicus. After urinary catheterization, the fundus remains firm and four fingerbreadths above the umbilicus. What is the **priority** nursing action?
1. Recheck the vital signs.
 2. Catheterize again in 1 hour.
 3. Notify the health care provider.
 4. Palpate the fundus every 2 hours.
- 96. A client receives spinal anesthesia during labor and birth. Twenty-four hours later, she tells a nurse that she has a headache. Which statements indicate to the nurse that the headache is a reaction to the anesthesia? **Select all that apply.**
1. "I have ringing in my ears."
 2. "It improves when I lie down."

3. "Bright lights really bother my eyes."
 4. "It gets better as soon as I walk a while."
 5. "My head hurts more when I am sitting watching TV."
 6. "My head hurts more when I am lying on my side breastfeeding."
97. A client has a history of hypothyroidism. Which skin condition should the nurse expect when performing a physical assessment?
1. Dry
 2. Moist
 3. Flushed
 4. Smooth
98. A nurse is caring for a client who has had an open reduction internal fixation of a fractured hip. Which nursing assessment of the affected leg is **most** important after this surgery?
1. Femoral pulse
 2. Toes for mobility
 3. Condition of the pin
 4. Range of motion of the knee
99. A nurse is caring for a client with myxedema who has undergone abdominal surgery. What should the nurse consider when administering opioids to this client?
1. Tolerance to the drug develops readily.
 2. One third to one half the usual dose should be prescribed.
 3. Opioids may interfere with the secretion of thyroid hormones.
 4. Sedation will have a paradoxical effect, causing hyperactivity.
100. A nurse is caring for a child with spasmodic croup. Which clinical finding alerts the nurse that immediate nursing intervention is required?
1. Irritability
 2. Hoarseness
 3. Barking cough
 4. Rapid respirations
101. What must the nurse emphasize to the family when preparing a child with persistent asthma for discharge?
1. A cold, dry environment is desirable.
 2. Limits should not be placed on the child's behavior.
 3. The health problem is gone when symptoms subside.
 4. Medications must be continued even when asymptomatic.
102. An older adult with dementia is admitted to a nursing home. The client is confused, agitated, and at times unaware of the presence of others. What is the **best** nursing approach to help this client adapt to the unit?
1. Initiate a program of planned interaction.
 2. Explain the nature and routines of the unit.
 3. Explore in depth the reasons for the admission.
 4. Provide for the continuous presence of a staff member.
103. The parents of a child with a fever, headache, and stiff neck express concern that the child be tested for meningitis. Which test should the nurse explain to the parents is used to confirm the diagnosis of meningitis?
1. Myelogram

2. Blood culture
3. Lumbar puncture
4. Peripheral skin smear

104. A nurse is caring for a client after a left pneumonectomy for cancer. The nurse palpates the client's trachea routinely. What is the rationale for this nursing intervention?

1. A mediastinal shift may have occurred.
2. Nodular lesions may demonstrate metastasis.
3. Tracheal edema may lead to an obstructed airway.
4. The cuff of the endotracheal tube may be overinflated.

105. A CBC, urinalysis, and x-ray examination of the chest are ordered for a client before surgery. The client asks why these tests are done. Which is the **best** reply by the nurse?

1. "Don't worry; these tests are routine."
2. "They are done to identify other health risks."
3. "They determine whether surgery will be safe."
4. "I don't know; your health care provider ordered them."

106. A client is scheduled for emergency abdominal surgery. What is the priority preoperative nursing objective when caring for this client?

1. Recording accurate vital signs
2. Alleviating the client's anxiety
3. Teaching about early ambulation
4. Maintaining the client's nutritional status

107. An infant born with hydrocephalus is to be discharged after insertion of a ventriculoperitoneal shunt. Which common complication of this type of surgery should the nurse explain to the parents to prepare them for their child's discharge?

1. Violent involuntary muscle contractions
2. Eyes with sclerae visible above the irises
3. Excessive fluid accumulation in the abdomen
4. Fever accompanied by decreased responsiveness

108. Parents are considering a bone marrow transplant for their child who has recurrent leukemia. The parents ask the nurse for clarification about the procedure. What is the **best** response by the nurse?

1. "It is rarely performed in children."
2. "The immune system must be destroyed before a transplant can take place."
3. "The hematopoietic stem cells are surgically implanted in the bone marrow."
4. "It is a simple procedure with little preparation needed, and the stem cells are infused as in a blood transfusion."

109. What is **most** important for a nurse to do when helping a new mother on the postpartum unit develop her parenting role?

1. Teach her how to care for the infant.
2. Provide time for her and her infant to be together.
3. Respond to any questions she has about her infant's behavior.
4. Demonstrate infant care and evaluate her return demonstration.

110. When performing a newborn assessment after a vaginal birth, a nurse observes a swelling on one side of the top of the head. What clinical manifestation did the nurse identify?

1. Caput succedaneum that will spread across the scalp and then resolve

2. Fontanel that bulges when the infant cries and will close in eighteen months
 3. Cephalohematoma that does not cross the suture line and will resolve in several weeks
 4. Molding that results from the skull taking the shape of the vagina and will disappear in several days
111. A health care provider prescribes famotidine (Pepcid) for a client with dyspepsia. What is important to include about this medication in a teaching program for this client?
1. Lowers the stress level
 2. Neutralizes gastric acidity
 3. Reduces gastrointestinal peristalsis
 4. Decreases secretions in the stomach
112. Although a nurse is unable to identify any obvious signs or symptoms of bleeding, a client repeatedly has tested positive for occult blood in the stool. Which laboratory result is a concern considering this client's history?
1. Iron level 100 mcg/dL
 2. Uric acid level 6.5 mg/dL
 3. Hemoglobin level 8.5 g/dL
 4. Transferrin level 300 mg/dL
113. A nurse is caring for a client with severe gastritis who vomited a large amount of blood. A lavage is ordered by the health care provider. Which response does the nurse expect when using a room temperature irrigating solution?
1. Coagulation of blood
 2. Neutralization of acids
 3. Constriction of blood vessels
 4. Stimulation of the vagus nerve
114. A blood transfusion is initiated after a client has had emergency surgery. What should the nurse do **first** when the client develops fever, chills, and low back pain?
1. Notify a health care provider.
 2. Stop the blood and infuse saline.
 3. Obtain a prescription for an antihistamine.
 4. Slow the rate of the transfusion and inform the blood bank.
115. When entering a room, a nurse finds new parents looking at their newborn, who is lying in the bassinet with eyes wide open. What action should the nurse take in response to this infant's behavior?
1. Turn on the lights in the room.
 2. Begin the physical assessment.
 3. Position the infant on the right side.
 4. Encourage the parent to talk to the infant.
116. A nurse determines that a postpartum client is gravida 1 and para 1. Her blood type is B negative, and her baby's blood type is O positive. What should the nurse include in the plan of care?
1. Type and crossmatch blood.
 2. Obtain an order for RhoGAM.
 3. Determine the father's blood type.
 4. Observe for signs of ABO incompatibility.
117. While changing a newborn's diaper, a client expresses concern about a small spot of red vaginal discharge on the diaper. How should the nurse respond to this concern?
1. Assess for other signs of bleeding.
 2. Obtain an order for vaginal cultures.

3. Explain that this is an expected finding.
 4. Apply a urine specimen bag to the perineum.
- 118. Which clinical findings should the nurse expect when assessing a client with hyperthyroidism?
Select all that apply.
1. Lethargy
 2. Tachycardia
 3. Weight gain
 4. Constipation
 5. Exophthalmos
119. What concept of death should a nurse expect a preschool-age child to have?
1. Cessation of life
 2. Reversible separation
 3. Happening that affects old people
 4. Someone who takes one away from the family
120. A nurse is assessing a client with major depression. Which clinical manifestation reflects a disturbance in affect related to depression?
1. Echolalia
 2. Delusions
 3. Confusion
 4. Hopelessness
121. A client is admitted to the birthing unit in active labor. An amniotomy is performed. What physiologic change does the nurse expect to occur after the procedure?
1. Diminished vaginal bleeding
 2. Less discomfort with contractions
 3. Progressive dilation and effacement
 4. Increased maternal and fetal heart rates
122. A nurse is caring for a client in labor. What client response indicates that the transition phase of labor probably has begun?
1. Assumes the lithotomy position
 2. Perspires and has a flushed face
 3. Indicates back and perineal pain
 4. Exhibits decreases in frequency of contractions
123. A client with a history of alcohol abuse says to the nurse, “Drinking is a way out of my depression.” Which strategy probably is **most** effective for the client at this time?
1. A self-help group
 2. Psychoanalytic therapy
 3. A visit with a religious advisor
 4. Talking with an alcoholic friend
124. A nurse explores with a client who has a history of drug abuse the possibility of joining Narcotics Anonymous (NA). What is a major reason NA is helpful in treating addictive behavior?
1. More change will take place within the group.
 2. Group members are supportive of each other’s problems.
 3. Group members share a common background and history.
 4. Addiction problems are dealt with more effectively in a group.
125. A client undergoes cardiac catheterization via the femoral artery because of a history of bilateral

mastectomies. What is the **most** important nursing action after the procedure?

1. Provide a bed cradle.
2. Check for a pulse deficit.
3. Elevate the head of the bed.
4. Assess the groin for bleeding.

126. A client with heart failure is on a drug regimen of digoxin (Lanoxin) and furosemide (Lasix). The client dislikes oranges and bananas. Which fruit should the nurse encourage the client to eat?

1. Apples
2. Grapes
3. Apricots
4. Cranberries

127. A client in whom sexual dysfunction is diagnosed comments to the nurse, "Well, I guess my sex life is over." What is the **most** appropriate response by the nurse?

1. "I'm sorry to hear that."
2. "Oh, you have a lot of good years left."
3. "You are concerned about your sex life?"
4. "Have you asked your health care provider about that?"

128. A hospitalized client hurriedly approaches the nurse, saying that it sounds like there is a roaring fire in the bathroom. In reality, the client's roommate has just turned the shower on full force. What term **best** describes this experience?

1. Illusion
2. Delusion
3. Dissociation
4. Hallucination

129. A newborn with acquired herpes simplex virus infection is being discharged. Which developmental pattern is important for the nurse to teach the parents to monitor?

1. Visual clarity
2. Renal function
3. Long bone growth
4. Responses to sounds

130. A health care provider prescribes tolterodine (Detrol) for a client with an overactive bladder. What is most important for the nurse to teach the client to do?

1. Maintain a strict record of fluid intake and urinary output.
2. Chew the extended release capsule thoroughly before swallowing.
3. Report episodes of diarrhea or any increase in respiratory secretions.
4. Avoid activities requiring alertness until the response to medication is known.

131. A nurse is selecting toys for a 5-month-old infant. Which toy should not be given to the infant?

1. Large snap beads
2. Soft stuffed animals
3. Rattles that can be held
4. Brightly colored mobiles

132. An infant who was just circumcised is to be discharged with his parents. What should the nurse include in the discharge instructions about postcircumcision care?

1. Apply diapers loosely.
2. Withhold feedings for 6 hours.

3. Cleanse the site with alcohol daily.

4. Expect some bleeding for 48 hours.

133. A client in a mental health facility with the diagnosis of bipolar disorder, manic phase, is argumentative, domineering, and exhibitionistic. A visitor reports that this client is running down the hall scaring people. What should the nurse do **first**?

1. Ask the client the reason for running down the hall.

2. Approach the client along with several staff members.

3. Assess the client's behavior in a nonthreatening manner.

4. Contact the client's health care provider for an order for seclusion.

► 134. A nurse is caring for a 3-year-old child with meningitis. For what signs and symptoms of increased intracranial pressure should the nurse assess the child? **Select all that apply.**

1. Vomiting

2. Headache

3. Irritability

4. Tachypnea

5. Hypotension

135. An older adult is admitted to a nursing home with the diagnosis of dementia. When the nurse is assessing this client's mental status, what question **best** tests the ability for abstract thinking?

1. "Can you give me today's complete date?"

2. "How are a television set and a radio alike?"

3. "What would you do if you fell and hurt yourself?"

4. "Can you repeat the following numbers: 8, 3, 7, 1, 5?"

136. A male client receiving hemodialysis undergoes surgery to create an arteriovenous fistula. Before discharge, the nurse discusses care at home with the client and his wife. Which statement by the client's wife indicates that further teaching is required?

1. "I must touch the shunt several times a day to feel for the bruit."

2. "I have to take his blood pressure every day in the arm with the fistula."

3. "He will have to be very careful at night not to lie on the arm with the fistula."

4. "We really should check the fistula every day for signs of redness and swelling."

137. An older adult male with dementia is admitted to a nursing home. His wife appears frail, tired, and angry when she first visits her husband. She remarks to the nurse in a sarcastic tone, "Let's see what you can do with him." What is the nurse's **most** therapeutic response?

1. "It has been very difficult to care for him."

2. "I don't understand what you mean by that comment."

3. "I know how to care for clients such as your husband."

4. "It's too bad you didn't get some help to care for him at home."

138. A client is admitted to the hospital with a diagnosis of myasthenia gravis. For which common early clinical finding should the nurse assess the client?

1. Tearing

2. Blurring

3. Diplopia

4. Nystagmus

139. What should the nurse emphasize when providing discharge instructions for a client with the diagnosis of Addison disease?

1. Limit physical activity.

2. Restrict sodium in the diet.
 3. Continue steroid replacement therapy.
 4. Schedule frequent health care appointments.
- 140. A hospitalized client is receiving pyridostigmine (Mestinon) for control of myasthenia gravis. In the middle of the night, the nurse finds the client weak and barely able to move. Which additional clinical findings support the conclusion that these responses are related to pyridostigmine? **Select all that apply.**
1. Respiratory depression
 2. Distention of the bladder
 3. Decreased blood pressure
 4. Fine tremor of the fingers
 5. High-pitched gurgling bowel sounds
141. A newborn is admitted to the neonatal intensive care unit (NICU) with a myelomeningocele. What is the **priority** nursing intervention during the first 24 hours?
1. Use only disposable diapers.
 2. Place the infant prone or in a side-lying position.
 3. Wash the infant's genital area with an antiinfective.
 4. Perform neurologic checks above or at the site of the lesion.
142. A client with multiple sclerosis is in remission. Which diversional activity should the nurse encourage that **best** meets the client's needs while in remission?
1. Hiking
 2. Swimming
 3. Computer classes
 4. Watching television
143. A parent whose newborn infant son has a cleft lip and palate asks the nurse, "How should I feed my baby because he has difficulty sucking?" What information should the nurse provide concerning a safe feeding technique for this infant?
1. "Since he tires easily, it is best to have him lying in bed while he is being fed."
 2. "He should be held in a horizontal position and fed slowly to avoid aspiration."
 3. "Try using a soft nipple with an enlarged opening so he can get the milk through a chewing motion."
 4. "Give him brief rest periods and frequent burpings during feedings so he can get rid of swallowed air."
144. A client at 16 weeks' gestation calls the nurse at the prenatal clinic and states that her partner just told her he has genital herpes. What should the nurse include when teaching the client about sexual activity?
1. Condoms must be used when having intercourse.
 2. Sexual abstinence should be practiced during the last six weeks.
 3. It will be necessary to refrain from sexual contact during pregnancy.
 4. Meticulous cleaning of the vaginal area after intercourse is essential.
145. Early in the ninth month of pregnancy a client experiences painless vaginal bleeding and is admitted to the hospital. What should the client's plan of care include?
1. Giving vitamin K to promote clotting
 2. Performing a rectal examination to assess cervical dilation
 3. Administering an enema to prevent contamination during birth

4. Placing her in the semi-Fowler position to increase cervical pressure
146. Which criterion should a nurse use when assessing the gestational age of a preterm infant?
1. Simian creases
 2. Breast bud size
 3. Reflex stability
 4. Fingernail length
147. What client behavior indicates to the nurse that a client with schizophrenia, undifferentiated type, is improving and that the client's plan of care can be updated?
1. Stays away from other clients.
 2. Expresses negative feelings freely.
 3. Verbalizes better-developed delusions.
 4. Communicates in an organized manner.
148. A client who has a diagnosis of paranoid schizophrenia and has been violent in the past is admitted to the psychiatric unit. What should the nurse do before performing an admission interview?
1. Move to the client's side and sit down.
 2. Alert the assault response team about the client's history.
 3. Have two other staff members present when talking with the client.
 4. Enter the room with another staff member, while remaining between the client and the door.
- 149. A client at 38 weeks' gestation is admitted to the high-risk prenatal unit with a diagnosis of severe preeclampsia. The nurse obtains the vital signs, performs a health history and physical assessment, and reviews the client's laboratory results. What is the **priority** nursing intervention?

Vital Signs

Blood pressure: 180/116 mm Hg

Pulse: 84 beats per minute

Respirations: 20 breaths per minute

Nursing Health History & Physical Assessment

Headache

Confusion

Blurred vision

5-pound weight gain in 1 week

Laboratory Results

Proteinuria: +3

Serum creatinine: 1.4 mg/dL

Platelets: 90,000/mm³

1. Monitor intake and output.
2. Provide a dark private room.
3. Measure the extent of edema.
4. Prepare for an immediate cesarean birth.

150. What is the **priority** when the nurse is establishing a therapeutic environment for a client?

1. Providing for the client's safety
2. Accepting the client's individuality
3. Promoting the client's independence
4. Explaining to the client what is being done

151. What is the **main** reason why a nurse raises three of the four side rails on the bed of a 63-year-old client who has had surgery for a fractured hip?

1. As a safety measure because of the client's age
2. Because older adults should use side rails for safety
3. To be used as handholds to facilitate the client's ability to move in bed
4. Because older adults often are disoriented for several days after anesthesia

152. A $4\frac{1}{2}$ -year-old child is brought to the emergency department with a fractured tibia. Which type of fracture should the nurse anticipate will be diagnosed because it is the **most** frequently encountered fracture in children of this age?

1. Greenstick
2. Transverse
3. Compound
4. Comminuted

153. A health care provider prescribes transdermal fentanyl (Duragesic) 25 mcg/hr every 72 hours. What is **most** important for the nurse to do during the first 24 hours after starting the fentanyl?

1. Titrate the dose until pain is tolerable.
2. Manage pain with oral pain medication.
3. Assess the client for anticholinergic side effects.
4. Take with food to reduce the risk of gastrointestinal upset.

154. A client enters the emergency department, reporting shortness of breath and epigastric distress. What should be the triage nurse's **first** intervention?

1. Assess vital signs.
2. Insert a saline lock.
3. Place client on oxygen.
4. Draw blood for troponins.

► 155. A client is in the intensive care unit after sustaining a T2 spinal cord injury. Which priority interventions should the nurse include in the client's plan of care? **Select all that apply.**

1. Minimizing environmental stimuli
2. Assessing for respiratory complications
3. Monitoring and maintaining blood pressure
4. Initiating a bowel and bladder training program
5. Discussing long-term treatment plans with the family

156. A client is scheduled for a vacuum aspiration abortion to terminate a pregnancy. What should the nurse's teaching plan include?

1. It is a lengthy procedure but will cause no pain.
2. Both she and the father must sign the consent form.
3. An elevated temperature of 100.4° F or more should be reported immediately.
4. She will experience a heavy menstrual flow for 1 to 2 weeks after the procedure.

157. A client asks for and receives instruction regarding birth control methods. She elects to use a diaphragm with a spermicide. What disadvantage of using a diaphragm should be explained to the

client?

1. It fails half the time when used alone.
2. It is physically uncomfortable when in place.
3. Thrombus formation and pulmonary emboli may occur.
4. Some women find insertion and removal to be objectionable.

158. A client's sputum smears for acid-fast bacillus (AFB) are positive, and transmission-based precautions are instituted. What should the nurse teach family members to do?

1. Avoid contact with objects in the room.
2. Limit their contact with nonexposed people.
3. Put on a gown and gloves before going into the room.
4. Wear a high-efficiency particulate respirator when visiting.

159. A health care provider prescribes psyllium (Metamucil) 3.5 g twice a day for constipation. What is **most** important for the nurse to teach this client?

1. Urine may be discolored.
2. Each dose should be taken with a full glass of water.
3. Use only when necessary because it can cause dependence.
4. Daily use may inhibit the absorption of some fat-soluble vitamins.

160. A nurse is caring for a client with heart failure. The health care provider orders a 2 g sodium diet. What should the nurse include when explaining how a low-salt diet helps achieve a therapeutic outcome?

1. Allows excess tissue fluid to be excreted.
2. Helps to control food intake and thus weight.
3. Aids the weakened heart muscle to contract and improves cardiac output.
4. Helps reduce potassium accumulation that occurs when sodium intake is high.

161. A client has surgery to repair a fractured right hip. Where should the nurse stand when assisting the client to ambulate?

1. Behind the client
2. In front of the client
3. On the client's left side
4. On the client's right side

162. A preschool-age child has been restricted to bed rest since admission to the hospital. As a response to improvement, the child becomes interested in playing. Based on the child's developmental level and activity restriction, what should the nurse provide?

1. Television viewing time
2. Squeaky stuffed animals
3. Small farm animals and a little barn
4. Simple three- or four-piece wooden puzzles

163. A newborn is Rh positive, and the mother is Rh negative. The infant is to receive an exchange transfusion. The nurse explains to the parents that their baby will receive Rh-negative blood because:

1. it is the same as the mother's blood.
2. it is neutral and will not react with the baby's blood.
3. the possibility of a transfusion reaction is eliminated.
4. the red blood cells will not be destroyed by maternal anti-Rh antibodies.

164. An emergency tracheotomy is performed on a child with acute epiglottitis, and the child is receiving humidified air via a tracheotomy collar. When caring for this child, what **early** clinical

manifestations of hypoxia should alert the nurse to suction the tracheotomy?

1. Dyspnea and cyanosis
2. Agitation and diaphoresis
3. Restlessness and increase in pulse
4. Severe substernal retractions and stridor

165. A nurse is caring for a client with a spinal cord injury during the immediate postinjury period. What is the **primary** focus of nursing care during this immediate phase?

1. Inhibiting urinary tract infections
2. Preventing contractures and atrophy
3. Avoiding flexion or hyperextension of the spine
4. Preparing the client for vocational rehabilitation

166. Three days after birth, a breastfeeding newborn becomes jaundiced. The parents bring the infant to the clinic, and blood is drawn for an indirect serum bilirubin level. The test result is 12 mg/dL. The nurse explains that it is physiologic jaundice, a benign condition, which is caused by:

1. immature liver function.
2. an inability to synthesize bile.
3. an increased maternal hemoglobin level.
4. high hemoglobin with low hematocrit levels.

167. The parents of a newborn who is receiving phototherapy ask a nurse why their baby's eyes are covered with eye patches. What information should the nurse consider before responding?

1. They keep the eyes closed.
2. Overstimulation from bright lights is reduced.
3. They prevent injury to the conjunctiva and retina.
4. Excessive rapid eye movements and anxiety are limited.

168. A nurse is teaching sterile technique to a family member of a client who is to be discharged with a large abdominal wound that requires a dressing change twice a day. What does the family member do during a return demonstration that indicates further teaching is necessary?

1. Sets the sterile field on the client's linens at the foot of the bed.
2. Touches the outer inch of the sterile field when placing it on a flat surface.
3. Checks expiration dates on the sterile packages before donning sterile gloves.
4. Picks up wet gauze with sterile plastic forceps, holding the tips lower than the wrist.

169. An infant is diagnosed with hydrocephalus. Which assessment alerts the nurse to suspect increasing intracranial pressure?

1. Sunken eyes
2. Projectile vomiting
3. Depressed fontanel
4. Narrowing pulse pressure

170. In the immediate postoperative period after a gastrectomy, the client's nasogastric tube is draining a light-red liquid. For how long should the nurse expect this type of drainage?

1. 1 to 2 hours
2. 3 to 4 hours
3. 10 to 12 hours
4. 24 to 48 hours

171. Which complication is avoided when a nurse administers a parenteral preparation of potassium slowly and cautiously?

1. Acidosis
2. Cardiac arrest
3. Psychotic-like reactions
4. Edema of the extremities

► 172. A nurse is assessing a male newborn. Which characteristics should alert the nurse to conclude that the newborn is a preterm infant? **Select all that apply.**

1. Wrinkled, thin skin
2. Multiple sole creases
3. Small breast bud size
4. Presence of scrotal rugae
5. Pinna remaining flat when folded

173. A nurse is caring for a client who is scheduled for a gastric bypass to treat morbid obesity. Which diet should the nurse teach the client to maintain because it will help minimize clinical manifestations of dumping syndrome?

1. Low-residue, bland diet
2. Small, frequent feeding schedule
3. Fluid intake less than half a quart
4. Low-protein, high-carbohydrate diet

174. A nurse is caring for a client in the evening after the client has had a below-the-knee amputation. What action should be implemented by the nurse?

1. Elevate the foot of the bed.
2. Assist the client out of bed to a chair.
3. Have the client crutch walk in the room.
4. Reapply the elastic bandage every two hours.

► 175. A pregnant client complains of constipation. Which strategies should the nurse recommend? **Select all that apply.**

1. Exercise regularly.
2. Take a mild laxative before breakfast.
3. Drink at least one caffeinated beverage daily.
4. Add a few tablespoons of wheat bran to cereal at break-fast.
5. Plan to have a bowel movement at the same time every day.

176. A client with schizophrenia, paranoid type, is readmitted involuntarily to the hospital because family members state that he has threatened to harm them physically. When exploring feelings about the readmission, the client angrily shouts, “You’re one of them. Leave me alone!” How should the nurse respond?

1. “Try not to be afraid. I will not hurt you.”
2. “I can see you are upset. We can talk more later.”
3. “I am not one of them, and I am here to help you.”
4. “Your family and the staff are trying to help you.”

177. Shortly after giving birth, a client says she feels that she is bleeding. When checking the fundus, a nurse observes a steady trickling of blood from the vagina. What is the nurse’s **initial** action?

1. Call the health care provider.
2. Check the blood pressure and pulse.
3. Hold the fundus firmly and gently massage it.
4. Explain that the trickling blood is a common occurrence.

178. A postoperative client is diagnosed as having atelectasis. Which nursing assessment supports this diagnosis?

1. Productive cough
2. Clubbing of the fingertips
3. Crackles at the height of inhalation
4. Diminished breath sounds on auscultation

179. What is important nursing care for children with leukemia on chemotherapeutic protocols?

1. Preventing physical activity
2. Checking their vital signs every two hours
3. Having them avoid contact with infected persons
4. Reducing unnecessary stimuli in their environment

180. A client is receiving vinCRISTine. What should the nurse expect the dietary plan to include to minimize the side effects of vinCRISTine?

1. Low in fat
2. High in iron
3. High in fluids
4. Low in residue

181. A nurse is caring for a child with a very low platelet count related to chemotherapy. The nurse should monitor this child's urine for the presence of which constituent?

1. Protein
2. Glucose
3. Erythrocytes
4. Lymphocytes

182. The parents of a child with leukemia ask the nurse why irradiation of the spine and skull is necessary. What is the **most** accurate response by the nurse?

1. "Radiation retards growth of cells in bone marrow of the cranium."
2. "This therapy decreases cerebral edema, preventing increased intracranial pressure."
3. "Leukemic cells may invade the nervous system, but the usual drugs are ineffective in the brain."
4. "Neoplastic drug therapy without radiation is effective in most cases, but this is a precautionary treatment."

183. A nurse identifies that an older adult has not achieved the desired outcome from a prescribed proprietary medication. When assessing the situation, the client shares that the medication is too expensive and the prescription was never filled. What should the nurse do?

1. Ask the pharmacist to provide a generic form of the drug.
2. Encourage the client to acquire the medication over the Internet.
3. Inform the health care provider of the inability to afford the medication.
4. Suggest that the client purchase insurance that covers prescription drugs.

184. During a routine prenatal visit, a client tells a nurse that she gets leg cramps. What condition does the nurse suspect and what suggestion is made to correct it?

1. Hypercalcemia and tells her to avoid eating hard cheeses
2. Hypocalcemia and tells her to increase her intake of milk
3. Hyperkalemia and tells her to consult with her health care provider
4. Hypokalemia and tells her to increase her intake of green, leafy vegetables

185. A health care provider prescribes simvastatin (Zocor) 20 mg daily for elevated cholesterol and triglyceride levels for a middle-age female. Which is **most** important for the nurse to teach the client

to do when initially taking this medication?

1. Take the medication with breakfast.
2. Have liver function tests twice a year.
3. Wear sunscreen to prevent photosensitivity reactions.
4. Inform the health care provider if becoming pregnant is desired.

► 186. What gross motor skills should the nurse expect a developmentally appropriate 3-year-old child to perform? **Select all that apply.**

1. Skipping on alternate feet
2. Riding alone on a small bicycle
3. Standing on one foot for a few seconds
4. Alternating the feet when walking up stairs
5. Jumping rope by lifting both feet simultaneously

187. Methylphenidate (Ritalin) has been prescribed for a 7-year-old child with attention deficit/hyperactivity disorder (ADHD) to be taken with meals. What rationale should the nurse provide for the parents about the timing of medication administration?

1. Ritalin depresses the appetite.
2. This will ensure proper absorption.
3. It is an oral mucous membrane irritant.
4. Children tend to forget to take it before meals.

188. A client with acute respiratory distress syndrome is intubated and placed on a ventilator. What should the nurse do when caring for this client and the mechanical ventilator?

1. Regulate the PEEP according to the rate and depth of the client's respirations.
2. Deflate the cuff on the endotracheal tube for a few minutes every one to two hours.
3. Assess the need for suctioning when the high-pressure alarm of the ventilator is activated.
4. Adjust the temperature of fluid in the humidification chamber, depending on the volume of gas delivered.

189. A client who has had thoracic surgery is admitted to the postanesthesia care unit (PACU). What should the nurse do after the chest tube is attached to a disposable plastic waterseal drainage system?

1. Ensure the security of the connections from the client to the drainage unit.
2. Empty the drainage container and measure and record the amount once a day.
3. Verify that there is vigorous bubbling in the wet suction control compartment.
4. Check that the fluid level in the water seal compartment increases with expiration.

190. A client with schizophrenia has been experiencing hallucinations. During what client behaviors should the nurse expect the hallucinations to be more frequent?

1. Trying to rest
2. Playing sports
3. Watching television
4. Interacting with others

191. A client who had an organ transplant is receiving cycloSPORINE (Gengraf). For what should the nurse monitor to identify a serious adverse effect of cycloSPORINE?

1. Skin for hirsutism
2. Stools for constipation
3. Heart rhythm for dysrhythmias
4. Creatinine level for an increase

192. During the first prenatal visit of a woman who is at 23 weeks' gestation, the nurse discovers that

the client has a history of pica. What is the **most** appropriate nursing action?

1. Seek a psychologic referral.
2. Explain the danger this poses to the fetus.
3. Obtain a prescription for an iron supplement.
4. Determine whether the diet is nutritionally adequate.

193. During a prenatal visit, a client at 36 weeks' gestation tells a nurse that she has painful, irregular contractions. What should the nurse recommend?

1. Lie down until they stop.
2. Time them for at least 1 hour.
3. Walk around until they subside.
4. Take 1 over-the-counter analgesic.

194. A health care provider prescribes losartan (Cozaar) for a client. Which is the **most** important nursing action?

1. Assess the client for hypokalemia.
2. Ensure that the medication is ingested with food.
3. Monitor the client's blood pressure during therapy.
4. Teach that a missed dose can be doubled at the next scheduled time.

195. During the postpartum period a nurse identifies that a client's rubella titer is negative. What action should the nurse plan to take?

1. Check for allergies to penicillin.
2. Alert the staff in the newborn nursery.
3. Assure the client that she has active immunity.
4. Obtain a prescription for an immunization before discharge.

196. An infant with hydrocephalus has a ventriculoperitoneal (VP) shunt surgically inserted. What nursing care is essential during the first 24 hours after this procedure?

1. Medicating the infant for pain
2. Placing the infant in a high-Fowler position
3. Positioning the infant on the side that has the shunt
4. Monitoring the infant for increasing intracranial pressure

197. An older adult is hospitalized for weight loss and dehydration because of nutritional deficits. What should the nurse consider when caring for this client?

1. Financial resources usually are unrelated to nutritional status.
2. An older adult's daily fluid intake must be markedly increased.
3. The client's diet should be high in carbohydrates and low in proteins.
4. The nutritional needs of an older adult are unchanged except for a decreased need for calories.

198. A health care provider orders peak and trough levels of an antibiotic for a client who is receiving vancomycin IV piggyback (IVPB). When should a blood sample be obtained to determine a peak level of the antibiotic?

1. Anytime it is convenient for the client
2. Between 30 and 60 minutes after a dose
3. Halfway between two doses of the drug
4. At 30 minutes before the medication is administered

199. A nurse is teaching a client who has arthritis about the steroid medication prescribed by the health care provider. Which client statement about why it is important to take steroid medication at mealtimes indicates that the teaching was effective?

1. "The presence of food will enhance the medication's absorption.
 2. "Taking it with meals serves as a reminder to take the medication."
 3. "Food will help decrease the gastric irritation effect of the medication."
 4. "The acid medium in the presence of food makes the medication more effective."
200. What is the priority nursing intervention on admission of a primigravida in labor?
1. Monitoring the fetal heart rate
 2. Asking the client when she ate last
 3. Obtaining the client's health history
 4. Determining if the membranes have ruptured
201. An external monitor is placed on the abdomen of a client admitted in active labor. The nurse identifies that during each contraction, the fetal heart rate decelerates as the contraction peaks. What should the nurse do next?
1. Help the client to a knee-chest position to avoid cord compression.
 2. Notify the health care provider because of possible head compression.
 3. Monitor the fetal heart rate until it returns to baseline when the contraction ends.
 4. Place the client in a semi-Fowler position to prevent compression of the vena cava.
202. A nurse is caring for a client with the diagnosis of bulimia nervosa. The nurse understands that individuals with bulimia use food to:
1. gain attention.
 2. control others.
 3. avoid growing up.
 4. meet emotional needs.
- 203. A nurse is admitting a client with a history of bipolar disorder. The nurse determines that the client is in the manic phase. Which signs and symptoms contribute to the nurse's conclusion? **Select all that apply.**
1. Irritability
 2. Grandiosity
 3. Pressured speech
 4. Thought blocking
 5. Psychomotor retardation
204. A client is admitted with a diagnosis of chronic adrenal insufficiency. When assigning a room, which roommate should be avoided because of the newly admitted client's condition?
1. Young adult client with pneumonia
 2. Adolescent client with a fractured leg
 3. Middle-age client who has cholecystitis
 4. Older adult client who has had a brain attack
205. While on a hike, a rusty nail pierces the sole of an adolescent's foot and the adolescent is brought to the emergency department of a local hospital. Tetanus immune globulin is prescribed because the adolescent does not know when the last tetanus immunization was received. The nurse administers the prescribed dose of tetanus immune globulin and explains that it provides:
1. lifelong passive immunity.
 2. long-lasting active protection.
 3. immediate passive short-term immunity.
 4. stimulation for the production of antibodies.
206. A nurse is caring for a client with Addison disease. What should the nurse teach the client to do

regarding an appropriate diet?

1. Add extra salt to food.
2. Limit intake to 1200 calories.
3. Omit protein foods at each meal.
4. Restrict the daily intake of fluids to 1 liter.

207. What response should a nurse be particularly alert for when assessing a client for side effects of long-term cortisone therapy?

1. Hypoglycemia
2. Severe anorexia
3. Behavioral changes
4. Anaphylactic shock

► 208. A nurse is caring for a 12-month-old infant with a diagnosis of failure to thrive. The infant's weight is below the third percentile, and development is delayed. Which behaviors of the child suggest to the nurse the possibility of parental neglect? **Select all that apply.**

1. Stiff
2. Withdrawn
3. Easily satisfied
4. Minimal smiling
5. Responsive to touch
6. Little interest in the environment

209. A nurse observes that an infant has head control and can roll over but can neither sit up without support nor transfer an object from one hand to the other. What developmental age should the nurse estimate based on these observations?

1. 1 to 2 months
2. 3 to 4 months
3. 5 to 6 months
4. 8 to 9 months

210. A health care provider prescribes milrinone (Primacor) for a client with a diagnosis of congestive heart failure who was unresponsive to conventional drug therapy. What is most important for the nurse to do **first**?

1. Administer the loading dose over ten minutes.
2. Monitor the ECG continuously for dysrhythmias during infusion.
3. Assess the heart rate and blood pressure continuously during infusion.
4. Have the order, dosage calculations, and pump settings checked by a second nurse.

211. A nurse plans care for a client with a somatoform disorder based on the understanding that it is:

1. a physiologic response to stress.
2. a conscious defense against anxiety.
3. an intentional attempt to gain attention.
4. an unconscious means of reducing stress.

212. During a group therapy session, some members accuse a client of intellectualizing to avoid discussing feelings. The client asks whether the nurse agrees with the others. What is the nurse's **best** response?

1. "It seems that way to me, too."
2. "What is your perception of my behavior?"
3. "Are you uncomfortable with what you were told?"

4. "I'd rather not give my personal opinion at this time."

► 213. A client who was in an automobile collision is admitted to the hospital with multiple injuries. Approximately 14 hours after admission, the client begins to experience signs and symptoms of withdrawal from alcohol. Which of these signs and symptoms should the nurse relate to alcohol withdrawal? **Select all that apply.**

1. Fatigue
2. Anxiety
3. Runny nose
4. Diaphoresis
5. Psychomotor agitation

214. A client is admitted to the postanesthesia care unit after an abdominal hysterectomy. Which assessment should the nurse report to the health care provider immediately?

1. Apical pulse of 90
2. Decreased urinary output
3. Increased drainage from the nasogastric tube
4. Serosanguineous drainage on the perineal pad 1 hour after surgery

215. A client rescued from a burning building has partial- and full-thickness burns over 40% of the body. Which is the initial physiologic change that the nurse can expect?

1. An increase in blood volume
2. An increase in serum potassium
3. A decrease in capillary permeability
4. A decrease in urinary specific gravity

216. A nurse is caring for a newly admitted client who has been diagnosed with bipolar disorder and has a history of hyperactivity and combativeness. Later in the evening, a commotion is heard, and this client is found hitting another client. What are the legal implications of this situation?

1. The client should have been placed in restraints on admission.
2. A client who is known to have been combative should have been kept sedated.
3. A client with bipolar disorder who is in contact with reality does not require supervision.
4. Because it was known that the client was frequently combative, close observation by the nursing staff was indicated.

217. While the nurse is talking to a hypermanic client, the client's conversation becomes vulgar. How should the nurse respond to the client's behavior?

1. Tactfully teasing the client about the use of such vulgarity
2. Restricting the client's contact with staff members until the behavior stops
3. Asking the client to limit the use of vulgarity while continuing the conversation
4. Discreetly refusing to talk to the client when the client is speaking in this manner

218. A nurse is teaching a 10-year-old child with type 1 diabetes about insulin requirements. When should the nurse explain that insulin needs will decrease?

1. Puberty is reached.
2. Infection is present.
3. Emotional stress occurs.
4. Active exercise is performed.

► 219. A health care provider diagnoses that a client has acute cholecystitis with biliary colic. What clinical findings should the nurse expect when performing a health history and physical assessment? **Select all that apply.**

1. Diarrhea with black feces
 2. Intolerance to foods high in fat
 3. Vomiting of coffee-ground emesis
 4. Gnawing pain when the stomach is empty
 5. Pain in the upper right quadrant of the abdomen
220. On which concern should the nurse focus when caring for a client after abdominal surgery?
1. Identifying signs of bleeding
 2. Preventing pressure on the suture site
 3. Encouraging use of an incentive spirometer
 4. Detecting clinical manifestations of inflammation
221. A health care provider informs a client that a T-tube will be in place after an abdominal cholecystectomy and a choledochostomy. What should the nurse include in the preoperative teaching for this client regarding the **primary** reason why a T-tube is necessary?
1. Drains bile from the cystic duct.
 2. Keeps the common bile duct patent.
 3. Prevents abscess formation at the surgical site.
 4. Provides a port for contrast dye in a cholangiogram.
222. A nurse is assessing a client 8 hours after the creation of a colostomy. Which assessment finding should the nurse expect?
1. Presence of hyperactive bowel sounds
 2. Absence of drainage from the colostomy
 3. Dusky-colored, edematous-appearing stoma
 4. Red bloody drainage from the nasogastric tube
223. When admitting a client who is in labor to the birthing unit, a nurse asks the client about her marital status. The client refuses to answer and becomes very agitated, telling the nurse to leave. How should the nurse respond?
1. Question the family about the client's marital status.
 2. Try to obtain this information to complete the client's history.
 3. Refer the client to the social service department for counseling.
 4. Ask questions that are restricted to the client's present clinical situation.
224. A 5-week-old infant is admitted to the hospital with a tentative diagnosis of a congenital heart defect. The infant tires easily and has difficulty breathing and feeding. In what position should the nurse place this infant?
1. Supine with the knees flexed
 2. Orthopneic with pillows for support
 3. Side-lying with the upper body elevated
 4. Prone with the head supported by pillows
- 225. Anorexia nervosa follows a cyclic pattern. List the following statements in order of progression through this cycle. Number 1 is the first step and number 5 is the fifth step in the cycle.
1. _____ Self-esteem increases as weight is lost.
 2. _____ Dieting in an attempt to maintain control.
 3. _____ Progressive deterioration in physical status
 4. _____ Secondary gains reinforce the anorectic client's behaviors.
 5. _____ Sociocultural attitudes exert pressure for people to attain an idealized body.
226. Three weeks after a kidney transplant, a client develops leukopenia. Which factor should the

nurse conclude is the **most** probable cause of the leukopenia?

1. Bacterial infection
2. High creatinine levels
3. Rejection of the kidney
4. Antirejection medications

227. A nurse in the prenatal clinic is providing nutritional counseling for a pregnant woman with a cardiac problem. What should the nurse advise the client to do?

1. Limit the intake of fat.
2. Increase sodium in the diet.
3. Eat a moderate amount of protein.
4. Control the number of calories consumed.

228. A new father tells the nurse that he is anxious about not feeling like a father. What is the priority nursing action to meet this father's needs?

1. Encourage the father's participation in a parenting class.
2. Provide time for the father to be alone with and get to know the infant.
3. Offer the father a demonstration on newborn diapering, feeding, and bathing.
4. Allow time for the father to ask questions after viewing a film about a new infant.

229. On a 6-week postpartum visit, a new mother tells a nurse she wants to feed her baby whole milk after 2 months because she will be returning to work and can no longer breastfeed. The nurse plans to teach her that she should switch to formula feeding because whole milk does not meet the infant's nutritional requirements for which constituents?

1. Fat and calcium
2. Vitamin C and iron
3. Thiamine and sodium
4. Protein and carbohydrates

► 230. A nurse is caring for a client who is receiving a unit of packed RBCs. Which findings lead the nurse to suspect a transfusion reaction caused by incompatible blood? **Select all that apply.**

1. Cyanosis
2. Backache
3. Shivering
4. Bradycardia
5. Hypertension

231. A client develops kidney damage as a result of a transfusion reaction. What is the **most** significant clinical response that the nurse should assess when determining kidney damage?

1. Glycosuria
2. Blood in the urine
3. Decreased urinary output
4. Acute pain over the kidney

► 232. A client is admitted to a medical unit with the diagnosis of acute kidney failure. The nurse reviews the client's laboratory data, performs a physical assessment, and obtains the client's vital signs. What should the nurse conclude the client is **most** likely experiencing?

Vital Signs

Temperature: 98.8° F

Pulse: 78 beats per minute, irregular rhythm

Respirations: 20 breaths per minute

Blood pressure: 180/100 mm Hg

Client Interview: Client Reports

Nausea

Diarrhea

Abdominal pain

Muscle weakness

Laboratory Results: Serum Electrolytes

Potassium: 5.8 mEq/L

Sodium: 140 mEq/L

Calcium: 9.0 mg/dL

1. Hyperkalemia
2. Hyponatremia
3. Hypouricemia
4. Hypercalcemia

233. A nurse is caring for a client with chronic kidney failure. What should the nurse teach the client to limit the intake of to help control uremia associated with end-stage renal disease (ESRD)?

1. Fluid
2. Protein
3. Sodium
4. Potassium

234. What should the nurse do when caring for a client who is receiving peritoneal dialysis?

1. Maintain the client in the supine position during the procedure.
2. Position the client from side to side if fluid is not draining adequately.
3. Remove the cannula at the end of the procedure and apply a dry, sterile dressing.
4. Notify the health care provider if there is a deficit of 200 mL in the drainage return.

235. Children with special needs have the same needs as those without special needs, although their means of satisfying these needs may be limited. What effect should the nurse expect that these limitations will frequently cause in the child?

1. Frustration
2. Overcompensation
3. Feelings of rejection
4. Emotional dysfunction

236. A nurse assesses a client recently admitted to an alcohol-detoxification unit. What common clinical manifestation should the nurse expect during the initial stage of alcohol detoxification?

1. Nausea
2. Euphoria
3. Bradycardia
4. Hypotension

237. After an abdominal cholecystectomy, a client has a T-tube attached to a collection device. On the day of surgery, at 10:30 PM, 300 mL of bile is emptied from the collection bag. At 6:30 AM the next day, the bag contains 60 mL of bile. What should the nurse consider in response to this information?

1. The T-tube may have to be irrigated.
2. The bile is now draining into the duodenum.
3. Mechanical problems may have developed with the T-tube.
4. Suction must be reestablished in the portable drainage system.

238. A nurse in the emergency department is assessing a client who was beaten and sexually assaulted. Which is the nurse's priority assessment?

1. The family's feelings about the attack
2. The client's feelings of social isolation
3. Disturbance in the client's thought processes
4. The client's ability to cope with the situation

239. A health care provider orders oxygen therapy via nasal cannula at 2 L/min for an older, confused client with heart failure. Which nursing action is the priority?

1. Maintaining the client on bed rest
2. Determining whether the client is agitated
3. Obtaining a cannula of appropriate size for the client
4. Investigating whether the client has chronic obstructive pulmonary disease

240. A health care provider orders oropharyngeal suctioning as needed for a client in a coma. Which assessment made by the nurse indicates the need for suctioning?

1. Gurgling sounds with each breath
2. Fine crackles at the base of the lungs
3. Cyanosis in the nail beds of the fingers
4. Dry cough at increasingly frequent intervals

241. A parent of three young children has contracted tuberculosis. Which should the nurse expect the health care provider to prescribe for members of the family who have a positive reaction to the tuberculin skin test and are candidates for treatment?

1. Isoniazid (INH)
2. Multiple puncture tests (MPTs)
3. Bacille Calmette-Guérin (BCG)
4. Purified protein derivative (PPD)

► 242. A nurse is caring for a client with a diagnosis of varicose veins. Which clinical findings can the nurse expect to identify when assessing this client? **Select all that apply.**

1. Discolored toenails
2. Reports of leg fatigue
3. Localized heat in a calf
4. Reddened areas on a leg
5. Tortuous veins in the legs
6. Pain in lower extremities when standing

243. A client is diagnosed with varicose veins, and the nurse teaches the client about the

pathophysiology associated with this disorder. The client asks, “What can I do to help myself?” What should the nurse respond?

1. “Limit walking to as little as possible.”
2. “Reduce fluid intake to one liter of liquid a day.”
3. “Apply moisturizing lotion on your legs several times a day.”
4. “Put on compression hose before getting out of bed in the morning.”

244. A nurse is caring for a newly admitted client with anorexia nervosa. What is the **priority** treatment for the client at this time?

1. Medications to reduce anxiety
2. Family psychotherapy sessions
3. Separation from family members
4. Correction of electrolyte imbalances

245. A client with acquired immunodeficiency syndrome (AIDS) is receiving a treatment protocol that includes a protease inhibitor. When assessing the client’s response to this drug, which common side effect should the nurse expect?

1. Diarrhea
2. Hypoglycemia
3. Paresthesias of the extremities
4. Seeing yellow halos around lights

246. A nurse teaches a client about warfarin (Coumadin). Which juice to avoid identified by the client indicates that the teaching is effective?

1. Apple juice
2. Grape juice
3. Orange juice
4. Cranberry juice

247. Medication is prescribed for a 7-year-old child with attention deficit hyperactivity disorder (ADHD). What information should the school nurse emphasize when discussing this child’s treatment with the parents?

1. Tutor their child in the subjects that are troublesome.
2. Monitor the effects of the drug on their child’s behavior.
3. Explain to their child that the behavior can be controlled if desired.
4. Avoid imposing too many rules because these will frustrate the child.

248. A nurse performs preoperative teaching for a client who is to have cataract surgery. Which is **most** important for the nurse to include concerning what the client should do after surgery?

1. Remain flat for 3 hours.
2. Eat a soft diet for 2 days.
3. Breathe and cough deeply.
4. Avoid bending from the waist.

249. A nurse is supervising a recently hired nursing assistant who is caring for a debilitated, bedbound client. What intervention being implemented necessitates the nurse to intervene?

1. Draining the client’s urinary collection bag into a measuring container
2. Taking the client’s blood pressure with an electronic sphygmomanometer
3. Removing boots that kept the client’s feet in dorsiflexion before giving a bath
4. Replacing a dressing on the client’s buttocks that was contaminated with fecal material

250. A client is receiving epoetin (Epogen) for the treatment of anemia associated with chronic renal

failure. Which client statement indicates to the nurse that further teaching about this medication is necessary?

1. "I realize it is important to take this medication because it will cure my anemia."
2. "I know many ways to protect myself from injury because I am at risk for seizures."
3. "I recognize that I may still need blood transfusions if my blood values are very low."
4. "I understand that I will still have to take supplemental iron therapy with this medication."

► 251. A health care provider diagnoses that a $2\frac{1}{2}$ -year-old child has acute nonlymphoid leukemia. The child is admitted to the hospital. What clinical manifestations of the disease should the nurse expect when assessing the child? **Select all that apply.**

1. Anorexia
2. Petechiae
3. Irritability
4. Skin pallor
5. Listlessness

252. A 7-year-old child with juvenile idiopathic arthritis has difficulty getting ready for school in the morning because of joint pain and stiffness. Which recommendation should the nurse make to the family?

1. Administer acetaminophen before bedtime.
2. Ice the joints that are painful in the evening.
3. Encourage a program of active exercise after awakening.
4. Provide warm, moist heat to the affected joints before arising.

253. A client has just had a suprapubic prostatectomy. Which action should the nurse implement to prevent a secondary bladder infection?

1. Observe for signs of uremia.
2. Attach the catheter to suction.
3. Clamp off the connecting tube.
4. Change the dressings frequently.

► 254. A client who weighs 176 pounds is being immunosuppressed by daily maintenance doses of cycloSPORINE (Sandimmune) to prevent organ transplant rejection. The dose prescribed is 8 mg/kg each day. How many milligrams should the nurse administer each day? **Record your answer using a whole number.**

Answer: _____ mg

255. A nurse is discussing weight loss with an obese individual with Ménière's disease. Which suggestion by the nurse is **most** important?

1. Limit intake to nine hundred calories a day.
2. Enroll in an exercise class at the local high school.
3. Get involved in diversionary activities when there is an urge to eat.
4. Keep a diary of all foods eaten each day, making certain to list everything.

256. A 3-year-old child is to receive a liquid iron preparation. What should the nurse teach the mother in relation to this medication?

1. Monitor stools for the occurrence of diarrhea.
2. Administer the iron at least an hour before meals.
3. Avoid giving the child orange juice with the iron solution.
4. Have the child drink the diluted iron preparation through a straw.

257. A health care provider prescribes selegiline (Eldepryl) 5 mg twice a day for a client with a

diagnosis of Parkinson disease. What is **most** important for the nurse to teach the client?

1. Eat food high in tyramine.
2. Ensure that an opioid is not taken currently.
3. Take the medication in the morning and evening.
4. Monitor for signs of hypoglycemia and hyperglycemia.

258. A child with β -Thalassemia is receiving therapy that includes multiple blood transfusions. This child is at risk for developing which complication?

1. Serum hepatitis
2. Allergic response
3. Pulmonary edema
4. Hemolytic reaction

259. A school nurse knows that many children with attention deficit problems may be learning disabled. The nurse should teach the parents that a child with a learning deficit will:

1. probably not be self-sufficient as an adult.
2. have intellectual deficits that interfere with learning.
3. usually perform two grade levels below their age norm.
4. experience perceptual difficulties that make learning problematic.

260. A nurse is evaluating the practice of a home health aide who is caring for a client who has paraplegia. Which action by the home health aide indicates understanding about the nursing team's responsibility in relation to pressure ulcers?

1. Inspecting the skin daily
2. Providing a rubber cushion on which to sit
3. Massaging body lotion over reddened areas
4. Applying a heating pad to bony prominences

261. A client exhibits physical symptoms in response to stress. What nursing intervention may assist the client to reduce the use of physical symptoms as a response to stress?

1. Limit discussions about the problem.
2. Provide information regarding medical care.
3. Teach the client how to eliminate stress at home.
4. Assist the client in developing new coping mechanisms.

262. When assessing the oral cavity of a newly admitted client with acquired immunodeficiency syndrome (AIDS), the nurse identifies areas of white plaque on the client's tongue and palate. What is the nurse's **initial** response?

1. Scrape an area of one of the lesions and send the specimen for a biopsy.
2. Instruct the client to perform meticulous oral hygiene at least once daily.
3. Document the presence of the lesions, describing their size, location, and color.
4. Consider that these lesions are universally found in clients with AIDS and require no treatment.

263. Three days after surgery for cancer of the colon, a nurse introduces the client to colostomy care. Which should the nurse teach the client about skin care around the stoma?

1. Apply liberal amounts of an oil-based ointment around the stoma.
2. Rinse the area with peroxide before applying fresh gauze bandages.
3. Pour saline over the stoma and rub the area to remove hard fecal matter.
4. Wash the area with soap and water and then apply a protective ointment.

264. Before discharge, a client with a colostomy questions the nurse about resuming prior activities. What is the nurse's **best** response?

1. "Most sports activities, except for swimming, can be resumed based on your overall physical condition."
 2. "With counseling and medical guidance, a near normal lifestyle, including complete sexual function, is possible."
 3. "Activities of daily living should be resumed as quickly as possible to avoid depression and further dependency."
 4. "After surgery, changes in lifestyle must be made to accommodate the physiologic changes caused by the surgery."
265. After surgical clipping of a cerebral aneurysm, the client develops the syndrome of inappropriate secretion of antidiuretic hormone. For which manifestation of excessive levels of antidiuretic hormone (ADH) should the nurse assess?
1. Decreased urine output
 2. Decreased urine specific gravity
 3. Increased serum sodium level
 4. Increased blood urea nitrogen

Answers and Rationales: Part A

1. 3 Capillary refill based on the blanch test is an accurate assessment for neurovascular integrity; immediate refill is expected.

1 Palpation of the pedal pulse, which is distal to the injury, is more appropriate than palpation of the femoral artery. **2** The pain associated with Homan sign indicates thrombophlebitis, not compromise of blood flow or innervation. **4** Flexion and extension of the affected knee is impossible with this cast.

Reference: Ch 11, Fractures of the Extremities, Nursing Care

2. Answer: 1, 5, 6.

1 Obesity is a risk factor for endometrial cancer because adipose cells store estrogen; the extent of exposure to estrogen is the most significant risk factor. **2** Nulliparity, not multiparity, is a risk factor for endometrial cancer because of the increased exposure to estrogen. **3** Cigarette smoking is not identified as a risk factor for endometrial cancer. **4** Late, not early, onset of menopause is a risk factor for endometrial cancer because of the increased exposure to estrogen. **5** Although endometrial cancer has not been proven to have a genetic predisposition, it is more common in families who have gene mutations for hereditary nonpolyposis colon cancer (HNPCC). **6** Endometrial cancer has a relationship with exposure to estrogen.

Reference: Ch 24, Uterine Neoplasms, Data Base

3. 1 Radiation is damaging to the skin and may cause it to become sensitive and friable.

2 A radiated site should be cleaned only with water. **3** This is contraindicated; lotion may contain compounds that alter the direction of x-rays. **4** A snug-fitting bra can irritate delicate, irradiated skin and should be avoided until the irradiated area heals.

Reference: Ch 3, Radiation, Major Side Effects

4. 4 The client is experiencing the Somogyi effect. It is a paradoxical situation in which sudden decreases in blood glucose are followed by rebound hyperglycemia. The body responds to the hypoglycemia by secreting glucagon, epinephrine, growth hormone, and cortisol to counteract the low blood sugar. This results in an excessive increase in the blood glucose level. It most often

occurs in response to hypoglycemia when asleep. The health care provider may choose to decrease the insulin dose and then reassess the client.

1 This will further increase the serum glucose level and is contraindicated. **2** Increasing the insulin dose at bedtime will further worsen the problem. **3** This will not address the hypoglycemia and rebound hyperglycemia that occurs when sleeping. However, a bedtime snack may help minimize this event.

Reference: Ch 9, Diabetes Mellitus, Data Base

5. 2 Since the legal difficulties were a precipitating event for hospitalization, if the client can realistically examine the possible outcomes of the trial, then some benefit has been gained from the therapy.

1 The client has been freely expressing resentment and victimization by the employer and authority figures; this does not show improvement or insight. **3** The client has been discussing problems since admission, so this does not indicate the development of insight. **4** This indicates unrealistic planning and does not demonstrate the development of insight.

Reference: Ch 20, Personality Disorders, Nursing Care

6. 2 This client can become eclamptic suddenly and have a seizure; seizure precautions are necessary to protect her from injuring herself and the fetus.

1 This is important, but the client's safety should be ensured first. **3** Administering sedatives will help to reduce nervous system irritability; it will not ensure safety if the client has a seizure. **4** This will be required when the client is placed on magnesium sulfate therapy.

Reference: Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care

7. 1 The client needs further teaching; dietetic fruit is not sugar-free and must be calculated in the diet of an individual with diabetes.

2 Lettuce is considered a free food in the diet of a person with diabetes. **3** It is suggested that the caloric intake of a person with diabetes should be 50% carbohydrate, 20% protein, and 30% fat. **4** Saturated fats should be limited to 10% of the fat intake; 90% of fat should be unsaturated fats.

Reference: Ch 9, Diabetes Mellitus, Data Base

8. 2 Although dust cannot be avoided completely, use of a damp cloth helps eliminate the quantity of airborne particles that might be inhaled.

1 This is unnecessary and unrealistic. **3** There are ways to limit the quantity of airborne particles. **4** Redecorating will not eliminate dust; it is part of our environment.

Reference: Ch 32, Asthma, Nursing Care

9. 1 Restlessness or the desire to keep moving (akathisia) can occur within 6 hours of the first dose of Haldol. This side effect is associated with most neuroleptics.

2 Parkinsonian side effects include masklike facies, tremors, and shuffling gait. **3** This severe, largely irreversible, extrapyramidal side effect occurs after prolonged treatment with phenothiazines. **4** Acute dystonic reaction is characterized by severe, bizarre muscle contractions.

Reference: Ch 16, Antipsychotic Agents, Precautions

10. 3 Discussing reality-based issues helps decrease delusional and hallucinatory activity by reducing feelings of isolation and competition for sensory awareness.

1, 2 This will support and reinforce delusions and tend to validate them. **4** This is a judgmental response that may decrease the client's trust and increase anxiety.

Reference: Ch 18, Schizophrenic Disorders, Nursing Care

11. 4 This, together with observation and documentation of the seizure activity, is the primary nursing care for a client with a tonic-clonic seizure.

1 The client should not be left unattended. **2** This is done after the seizure; the mouth should not be pried open to insert an airway during a seizure because injury may occur. **3** This will assist with establishing an airway after the seizure, but it is an unsafe action during a seizure.

Reference: [Ch 11](#), Epilepsy, Nursing Care

12. 1 The client controls anxiety by maintaining a childlike body build and by demonstrating mastery over food intake.

2 Families of people with anorexia usually are fused, so separation from parents is not a desirable gain. **3** People with anorexia generally excel in academic areas and receive attention and praise as the perfect child; they will not gain from having this source of attention removed. **4** Maintenance of control, not the resulting overattention of parents, is the primary gain.

Reference: [Ch 20](#), Eating Disorders, Overview

13. 3 This is done to prevent drying and breakage of the sac; any opening increases the risk for infection to the central nervous system.

1 Diapering is contraindicated until the defect is repaired; the diaper may irritate the sac and cause rupture, predisposing to infection. **2** The infant generally is placed in a neutral position to reduce pressure on the affected area. **4** The legs are abducted to counteract subluxation, since the infant is unable to move the legs.

Reference: [Ch 30](#), Defects of Neural Tube Closure, Nursing Care

14. Answer: 1, 2, 3, 4, 5.

1 Discontinuing the oxytocin (Pitocin) infusion lessens uterine stimulation and decreases intrauterine pressure; continuing the oxytocin may lead to fetal hypoxia, placental separation, or uterine rupture. **2** Turning the client onto the side increases oxygen perfusion to the fetus. **3** The health care provider should be notified to obtain additional orders. **4** Contractions lasting longer than 90 seconds warrant stopping the oxytocin infusion to prevent uterine rupture. **5** Oxygen administration will increase oxygen to the placenta and fetus.

Reference: [Ch 25](#), Intrapartum Period, Data Base

15. 1 This is the appropriate breathing technique for the transition phase; it prevents the client from pushing too early.

2 The client is not fully dilated and is not ready to give birth. **3** The client is in active labor; she should be offered a bedpan if she requests to go to the bathroom. **4** Butorphanol (Stadol) should not be administered in this phase of labor because the peak of action lasts up to 1 hour and the duration is 1 to 3 hours; the infant may be born with respiratory depression.

Reference: [Ch 25](#), Intrapartum Period, Nursing Care

16. 4 Vitamin K prevents hemorrhagic disease of the newborn because it activates coagulation factors in the liver. Intestinal flora, which synthesizes vitamin K, is absent in the newborn because the GI tract is sterile. With feeding and adaptation to the environment, intestinal flora becomes established.

1 The intestinal tract of the newborn is considered sterile. **2** Vitamin K substitutes for the action of intestinal flora. **3** Vitamin K does not stimulate further production of this vitamin; eventually, the bacterial flora of the intestine stimulates the production of vitamin K.

Reference: [Ch 27](#), Foundations of Nursing Care for Newborns, Adaptation to Extrauterine Life

17. 4 Applesauce provides nutrition without large additional amounts of potassium and sodium.

1 Peanuts are high in sodium, which increases fluid retention. **2** Pretzels are high in sodium, which increases fluid retention. **3** Bananas are high in potassium, which is contraindicated.

Reference: [Ch 33](#), Acute Post Streptococcal Glomerulonephritis, Data Base

18. 1 The presence of fat in the duodenum stimulates painful contractions of the gallbladder to release bile; fat intake should be restricted.

2 Carbohydrates do not have to be restricted. **3** A reduction in spices and bulk is not necessary. **4** Although this diet might be desirable as long as the protein is not high in saturated fat, a high-calorie diet generally is not ordered.

Reference: Ch 8, Cholelithiasis/Cholecystitis, Data Base

19. 2 Decreasing urinary output indicates hypovolemia that results from a fluid shift from the vascular space to the burned area.

1, 3, 4 This is expected with deep partial-thickness burns.

Reference: Ch 10, Burns, Data Base

20. 3 The development of insight is impeded by the client's unwillingness or inability to face his own contribution to a problem.

1 These will not impede the development of insight. These feelings are common in clients with borderline personality disorders. **2** This will not impede the development of insight. Grandiosity is often a cover for feelings of inadequacy, which are threatening to the client; these feelings usually disappear with insight. **4** This will not impede the development of insight. It is not the anger itself but how the anger contributes to interpersonal difficulty that the client must recognize.

Reference: Ch 15, Anxiety and Coping Behaviors, Defense Mechanisms

21. Answer: 1, 4.

1 Clients with borderline personality disorders initially tend to be engaging and to establish intense relationships. **2** These clients often are decisive and opinionated. **3** These clients have a pronounced intolerance for being alone and usually are quite social. **4** These clients may be manipulative because they are opinionated and they want people to conform to their agenda. **5** These clients are not perfectionists.

Reference: Ch 20, Personality Disorders, Data Base

22. 3 A closed, sterile drainage system reduces the likelihood that microorganisms will be introduced into the bladder.

1 The bag usually is emptied according to hospital protocol or if it becomes full. **2** Tension on the tubing should be avoided because this may injure the mucous membranes of the urinary tract. **4** This is unsafe because if the side rail is put down abruptly, it may pull out the catheter.

Reference: Ch 12, Related Procedures, Urinary Catheterization

23. 2 Serum creatinine concentration measures the kidney's ability to excrete metabolic wastes. Creatinine, a nitrogenous product of protein breakdown, is increased with renal insufficiency.

1 This test is more valuable for assessing structure than function. **3** WBC count does not measure kidney function; WBCs usually are depressed because of immunosuppressive therapy to prevent rejection. **4** Although this should be considered, it is not as definitive as the serum creatinine level.

Reference: Ch 12, Chronic Kidney Failure/End-Stage Renal Disease, Nursing Care

24. 4 The diet does not reflect a healthy diet with a variety of foods, especially protein; adequate nutrition is necessary for the birth of a healthy full-term infant whose weight is appropriate for gestational age.

1 The caloric content of these foods is not high if small amounts are consumed; in addition, this client's weight gain may not be reflective of an adequate weight gain in the developing fetus. **2** No data are available to support this. **3** Unrestricted salt intake does not contribute to the development of gestational hypertension.

Reference: Ch 25, Prenatal Period, Physical, Physiological, and Emotional Changes during

Pregnancy

25. 1 The client has severe preeclampsia, which develops suddenly with a blood pressure of 160/110 or higher and proteinuria of +2 to +3 or more. Severe headache and blurred vision are typical symptoms. The client needs immediate treatment to prevent eclampsia.

2, 4 There is no time to obtain or administer medication. This is an emergency situation. **3** This is unsafe and places both client and fetus in jeopardy.

Reference: Ch 26, Hypertensive Disorders of Pregnancy, Data Base

26. 3 The caloric intake should be 150% to 200% more than the expected intake for size and age, because absorption of fats and nutrients is compromised by the disease process.

1 Fluids are encouraged to keep bronchial secretions from becoming too thick and tenacious. **2** Salt is added to the diet to compensate for excessive sodium losses in saliva and perspiration. **4** Whole milk may not be tolerated because of its high fat content; skim milk products should be substituted.

Reference: Ch 31, Cystic Fibrosis, Data Base

27. 2 Retinal damage caused by the increased intraocular pressure of glaucoma is progressive and permanent if the disease is not controlled.

1 Early treatment may prevent blindness. **3** One eye may be affected, and there is no restriction on the use of either eye. **4** Surgery can open up drainage and permanently reduce pressure.

Reference: Ch 11, Glaucoma, Data Base

28. 4 The client usually is instructed to do this to toughen the limb for weight-bearing. This process is begun by pushing the residual limb against increasingly harder surfaces.

1 Abduction of the residual limb does not maintain functional alignment and should be avoided; it does not prepare the end of the residual limb for a prosthesis. **2** Dangling the residual limb does not help prepare it for a prosthesis and may impede venous return, which prolongs healing. **3** This may macerate the residual limb and hinder the use of a prosthesis.

Reference: Ch 11, Amputation, Nursing Care

29. 2 Asthma involves spasms of the bronchi and bronchioles, as well as increased production of mucus. This decreases the size of the lumina, interfering with inhalation and exhalation.

Bronchiolar dilation will reduce airway resistance and improve the client's breathing.

1 Although identifying and addressing a client's emotional state are important, maintaining airway and breathing are the priority. In addition, emotional stress is only one of many precipitating factors, which include allergens, temperature changes, odors, and chemicals. **3** Although recent studies indicate a genetic correlation along with other factors that may predispose a person to develop asthma, exploring this issue is not the priority. **4** Use of an incentive spirometer is not helpful because of mucosal edema, bronchoconstriction, and secretions, all of which cause airway obstruction.

Reference: Ch 7, Obstructive Airway Diseases, Data Base

30. 3 During sleep, mucous secretions in the respiratory tract move slowly toward the throat. On awakening, increased ciliary motion raises these secretions more vigorously, thus facilitating expectoration and the collection of sputum specimens.

1 Although activity mobilizes secretions, no secretions may be present at the time of activity; sputum is most plentiful upon arising. **2** The sputum may leave an unpleasant taste in the mouth, which may interfere with appetite. **4** Sputum more likely would be collected after, not before, a respiratory treatment, because this mobilizes secretions.

Reference: Ch 7, Pneumonia, Nursing Care

31. 3 Confused clients find comfort and security in an environment that provides realistic limits

and controls because this reduces the need for self-regulation.

1 No environment can meet all of any client's needs. **2** This may be confusing and may precipitate anxiety. **4** This provides for physical, not psychologic, safety.

Reference: Ch 18, Dementia, Nursing Care

32. 1 Inadequate oxygenation of the brain may produce restlessness or behavioral changes.

2 The pulse increases with cerebral hypoxia. **3** The pupils dilate with cerebral hypoxia. **4** This is the result of increased vascularization and reflects a response to prolonged hypoxia.

Reference: Ch 3, Perioperative Care, General Nursing Care of Clients during the Postoperative Period

33. Answer: 1, 3, 4, 5.

1 Fever is a common finding with acute laryngotracheobronchitis. **2** Crackles are not characteristic of acute laryngotracheobronchitis. **3** Hoarseness is caused by edema of the mucosa of the larynx. **4** The cough is tight, with a barking, metallic sound due to laryngeal edema. **5** Children with acute laryngotracheobronchitis experience inspiratory stridor because of laryngeal edema.

Reference: Ch 30, Respiratory Tract Infections, Data Base

34. 2 Administering the incorrect dose would be an act of negligence that may endanger the client, and the nurse would be liable. If the dosage is not changed after the health care provider is questioned, the nurse should contact the nurse manager.

1, 3 The dose should be withheld because it may result in respiratory depression and may endanger both the client and fetus. Also, the nurse is at risk for negligence. **4** The nurse should follow hospital protocol and notify the nurse manager first.

Reference: Ch 26, Hypertensive Disorders of Pregnancy, Data Base

35. Answer: 1, 2, 4.

1 Increased maternal oxygenation increases oxygen available for the fetus. **2** The side-lying position decreases cord compression, which improves circulation to the fetus. **3** This may compromise the mother and fetus. **4** This will decrease uterine activity. Five contractions in 8 minutes does not allow enough time for uterine relaxation and reperfusion between contractions. **5** There is no infection present and no reason for an antibiotic to be administered.

Reference: Ch 25, Intrapartum Period, Data Base

36. 2 Cerebral edema from hypertension or cerebral ischemia may occur, which may cause seizures.

1 Increasing fluid intake may lead to an increase in blood pressure and edema. **3** This is appropriate for children with nephrotic syndrome, in which the child has hypoalbuminemia that causes fluid to shift from plasma to the abdominal cavity. **4** Glomerulonephritis will not alter pupillary reactions.

Reference: Ch 33, Acute Post Streptococcal Glomerulonephritis, Nursing Care

37. 1 Too much ingestion of alcohol can cause scarring and fibrosis of the liver. Eighty-five to 95 percent of acetaminophen (Tylenol) is metabolized by the liver. Acetaminophen and alcohol are both hepatotoxic substances. Metabolites of acetaminophen along with alcohol can cause irreversible liver damage.

2 Caffeine affects (stimulates) the cardiovascular system, not the liver. In addition, caffeine does not interact with acetaminophen. **3** Saw palmetto is not associated with increased liver damage when taking acetaminophen. It is often taken for benign prostatic hypertrophy because of its antiinflammatory and antiproliferative properties in prostate tissue. **4** St. John's wort is classified as an antidepressant and is not associated with increased liver damage when taking acetaminophen. However, it does decrease the effectiveness of acetaminophen.

Reference: Ch 3, Pain, Related Pharmacology, Other Nonopioid Analgesics

38. 4 Children at early school age are not yet able to comprehend death's universality and inevitability; they fear it, often personifying death as a "bogeyman" or "death angel." They need an opportunity to prepare for this.

1 A child this age needs to know the seriousness of the illness and that recovery may not be possible. **2** Children of this age interpret death as separation and punishment; they fear this, in addition to death itself. **3** This response only avoids the question.

Reference: Ch 33, Hospitalization of School-Age Children, Data Base

39. Answer: 1, 5.

1 Fatigue occurs because inadequate nutritional intake results in electrolyte imbalances and decreased RBCs. **2** Many of these clients have lowered body temperature. **3** These clients have bradycardia. **4** These clients are cold intolerant. **5** Amenorrhea occurs because of endocrine imbalances resulting from starvation; it is thought that severe starvation damages the hypothalamus.

Reference: Ch 20, Anorexia Nervosa, Data Base

40. 4 This approach allows the client to control the pace of development of the nurse-client relationship.

1 Depressed clients are unable to move into relationships with other clients. **2** It is too early for therapy sessions; the first thing that must be established is a trusting nurse-client relationship. **3** Depressed clients are unable to move into group situations.

Reference: Ch 19, General Nursing Care of Clients with Mood Disorders

41. 1 An increased amount of the human chorionic gonadotropin (hCG) hormone may cause nausea and vomiting during the first trimester; the stomach should be neither too full nor too empty. Small, more frequent meals usually relieve the nausea.

2 This will not help the nausea and vomiting associated with the first trimester of pregnancy and should not be taken without a prescription; it may be prescribed during the second trimester when pyrosis and acid indigestion occur because progesterone slows GI tract motility. **3** This is not a treatment for nausea. **4** Over-the-counter (OTC) medications are contraindicated during pregnancy, especially during the first trimester, the period of organogenesis. The health care provider should be consulted before taking any medications during pregnancy.

Reference: Ch 25, Prenatal Period, Physical, Physiological, and Emotional Changes during Pregnancy

42. 1 Chronic obstructive pulmonary disease (COPD) causes increased pressure in the pulmonary circulation. The right side of the heart hypertrophies (cor pulmonale), causing right ventricular heart failure.

2 The skeletal system is not directly related to the pulmonary system; joint inflammation does not occur because of COPD. **3** This system is not as closely related to the pulmonary system as is the cardiac system; kidney problems usually do not occur because of COPD. **4** Peripheral neuropathy does not occur because of COPD.

Reference: Ch 7, Obstructive Airway Diseases, Data Base

43. 3 This is done instead of immersing the baby in a tub of water because the moisture may retard drying of the cord stump and may delay its falling off; the cord usually falls off by 1 to 3 weeks. Evidence-based practice research presently is being conducted to determine whether tub baths should be permitted.

1 Drainage is indicative of infection; the cord stump should be dry. **2** Drying is desirable; moisture

slows the drying process and promotes bacterial growth. **4** Keeping the cord stump covered delays drying.

Reference: Ch 27, Adaptation to Extrauterine Life, Nursing Care Common the All Newborns

44. 2 This action does not require a health care provider's order and is an independent action.

1, 3, 4 This is a dependent nursing function, which requires a health care provider's order.

Reference: Ch 7, Malignant Lung Tumors, Nursing Care

45. 1 This open-ended statement focuses on the client's concerns and allows further verbalization of feelings.

2, 4 This moves the focus away from the client and minimizes the client's concerns. **3** Although true, this response may increase anxiety and may cut off communication.

Reference: Ch 12, Bladder Tumors, Nursing Care

46. 4 The concept of object permanence begins to develop at about 6 months of age because of brain development and experience.

1, 2 This occurs between 13 and 24 months. **3** This occurs during the first several months of life. These diminish as the newborn grows.

Reference: Ch 30, Health Promotion of Infants, Play

47. 1 Because electrodes are placed internally (on the fetal scalp, not on the mother's abdomen), position does not affect the monitor. The side-lying position is recommended because it promotes maternal-fetal circulation, but it is not essential for accurate internal fetal monitoring.

2 It is not the position but the internal placement of electrodes on the fetal scalp that ensures accurate monitoring. **3** Constant monitoring provides continuous ongoing assessment of fetal status; there is no reason to detach the leads. **4** Although this position does not affect the monitor, it should be discouraged because the gravid uterus causes decreased venous return, leading to reduced cardiac output.

Reference: Ch 25, Intrapartum Period, Nursing Care

48. 1 According to the Silverman-Anderson Index for respiratory function, flaring of the nares indicates respiratory distress; it is a compensatory mechanism to increase the intake of air.

2 The heart rate of a newborn in respiratory distress usually remains within the norm of 100 to 160 beats/min. **3** These are expected in the neonate; respiratory function is largely a matter of diaphragmatic contraction; expansion of the rib cage is limited in the neonate. **4** The respiratory rate of a newborn in respiratory distress is rapid, more than 60/min. The expected respiratory rate for neonates ranges between 30 and 60 breaths/min.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Nursing Care Common to All Newborns

49. 4 This occurs prior to lactation; it is an exaggeration of venous and lymphatic circulation caused by prolactin.

1 Engorgement occurs before lactation or milk production. **2** Effective breastfeeding does not prevent engorgement; a lag between the production of milk and the efficiency of the ejection reflex often causes engorgement. **3** This does not cause engorgement, but support may relieve some of the discomfort.

Reference: Ch 25, Postpartum Period, Data Base

50. 1 This will decrease edema and minimize pain.

2 Dry dressings, when removed, may further damage the burn site. **3** Although pain is temporarily alleviated, removal of the spray is necessary before further treatment can be instituted; removal may cause injury. **4** Ointments are contraindicated on burns because they have an oil base.

Reference: Ch 10, Burns, Nursing Care

51. 3 This is limited hip abduction and is indicative of developmental dysplasia of the hip.

1 This is an expected newborn reflex. **2** This is an expected measurement for a newborn at term. **4** This is an expected finding.

Reference: Ch 30, Developmental Dysplasia of the Hip, Data Base

52. 4 Although older adults may be faced with multiple stressors as they age, how people cope with stress remains fairly constant throughout life.

1 Decreases in the senses of taste and smell are noted as people age. **2** GI motility decreases slightly with aging; sedentary lifestyles and lack of dietary fiber compound the problem. **3** Muscle strength decreases with aging.

Reference: Ch 15, Anxiety and Coping Behaviors, Overview

53. Answer: 2, 1, 3, 4, 5.

2 The initial response is shock, disbelief, and denial, and the client seeks additional opinions to negate the diagnosis. **1** When negating the diagnosis is unsuccessful, the client becomes angry and negative. **3** Bargaining for wellness follows in an attempt to prolong life. **4** As the reality of the situation becomes more apparent, depression sets in and the client may become withdrawn. **5** Acceptance is the final stage of grieving; this stage may never be achieved.

Reference: Ch 1, Grieving Process, Theorists: Stages of Grieving

54. 2 Cold stress produces hypoxia and acidemia. Because of physiologic factors, such as lack of brown fat, the preterm infant is more vulnerable to cool temperatures.

1, 3 These are not the priority. **4** This is necessary when the infant has an Apgar score of 0 to 3.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Nursing Care Common to All Newborns

55. 2 Patency promotes bladder decompression, which prevents distention and bleeding; continuous flow of an irrigant limits clot formation and promotes hemostasis.

1 This is not associated with a transurethral resection of the prostate (TURP); a cystostomy tube is a catheter that is placed directly into the bladder through a suprapubic incision. **3** No abdominal incision is made because the resection is performed via the urethra. **4** Although hemorrhage and infection may occur, no wound is observed because the surgery was performed via the urethra.

Reference: Ch 12, Benign Prostatic Hyperplasia, Nursing Care

56. Answer: 21 gtt/min. Multiply the amount to be infused (125) by the drop factor (10) and divide the result by the amount of time in minutes (60 minutes); the product, 20.8, must be rounded up to 21 gtt/min.

Reference: Ch 3, Fluid, Electrolyte, and Acid-Base Balance; General Nursing Care of Clients with Fluid and Electrolyte Problems

57. 2 This presents reality and simply states expected behavior.

1 This is an authoritarian, not a therapeutic, statement. The client has the right to refuse medication. **3** This assumes that the client does not want to take medication, whereas the client may not understand what to do. **4** This does not tell the client what behavior is expected. The client may not understand the concept of cause and effect.

Reference: Ch 18, Schizophrenic Disorders, Nursing Care

58. 4 The use of reflection assists the client in expressing feelings, which is the major goal of therapy.

1, 3 This is a defensive response by the nurse that tends to cut off communication and limit the expression of feelings. **2** This response avoids discussion of the client's feelings about the

therapist.

Reference: Ch 16, Therapeutic Nurse-Client Relationship, Overview

59. 1 Hourly output is critical when kidney function is assessed; decreasing urinary output is a sign of rejection.

2 This is too long an interval between assessments of urinary output after a kidney transplant. **3,**

4 This is too short an interval between assessments of urinary output after a kidney transplant.

Reference: Ch 12, Chronic Kidney Failure/End-Stage Renal Disease, Nursing Care

60. 4 Ineffective coping is the impairment of a person's adaptive behaviors and problem-solving abilities in meeting life's demands; ritualistic behavior is an impaired type of coping.

1, 2, 3 Not enough information is available to lead to this conclusion.

Reference: Ch 19, Obsessive-Compulsive Disorders, Data Base

61. 3 The antagonist of magnesium sulfate is calcium gluconate.

1 This is ineffective if the action of magnesium is not reversed. **2** This is unnecessary; it is an opioid antagonist. **4** This may be necessary if the client has excessive secretions after a seizure. The priority intervention should attempt to prevent a seizure.

Reference: Ch 26, Hypertensive Disorders of Pregnancy, Data Base

62. 2 The client is out of control and is dangerous to self and others. Safety requires sedation and a controlled environment.

1 Restraining a disturbed, belligerent client can cause injury because restraints generally increase anxiety and acting out. **3** This is inappropriate and may place the other client in a dangerous situation. **4** Any measures directed at verbal or physical correction of the client's behavior will be futile and may increase the hostile behavior.

Reference: Ch 20, Alcohol Abuse and Dependency, Nursing Care

63. 3 This response is as optimistic as is possible while still being realistic.

1 This response is false reassurance; the client's status will depend on an individual response. **2** Medication does not affect progression of the disease; it only treats the signs and symptoms. **4** This response gives false reassurance; individual responses vary.

Reference: Ch 11, Myasthenia Gravis, Data Base

64. 1 Because the pancreatic ducts are blocked and fibrotic, oral pancreatic enzymes must be given to make the nutrients digestible and absorbable.

2 Children with cystic fibrosis have good, even voracious, appetites despite respiratory impairment. **3** Chewing of food is adequate despite coughing and shortness of breath; undernourishment results from inadequate nutrient absorption. **4** It is not the consistency of the foods that leads to inadequate digestion and absorption, but the lack of enzymes from the pancreatic duct.

Reference: Ch 31, Cystic Fibrosis, Data Base

65. 3 Infants with compromised heart function often become fatigued during sucking and swallowing because they have a decreased cardiac output.

1 When there is fatigue during feeding, generally it is an indication of some pathology; healthy infants suck vigorously until sated, and only then do they become tired. **2** Impaired sucking is never insignificant; it may be indicative of many problems, such as central nervous system (CNS) involvement, immaturity, or a congenital defect. **4** Healthy infants are free of mucus within 24 to 48 hours after birth.

Reference: Ch 30, Cardiac Malformations, Data Base

66. 1 Hypoxia leads to poor peripheral circulation; clubbing occurs as a result of tissue

hypertrophy and additional capillary development in the fingers.

2 Respirations generally are rapid to compensate for oxygen deprivation. **3** This is not a physiologic response in children with chronic hypoxia. **4** These children have polycythemia.

Reference: Ch 30, Cardiac Malformations, Data Base

67. 1 This traction is used to reduce the fracture, align the bone, and temporarily reduce muscle spasm.

2 Edema occurs because of tissue trauma and will not be prevented by the use of Buck extension. **3** A fractured head of the femur is repaired via internal fixation; a cast is unnecessary. **4** Damage already has occurred at the time of trauma and is not prevented by the use of Buck extension.

Reference: Ch 11, Fracture of the Hip, Data Base

68. 1 This ensures abduction of the leg to maintain position of the prosthesis and avoid dislocation.

2 This is not necessary as long as abduction of the limb is maintained. **3** This causes flexion of the hip; it is done only if ordered by the health care provider. **4** A trochanter roll at the ankle can cause damage to the peroneal nerve along the external malleolus.

Reference: Ch 11, Fracture of the Hip, Nursing Care

69. 1 This client is demonstrating increased agitation and poses an immediate threat to the safety of other clients. The behavior requires immediate nursing intervention to prevent injury to self or others.

2 Although the client may be hallucinating, there is no immediate threat to self or others. The client should be monitored to ensure that the behavior does not escalate or become aggressive. **3** Although the client may be suspicious, data given do not indicate that this presents a danger to self or others. **4** Although anxious, this client does not represent a threat to self or others.

Reference: Ch 19, General Nursing Care of Clients With Mood disorders

70. 2 This offers support and provides the client with an opportunity to discuss feelings.

1 This intervention does not address the client's depression. **3** Teaching is inappropriate when a client is emotionally distressed. **4** This limits further communication and may imply rejection.

Reference: Ch 19, General Nursing Care of Clients with Mood Disorders

71. 4 Rationalization is an unconscious defense mechanism whereby a person finds logical reasons for behavior or feelings while ignoring the illogical or unacceptable real reasons.

1 Projection is an unconscious defense mechanism whereby an individual attributes or blames personal inadequacies on others. **2** Suppression is the conscious putting out of the mind of an unacceptable impulse or idea. **3** Identification is an unconscious defense mechanism whereby an individual assumes the characteristics, traits, posture, and achievements of another person or group.

Reference: Ch 15, Anxiety and Coping Behaviors, Defense Mechanisms

72. 4 A non-rebreather mask can accurately deliver high concentrations of oxygen (>90%). It cannot be used with a high degree of humidity.

1 This is a face mask. It delivers low to medium concentrations of oxygen (40% to 60%) by adjusting the oxygen flow rate to 6 to 12 L/min. **2** This is a Venturi mask. It can deliver precise high-flow rates of oxygen. Concentration and liter flow are marked on the mask apparatus; it can be adjusted to deliver concentrations of 24%, 28%, 31%, 35%, 40%, or 50% oxygen. **3** This is a face tent. It delivers an imprecise amount of oxygen. It is designed to provide moderate to high-density humidification.

Reference: Ch 7, Related Procedures, Oxygen Therapy

73. **1 Cool mist helps reduce inflammation of the upper respiratory tract.**

2 Inhalant drugs are administered through nebulizers. **3** The mist has no effect on surface tension of the respiratory tract. **4** This is not the purpose of humidified oxygen.

Reference: [Ch 30](#), Respiratory Tract Infections, Nursing Care

74. **1 Beginning with equipment is less threatening and may stimulate feelings of mastery.**

2 This will provide information but will do little to aid acceptance. **3** This is helpful but may take time and therefore may not meet immediate needs. **4** This will do little to aid acceptance.

Reference: [Ch 8](#), Cancer of Small Intestine, Colon, or Rectum; Nursing Care

75. **4 The rhythmic movement of the merry-go-round provides an opportunity for the child to practice spatial and sensory orientation. This is important in helping the child increase interaction with the environment.**

1, 3 This does not provide rhythmic movements that would engage the child. **2** The autistic child rejects cuddling and anything that feels cuddly.

Reference: [Ch 17](#), Pervasive Developmental Disorders, Data Base

Answers and Rationales: Part B

76. 1 Protein in the urine is a sign of preeclampsia, as are elevated blood pressure and weight gain of more than 2 pounds per week.

2 Changes in body temperature are not associated with preeclampsia. **3** These signs indicate preeclampsia; treatment does not require a vaginal examination. **4** This is premature. More data must be collected and documented first.

Reference: Ch 26, Hypertensive Disorders of Pregnancy, Data Base

77. 3 It is expected that a newborn will enter a sleep phase about 30 minutes after birth.

1 After the initial cry, the baby will settle down and become quiet and alert. **2** This occurs after the first sleep. **4** This occurs during the first period of reactivity.

Reference: Ch 27, Foundations of Nursing Care of Newborns, Adaptation to Extrauterine Life

78. 3 This accurately describes the behavioral therapy method of systematic desensitization.

1 This is a different behavioral approach called flooding. **2** This is a different behavioral approach called operant conditioning. **4** This is a psychoanalytic type of therapy rather than a behavioral approach.

Reference: Ch 19, Phobic Disorders, Data Base

79. 1 Protein is required for the building and repair of intestinal tissues.

2 Increased protein will not significantly affect peristalsis. **3** Anemia may result from chronic bleeding; usually, it is corrected with increased iron and adequate protein intake. **4** Once tissues are repaired, muscle tone may improve eventually.

Reference: Ch 8, Review of Nutrients, Sources of Energy

80. 1 In addition to dilation of bronchi, treatment is aimed at expectoration of mucus. Mucus interferes with gas exchange in the lungs.

2 This is an unrealistic goal; asthma is a chronic illness. **3** Increased fluid intake helps liquefy secretions. **4** Asthma has a psychogenic factor, but this is not the only cause; it may occur as an allergic response to an antigen, such as dust.

Reference: Ch 7, Obstructive Airway Diseases, Data Base

81. 1 Head lag in an infant who is 6 months old is abnormal and is frequently a sign of cerebral damage.

2 The Babinski reflex may be present until 2 years of age. **3** The ability to sit unsupported is achieved at 7 to 8 months. **4** The grasp reflex usually disappears by 3 months.

Reference: Ch 30, Hydrocephalus, Data Base

82. 3 This approach allows for ventilation of feelings and clarifies explanations that probably were not heard or understood because of anxiety.

1 This prevents the client from facing the problem, thereby increasing her feelings of loss of control. **2** This closes off communication by not allowing free expression of grief and assumes that the client blames herself. **4** This supports avoidance of the reality of the situation; it does not solve the problem.

Reference: Ch 29, Nursing Care Related to Meeting the Needs of the Family of a Child with Special Needs

83. 4 This parent's action gives the child more control by allowing the child to make a decision. This demonstrates an understanding of what the toddler can and cannot do safely.

1 Toddlers are too young to understand that this type of punishment is a response to the temper tantrum; it may lead to more frustration and anger. **2** Although tantrums as attention-getting devices

largely must be ignored, isolating the child will produce feelings of rejection and insecurity. **3** This may lead to the development of more manipulative tactics, since the action brought a degree of success initially.

Reference: Ch 31, Growth and Development, Major Learning Events

84. 1 Because the compulsive ritual is used to control anxiety, any attempt to prevent the action will increase anxiety.

2 Underlying hostility is considered to be part of the disorder itself, not a reaction to an interruption of the ritual. **3** This is possible only if the anxiety reached panic levels and caused the person to express anger overtly. **4** This is not a pattern of behavior associated with this disorder.

Reference: Ch 19, Obsessive-Compulsive Disorders, Nursing Care

85. 3 The therapeutic nurse-client relationship provides an opportunity for the client to try out different behaviors in an accepting atmosphere and ultimately to replace pathologic responses with more effective responses.

1 Verbal, not nonverbal, communication is the objective of the therapeutic relationship. **2** The nurse, although accepting of the client's hostile feelings, uses the therapeutic relationship to redirect hostile feelings into more acceptable behaviors. **4** The nurse provides the support and acceptance that encourage clients to make their own decisions.

Reference: Ch 16, General Nursing Care of Clients with Mental Health/Psychiatric Problems

86. 2 African Americans represent a higher-risk population than Caucasian Americans for hypertension; the reason is unknown.

1 African-American women are more frequently affected by hypertension than are Caucasian women. **3** African Americans of both sexes have a higher prevalence than Caucasian Americans of both sexes. **4** African-American men have a higher risk than African-American women.

Reference: Ch 6, Hypertension, Data Base

87. 3 Diuretics block sodium reabsorption and promote fluid loss, decreasing blood volume and reducing arterial pressure.

1 Direct relaxation of arteriolar smooth muscle is accomplished by vasodilators, not diuretics. **2** Vasodilators, not diuretics, act on vascular smooth muscle. **4** Drugs that act on the nervous system, not diuretics, inhibit sympathetic vasoconstriction.

Reference: Ch 6, Related Pharmacology, Diuretics

88. 2 Thiazide diuretics are potassium-depleting agents; broccoli provides 267 mg of potassium per 100 grams.

1 Apples provide 80 to 110 mg of potassium per 100 g of fruit. **3** Cherries provide 191 mg of potassium per 100 g of fruit. **4** Cauliflower provides 206 mg of potassium per 100 g.

Reference: Ch 8, Review of Nutrients, Minerals

89. 3 This response acknowledges feelings and attempts to collect more data.

1 This will not facilitate data collection about the extent of anxiety. **2** Anxiety is most often a response to a vague, nonspecific threat; the client will not be able to answer this question. **4** It is too early to try to identify the cause of the anxiety; crisis intervention with anxious clients requires a more structured approach than "Let's talk."

Reference: Ch 16, Crisis Intervention, Nursing Care of Clients in Crisis

90. 2 The primary goal is to keep the client safe. A no-suicide contract secures the client's agreement not to attempt suicide for a specified period and to seek help when suicidal ideas increase.

1, 4 This is part of the treatment plan after the immediate crisis is controlled. **3** This is part of the

long-range treatment plan after the immediate crisis is controlled.

Reference: Ch 19, General Nursing Care of Clients with Mood Disorders

91. 4 This allows the child to manipulate unfamiliar equipment; this action tends to reduce the stress of hospitalization.

1 This is appropriate for school-age children and adolescents. **2** Although this is appropriate play for a 3-year-old child, it is somewhat limited because it does not give the child an opportunity to handle unfamiliar hospital equipment. **3** Storytelling is more appropriate for the school-age child.

Reference: Ch 32, Hospitalization of Preschoolers, General Nursing Care of Preschoolers

92. 3 Deficiency of glucocorticoids causes hypoglycemia in the client with Addison disease.

Clinical manifestations of hypoglycemia include nervousness; weakness; dizziness; cool, moist skin; hunger; and tremors.

1 Hypokalemia is evidenced by nausea, vomiting, muscle weakness, and dysrhythmias. **2** Weakness with dizziness on arising is postural hypotension, not hypertension. **4** An increased extracellular fluid volume is evidenced by edema, increased blood pressure, and crackles.

Reference: Ch 9, Addison Disease, Data Base

93. 2 Hypocalcemia, decreased calcium in the blood, occurs because of the reciprocal relationship with phosphorus, which is increased by the decreased glomerular filtration rate.

1 Hyperkalemia, not hypokalemia, is more likely to occur because of decreased kidney function. **3** Hypernatremia, an increase in serum sodium, generally will not be present because fluid is retained in the same proportion as sodium. **4** Hyperglycemia, an increased serum glucose level, is not a clinical manifestation of chronic kidney failure.

Reference: Ch 12, Chronic Kidney Failure/End-Stage Renal Disease, Data Base

94. 2 This reading suggests a true anemia. The lowest hemoglobin resulting from physiologic anemia of pregnancy is 12 g/dL, which occurs because the plasma volume increases to a greater extent than the RBCs during pregnancy.

1 This is within the expected range of 5000 to 10,000/mm³; it may increase to 15,000/mm³ during the second half of pregnancy. **3** This is within the expected range of 1.010 to 1.030. **4** This is not an unusual urine glucose level during pregnancy because of the lowered renal threshold for glucose during pregnancy; if the level increases to 2+, further investigation for diabetes should be undertaken.

Reference: Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes during Pregnancy

95. 3 The increased height of the uterus may result from accumulation of blood in the uterus from internal hemorrhaging; vital signs may be indicative of impending shock.

1, 2, 4 This is unsafe; the client needs immediate therapeutic intervention.

Reference: Ch 26, Postpartum Bleeding, Data Base

96. Answer: 1, 2, 3, 5.

1 Central nervous system (CNS) irritation can cause auditory problems such as tinnitus. **2** A headache resulting from spinal anesthesia usually occurs 24 to 72 hours after its administration. Postural changes cause the diminished volume of cerebrospinal fluid to exert traction on pain-sensitive central nervous system structures. The client is most comfortable when lying flat. **3** Central nervous system irritation can cause visual problems such as photophobia and blurred vision. **4** This type of headache will worsen when the client is ambulatory. **5** The headache worsens when the client assumes an upright position. **6** The headache lessens when the client is lying flat.

Reference: Ch 25, Intrapartum Period, Data Base

97. 1 Dry skin is caused by decreased function of sebaceous glands; a paucity of thyroid hormones triiodothyronine (T_3) and thyroxine (T_4), which control the basal metabolic rate, can alter the function of almost every body system.

2, 4 This occurs with hyperfunction of the thyroid and an increase in the basal metabolic rate. **3** The skin will not be flushed; the client will appear pale.

Reference: Ch 9, Hypothyroidism, Data Base

98. 2 Monitoring the mobility of the toes assesses neural integrity distal to the surgical site. This is part of a neurovascular assessment.

1 The femoral artery is not assessed because it is not distal to the surgical site. **3** No pin is present with an open reduction and internal fixation of a fractured hip. **4** This assessment may cause flexion of the hip, which is contraindicated.

Reference: Ch 11, Fracture of the Hip, Nursing Care

99. 2 Because of a decreased metabolism, the usual adult dose of an opioid may result in an overdose. A decreased basal metabolic rate prolongs the time for drug detoxification and elimination.

1 Hypothyroidism does not alter tolerance. **3** Opioids do not alter thyroid hormones. **4** Opioids will cause excessive sedation, not hyperactivity.

Reference: Ch 9, Hypothyroidism, Nursing Care

100. 4 Rapid respirations may be a sign of impending airway obstruction.

1 Unless irritability is accompanied by severe restlessness, symptomatic care should be given. **2** Unless accompanied by signs of respiratory embarrassment, this needs no immediate intervention. **3** This may sound ominous, but it is not a sign of respiratory embarrassment.

Reference: Ch 30, Respiratory Tract Infections, Data Base

101. 4 Children with persistent asthma must continue taking medications to keep them asymptomatic. Inhaled corticosteroids, long-acting β_2 agonists, and leukotriene modifiers are used as controller medications.

1 Some environmental moisture is necessary for these children. **2** Consistent limits should be placed on the child's behavior regardless of the disease; a chronic illness does not remove the need to set limits. **3** The child's symptoms are being controlled by medications that are necessary to keep the child asymptomatic.

Reference: Ch 32, Asthma, Nursing Care

102. 4 The presence of staff members will give the client support and will provide an opportunity for staff to distract and reassure the client. Continuous supervision is necessary for the safety of the client and others.

1 Although this intervention has value as a general measure, it is too soon to initiate this; it will not decrease the client's level of anxiety at this time. **2** This will be ineffective because it is unlikely the client will comprehend or remember explanations. **3** The client does not have the capacity to explore concerns; in fact, this can be counterproductive and anxiety producing.

Reference: Ch 18, General Nursing Care of Clients with Disorders Related to Alterations in Cognition and Perception

103. 3 A culture of cerebrospinal fluid (CSF) reveals the presence of the causative microorganism (e.g., pneumococcus, tubercle bacillus, meningococcus, or streptococcus).

1 This demonstrates the presence of bacteria on the skin; it does not identify microorganisms in the CSF. **2** This is used to detect the presence of abnormalities through injection of a contrast medium into the subarachnoid space; it does not identify the causative microorganism. **4** This is not a

definitive test, although it is done because occasionally a blood culture will be positive when a CSF culture is negative.

Reference: Ch 30, Meningitis, Nursing Care

104. 1 After a pneumonectomy, the mediastinum may shift toward the remaining lung or the remaining lung may shift toward the empty space, depending on the pressure within the empty space. Either of these shifts will cause the trachea to move from its usual midline position. The trachea is palpated above the suprasternal notch.

2 Metastatic lesions do not appear rapidly. **3** Tracheal edema cannot be assessed through palpation. **4** The cuff of the endotracheal tube cannot be assessed through palpation of the trachea.

Reference: Ch 7, Malignant Lung Tumors, Nursing Care

105. 2 Certain diagnostic tests (e.g., CBC, urinalysis, chest x-ray examination) are done preoperatively to rule out the existence of health problems that may increase the risks involved with surgery.

1 Feelings will not be dispelled by this response; it also blocks further communication. **3** Surgery poses a risk despite test results. **4** Lack of knowledge without a statement of plans to obtain the information suggests incompetence on the part of the nurse.

Reference: Ch 3, Perioperative Care, General Nursing Care of Clients during the Preoperative and Intraoperative Periods

106. 2 Anxiety experienced by a preoperative client can be a disruptive force that may affect the client's ability to cope psychologically and physiologically. Anxiety must be alleviated for other nursing measures to be effective.

1 Although vital signs are recorded because they will serve as a baseline in postoperative assessment, it is not the priority. **3** Learning is hampered by high anxiety levels. **4** The diet is limited before surgery so that residue in the intestines is decreased.

Reference: Ch 3, Perioperative Care, General Nursing Care of Clients during the Preoperative and Intraoperative Periods

107. 4 These are associated with infection. This is the greatest postoperative hazard for children with shunts for hydrocephalus.

1 This may occur as the result of an infected shunt; however, it is not the most common sign of an infectious process. **2** These occur with progressively increasing intracranial pressure, usually before shunt insertion. **3** The peritoneum absorbs cerebrospinal fluid adequately; ascites is not a problem.

Reference: Ch 30, Hydrocephalus, Nursing Care

108. 2 An intensive preparatory regimen is needed to destroy the child's immune system. Once the process is started, no rescue therapy except for the transplant is provided.

1 The procedure is performed in children for recurrent malignancies. **3** The child's bone marrow must be clear of all cells before transfusion of the stem cells is performed. **4** It is not a simple procedure. Preparation for the transfusion is accomplished by destroying the immune system.

Reference: Ch 6, Leukemia, Data Base

109. 2 Parenting can begin only when the infant and the mother get to know each other. To promote development, the nurse should provide time for mother-infant interaction.

1, 3, 4 Although this should be done, it is not the priority action.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Parent-Infant Relationships

110. 3 A cephalohematoma is a collection of blood between the skull bone and its periosteum that results from trauma during birth. It resolves spontaneously in 3 to 6 weeks.

1 The swelling of a caput succedaneum crosses the suture line because it is outside the periosteum. **2** A fontanel is an opening between the skull bones that allows for growth of the brain and skull; it is common to all healthy newborns and is expected to bulge when the infant cries. **4** Molding is caused by pressure of the birth canal on the head during the second stage of labor; it is benign and disappears in several days.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Nursing Care Common to All Newborns

111. 4 Famotidine (Pepcid) inhibits histamine at H₂-receptor sites in the stomach, inhibiting gastric acid secretion.

1 Famotidine does not affect stress levels. **2** Famotidine inhibits, rather than neutralizes, gastric secretion. **3** Famotidine inhibits gastric secretion, not peristalsis.

Reference: Ch 8, Related Pharmacology, Antisecretory Agents

112. 3 Intermittent or continuous loss of a small amount of blood over extended periods will lead to a decreased hemoglobin level; 8.5 g/dL is below the expected hemoglobin range for men (14 to 18 g/dL) and women (12 to 16 g/dL).

1 This serum iron level is within the expected range of 60 to 180 mcg/dL. **2** A serum uric acid level provides information about a client's purine metabolism. Expected values (men—3.5 to 8.5 mg/dL and women 2.7 to 7.3 mg/dL) vary from day to day and depend on the test in a specific laboratory; repeated tests several days/weeks apart are necessary for accurate assessments. **4** This transferrin level is within the expected range of 215 to 380 mg/dL.

Reference: Ch 8, Peptic Ulcer Disease, Data Base

113. 3 Lavage removes blood from the stomach, and the irrigating solution produces vascular constriction, which helps control bleeding by limiting blood flow to the area.

1 Lavage does not cause the blood to clot. **2** Neutralization of acid by water irrigation will take time; antacids may be instilled to alter the pH. **4** Stimulation of the vagus nerve is not the purpose of a lavage for gastric hemorrhage.

Reference: Ch 8, Peptic Ulcer Disease, Data Base

114. 2 Fever, chills, and low back pain indicate an acute hemolytic reaction, which is potentially life threatening; discontinuing the transfusion immediately limits kidney damage. The vein is kept open by running the primary bottle of normal saline.

1 Notifying the health care provider can be done later. The client's safety must be addressed first. **3** This may be done later. **4** Although the blood bank generally is notified if a reaction occurs, slowing the transfusion rate is unsafe because the reaction will continue.

Reference: Ch 6, Related Procedures, Blood Transfusion

115. 4 A quiet, alert state is an optimum time for infant stimulation and interaction with the parent.

1 Bright lights are disturbing to newborns and may impede parent-child interaction. **2** The physical examination can be delayed. **3** There is no reason to reposition the infant; it does not increase the opportunity for stimulation and interaction.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Parent-Infant Relationships

116. 2 RhoGAM will prevent sensitization from Rh incompatibility that may arise between an Rh-negative mother and an Rh-positive infant.

1 Because the newborn has type O blood with no ABO incompatibility, neither mother nor infant will require a transfusion; this is the mother's first pregnancy, so the risk for Rh incompatibility is minimal. **3** Only the mother's and the newborn's Rh factors are relevant at this time. **4** ABO

incompatibility does not exist in this situation; it can if the mother had O positive and the newborn had type B blood.

Reference: Ch 27, Hemolytic Disorders, Data Base

117. 3 This is related to the influence of maternal hormones; it is temporary.

1 This is unrelated to problems with bleeding. **2** This finding is not related to infection. **4** This finding is unrelated to urinary elimination.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Adaptation to Extrauterine Life

118. Answer: 2, 5.

1 Lethargy is associated with hypothyroidism; hyperactivity occurs with hyperthyroidism. **2** Tachycardia is associated with hyperthyroidism and is caused by the increase in the basal metabolic rate. **3** Weight gain occurs with hypothyroidism; weight loss occurs with hyperthyroidism because of the high metabolic rate. **4** Constipation is associated with hypothyroidism; frequent loose stools occur with hyperthyroidism. **5** Exophthalmos is associated with hyperthyroidism and results from accumulation of fluid behind the eyeball.

Reference: Ch 9, Hyperthyroidism, Data Base

119. 2 Preschoolers view death as a separation; they believe the deceased will return to life. This is part of their fantasy world.

1 Preschoolers view death as a separation, or possibly a kind of sleep, and expect the deceased to return or wake up. **3** The preschooler does not yet have the understanding that older people are more likely to die. **4** The preschooler believes that the separation was initiated by the deceased, not by another force.

Reference: Ch 32, Hospitalization of Preschoolers, Data Base

120. 4 Feelings of hopelessness are symptomatic of depression; the individual feels unable to find any solution to problems and thus feels overwhelmed.

1 Echolalia is the pathologic meaningless repetition of another's words or phrases and is associated with schizophrenia, not with depression. **2** Delusions are associated with psychotic disorders such as schizophrenia, not depression. **3** Confusion is not common because these individuals are in contact with reality.

Reference: Ch 19, Major Depression, Data Base

121. 3 An amniotomy allows for more effective pressure of the fetal head on the cervix, enhancing dilation and effacement.

1 Vaginal bleeding may increase because of the progression of labor. **2** Discomfort may increase because contractions usually become more intense after an amniotomy. **4** An amniotomy should not affect maternal or fetal heart rates.

Reference: Ch 25, Intrapartum Period, Nursing Care

122. 2 As cervical dilation nears completion, labor is intensified, causing an increase in energy expenditure; these result in perspiration and a flushed face.

1 The client usually is restless and thrashes about during transition, assuming no particular position. **3** Back pain usually indicates a posterior-lying position of the fetus's head. Perineal pain starts during the second stage of labor. **4** Pain is increased because contractions are more frequent and intense, and they last longer.

Reference: Ch 25, Intrapartum Period, Data Base

123. 1 Members of self-help groups, particularly Alcoholics Anonymous, are living with the problem themselves; therefore, problem identification and self-responsibility are emphasized, and manipulation is limited.

2 Long-term therapy tends to increase anxiety until resolution occurs; level of commitment and duration of therapy render it a less desirable choice for substance abusers. **3** Depending on the client's feelings about religion, this may or may not be helpful. **4** This depends on the friend's drinking status; it may be helpful or harmful. These variables negate the effectiveness of this choice.

Reference: Ch 20, Alcohol Abuse and Dependency, Data Base

124. 2 Although members of the group may become impatient with one another's problems at times, the group usually is supportive. Members share common goals, and the opportunity is available to test out new patterns of behavior.

1 This statement is too universal; the rate and amount of change are individually based variables. **3** People with addiction problems have varied backgrounds; the only common denominator may be drug abuse. **4** This statement is too universal; although many clients function well in a group, some clients cannot.

Reference: Ch 20, Drug Abuse, Data Base

125. 4 Most complications after cardiac catheterization involve the puncture site; included are localized hemorrhage and hematomas, as well as thrombosis of the femoral artery.

1 Providing a bed cradle is not necessary after cardiac catheterization. **2** Although this is important, it is not the priority assessment. **3** The client should remain supine to avoid disturbing the insertion site.

Reference: Ch 6, Related Procedures, Cardiac Catheterization

126. 3 Lasix is potassium depleting; apricots have more than 440 mg of potassium per 100 g.

1 Apples have about 80 to 110 mg of potassium per 100 g. **2** Grapes have about 80 to 160 mg of potassium per 100 g, depending on the variety. **4** Cranberries have about 65 mg of potassium per 100 g.

Reference: Ch 8, Review of Nutrients, Minerals

127. 3 This explores the meaning of the statement and allows further expression of concern.

1 This does not allow an explanation of feelings and cuts off communication. **2** This response lacks both empathy and understanding; it also cuts off communication. **4** This shirks responsibility; the client may be embarrassed to ask the health care provider and needs the nurse to act as facilitator.

Reference: Ch 21, General Nursing Care of Clients with Sexual and Gender Identity Disorders

128. 1 An illusion is a misperception of an actual stimulus.

2 A delusion is a fixed false belief that is unrelated to an external stimulus. **3** Dissociation is a disturbance in the integrative functions of the client. **4** A hallucination is a false perception with no actual external stimulus.

Reference: Ch 18, Delirium, Data Base

129. 1 These infants may have retinal dysplasia and other problems that interfere with vision acuity. Ocular disease may not be apparent for several months.

2 This does not affect renal function. **3** This does not affect long bone growth. **4** This does not affect auditory acuity.

Reference: Ch 27, TORCH, Data Base

130. 4 Tolterodine (Detrol), a urinary tract antispasmodic, may cause dizziness and blurred vision, placing the client at risk for injury.

1 Although it is important to know if the client is experiencing anuria and/or overflow incontinence, which may indicate urinary retention, a detailed I&O record is unnecessary. **2** An extended release capsule should be swallowed whole and should not to be opened or chewed. If chewed or opened,

the client will receive a surge of action and the long-term action of the medication is gone. **3** Tolterodine is classified as an anticholinergic, and adverse reactions include constipation and dry mouth; diarrhea and an increase in respiratory secretions are associated with drugs classified as cholinergics.

Reference: Ch 12, Related Pharmacology, Urinary Spasmolytics

131. 1 Fine motor coordination is developed inadequately for manipulation of snap toys. Also, small beads are a choking hazard.

2 These stimulate the sense of touch, and since voluntary grasp appears at about 3 to 4 months, they can be handled satisfactorily. **3** The voluntary grasp will allow the child to hold the toy, and the rattling sound will stimulate the auditory system. **4** These are appropriate to stimulate visual attention.

Reference: Ch 30, Health Promotion of Infants, Play

132. 1 Applying the diaper loosely for 2 or 3 days lessens pressure on the penis, thus promoting healing.

2 The newborn can be fed as usual. **3** This will be painful and irritating to the wound. **4** Bleeding is not expected, although the newborn should be monitored for signs of bleeding.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Nursing Care Common to All Newborns

133. 3 The nurse needs to make an assessment; the nurse cannot rely on a visitor's observations.

1 The client probably will be unable to answer this question. **2** The nurse is intervening without first assessing the client; this may be threatening if the client is not out of control. **4** This may be done later, after the client is assessed.

Reference: Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

134. Answer: 1, 2, 3.

1 Increased intracranial pressure can precipitate vomiting because of its effect on the chemoreceptor trigger zone in the medulla. **2** Because the cranial sutures are closed by this age, increased pressure can cause headache. **3** Irritability results from increased pressure in the cranium and as a response to related discomforts. **4** Pressure on the respiratory center in the brain results in a decreased, not increased, respiratory rate. **5** Blood pressure is increased, not decreased, with increased intracranial pressure in the toddler who has closed fontanelles.

Reference: Ch 30, Meningitis, Data Base

135. 2 This requires the client to find a common characteristic of two things, an ability that is a criterion for abstract thinking.

1 This tests orientation, not abstract thinking. **3** This tests judgment, not abstract thinking. **4** This tests short-term memory, not abstract thinking.

Reference: Ch 18, Dementia, Data Base

136. 2 Taking the blood pressure in the affected arm may injure the fistula.

1 The presence of a bruit indicates that the circulation is not obstructed by a thrombus. **3** Lying on the arm may injure the fistula and should be avoided. **4** These are signs of infection, which is a complication of an arteriovenous fistula.

Reference: Ch 12, Chronic Kidney Failure/End-Stage Renal Disease, Nursing Care

137. 1 Acknowledgment of the client's behavior will help lower the spouse's anxiety, reduce guilt, and encourage discussion of feelings.

2 Lack of understanding by the nurse can be interpreted as uncaring and can incite the spouse to make more angry remarks. **3** This is insensitive; it implies that the spouse did not know how to care for

the client. **4** This is insensitive; it suggests inadequate judgment on the spouse's part.

Reference: Ch 18, Dementia, Nursing Care

138. 3 With myasthenia gravis, the sensitivity of the end plates at the postsynaptic junction to acetylcholine is reduced, thus interfering with muscle contraction. Inadequate contraction of the ocular muscles results in double vision (diplopia).

1, 2 This is not a clinical manifestation associated with myasthenia gravis. **4** Nystagmus is not a clinical manifestation associated with myasthenia gravis; it is associated with multiple sclerosis.

Reference: Ch 11, Myasthenia Gravis, Data Base

139. 3 Clients with Addison disease must take glucocorticoids regularly to enable them to adapt physiologically to stress and prevent an addisonian crisis, a medical emergency similar to shock.

1 Activity is permitted as tolerated. **2** Sodium should be taken as desired because hyponatremia frequently occurs from diminished mineralocorticoid secretion. **4** Frequent visits to a health care provider are not necessary after control is established.

Reference: Ch 9, Addison Disease, Data Base

140. Answer: 1, 3, 5.

1 Anticholinergic effects of pyridostigmine (Mestinon) can cause respiratory depression, bronchospasm, laryngospasm, and respiratory arrest, which are life-threatening. **2** Bladder distention is not associated with pyridostigmine. **3** Anticholinergic effects of pyridostigmine can cause hypotension, tachycardia, bradycardia, dysrhythmias, and cardiac arrest. **4** Although pyridostigmine can cause incoordination, it does not cause fine tremors of the hands. **5** Pyridostigmine is an anticholinergic that increases the peristaltic activity of the intestines. The result is hyperactive bowel sounds.

Reference: Ch 11, Related Pharmacology, Cholinesterase Inhibitors

141. 2 This position will prevent pressure on the sac; if the sac ruptures, infection may occur.

1 Diapers should not be applied because they may irritate or contaminate the sac. **3** Antiinfectives are too caustic. **4** Assessment of the area below the defect is essential for determining motor, urinary, and bowel function.

Reference: Ch 30, Defects of Neural Tube Closure, Nursing Care

142. 2 Swimming helps keep the muscles supple, without requiring fine motor activity.

1 Hiking might prove too rigorous for the client. **3** Manipulating a mouse and keyboarding require fine motor activity and will be difficult for the client. **4** Sedentary activities are not helpful in maintaining muscle tone.

Reference: Ch 11, Myasthenia Gravis, Nursing Care

143. 4 The congenital defect prevents the infant from creating a tight seal with the lips to promote sucking. As a result, the infant swallows large amounts of air when feeding. The parent should be taught to provide frequent rest periods and to burp the infant often to expel excess air in the stomach.

1, 2 Infants with cleft lip and palate should be held upright during feedings. **3** Newborn infants cannot chew and do not make chewing movements.

Reference: Ch 30, Cleft Lip and Cleft Palate, Nursing Care

144. 2 Abstinence 4 to 6 weeks before term is the best way to avoid contracting the virus and having an outbreak before the birth.

1 Because the herpes virus is smaller than the pores of a condom, this type of protection has limited effectiveness. **3** Abstinence is necessary only when disease symptoms are present in the partner and during the last 4 to 6 weeks of pregnancy. **4** Washing is not sufficient to prevent contraction of this

virus; contact already has been made.

Reference: Ch 27, TORCH, Data Base

145. 4 Placing the client in the semi-Fowler position forces the heavy uterus to put pressure on the blood vessels at the site of the separating placenta. This controls bleeding to some extent.

1 There is no indication that the clotting mechanism is disturbed. **2** This is contraindicated with placenta previa; it may further dislodge the placenta. **3** This is contraindicated in any client admitted with vaginal bleeding.

Reference: Ch 26, Placenta Previa, Data Base

146. 2 The size of the breast buds is an indication of gestational age. Small, underdeveloped nipples reflect prematurity.

1 A single palm crease is a clinical manifestation of Down syndrome, not of prematurity. **3** This is not a reliable indicator of gestational age; also, reflexes may be impaired in full-term infants. **4** Although the nails may be longer in a postterm infant, it is not a reliable indicator in a preterm infant.

Reference: Ch 27, Preterm Infant, Data Base

147. 4 The presence of loosely associated, tangential thinking is one of the cardinal symptoms of schizophrenia; its lessening will demonstrate improvement.

1 This behavior may reflect withdrawal from reality and does not necessarily signal improvement. **2** Most clients with schizophrenia are able to express negative feelings freely because control by the ego is ineffective. **3** This does not demonstrate an improvement; paranoid delusions usually are well organized and on the surface often seem logical.

Reference: Ch 18, Schizophrenic Disorders, Nursing Care

148. 4 This provides safety for the nurse and the other staff member; placement closer to the door allows for a rapid exit.

1 This invades the client's territory and may precipitate an aggressive client response. **2** This is premature; the team is alerted when a client is out of control, harming self or others, and cannot be managed by the staff on the unit. **3** This may be viewed by the client as confrontational and may precipitate an aggressive response.

Reference: Ch 18, Schizophrenic Disorders, Nursing Care

149. 2 Increasing cerebral edema may predispose the client to seizures; therefore, stimuli of any kind should be minimized.

1 Although intake and output should be monitored to identify oliguria, it will not limit the occurrence of a seizure. **3** Although this should be done, it will not limit the occurrence of a seizure. **4** A cesarean birth may not be needed.

Reference: Ch 26, Hypertensive Disorders of Pregnancy, Nursing Care

150. 1 Safety is the priority before any other intervention is provided.

2 This is important, but less of a priority. **3** This is a later nursing action. **4** Although this is important, it is not the priority.

Reference: Ch 16, General Nursing Care of Clients with Mental Health/Psychiatric Problems

151. 3 Side rails can help clients increase their movement in bed. They are immovable objects that provide a handhold for leverage when changing positions.

1, 2, 4 The need to use side rails for safety must be evaluated for each individual on the basis of mental and physical status and hospital regulations.

Reference: Ch 11, Brain Attack/Cerebral Vascular Accident, Nursing Care

152. 1 Ossification of the long bones is incomplete in childhood; children's bones can flex to

about a 45-degree angle before breaking. When the bone is angulated beyond 45 degrees, the compressed side bends and the torsion side breaks (greenstick fracture).

2 A transverse fracture usually is a complete fracture seen in blunt trauma; it occurs in adults because bone ossification is complete. **3** A compound fracture is a fracture with an open wound from which the bone protrudes; it seldom is seen in children. **4** A comminuted fracture is a fracture in which small fragments of bone are broken from the fracture site and lie in the surrounding tissue; it is rarely seen in children.

Reference: Ch 31, Fractures Throughout Childhood, Data Base

153. 2 It takes 24 hours to reach the peak effect of transdermal fentanyl (Duragesic). Oral pain medication may be necessary to support client comfort until the fentanyl reaches its peak effect.

1 The nurse needs to administer the dose of transdermal fentanyl exactly as prescribed by the health care provider. **3** This is associated with tricyclic antidepressants, not transdermal fentanyl. **4** A transdermal medication is administered through the skin via a patch applied to the skin, not via the gastrointestinal tract.

Reference: Ch 3, Pain, Related Pharmacology, Opioid Analgesics

154. 1 Assessment is the first step of the nursing process, and vital signs provide vital information about the client's cardiopulmonary status.

2,4 Although this may be done, it is not the priority. **3** Although this may be done, it is not the priority. Administration of oxygen may alter the client's baseline vital sign results.

Reference: Ch 6, Coronary Artery Disease, Myocardial Infarction, Data Base

155. Answer: 2, 3.

1 Environmental stimuli do not have to be reduced. **2** Individuals with spinal cord injury, particularly injury higher in the vertebral column, remain unstable for several weeks after the injury. Maintaining a patent airway is a priority. **3** Physiologic instability during the first several weeks after injury results in fluctuating vital signs, including blood pressure readings. **4** This is too early to institute a bowel and bladder training program. **5** This is inappropriate because family members are coping in the present; also, it is too early to determine how much function the client may recover.

Reference: Ch 11, Spinal Cord Injury, Nursing Care

156. 3 The elevated temperature may be indicative of an infection; if so, immediate treatment, probably with antibiotics, is required.

1 The procedure is a short one; there is some pain or discomfort. **2** The woman's signature is all that is required in most states. **4** A light menstrual flow is expected for several days.

Reference: Ch 23, Induced Abortion, Nursing Care

157. 4 This is an objection of some women that the nurse must consider when providing counseling about the diaphragm.

1 The failure rate is 4% to 35% when used without a spermicide; effectiveness increases with the use of a spermicide. **2** This problem has not been documented. **3** These can be side effects of oral contraceptives, not the diaphragm.

Reference: Ch 23, Contraceptive Methods, Nursing Care

158. 4 Tubercle bacilli are transmitted through airborne droplets; therefore, respiratory isolation with an Ultra-Filter mask is necessary.

1 Transmission occurs through the airborne route, not via fomites. **2** Contact of family members with others does not have to be limited as long as isolation precautions are employed by family members when visiting the client. **3** Transmission occurs through the airborne route; gowns and

gloves are unnecessary.

Reference: Ch 7, Pulmonary Tuberculosis, Nursing Care

159. 2 Because this drug has a strong affinity for fluids, it will swell in the intestine. The large bulk stimulates peristalsis. A full glass of fluid taken at the same time will help minimize the risk of esophageal obstruction or fecal impaction.

1 Senna (Senokot), a stimulant laxative, may discolor urine, not psyllium (Metamucil). **3** Psyllium, a bulk-forming laxative, is among the safest laxatives on the market. It is useful with prolonged therapy because it is not systemically absorbed and is not potent in its action. **4** Prolonged use of lubricant or saline/osmotic laxatives can inhibit the absorption of some fat-soluble vitamins.

Reference: Ch 8, Related Pharmacology, Cathartics/Laxatives

160. 1 A decreased concentration of extracellular sodium causes a decrease in the release of antidiuretic hormone (ADH). This leads to increased excretion of urine.

2 Sodium restriction does not control the volume of food intake; weight is controlled by a low-calorie diet, exercise (if permitted), and prevention of fluid retention. **3** The resulting elimination of excess fluid reduces the workload of the heart but does not improve contractility. **4** Potassium is inefficiently retained by the body; an adequate intake of potassium is needed.

Reference: Ch 6, Heart Failure, Data Base

161. 3 When ambulating a client, the nurse walks on the client's stronger or unaffected side. This provides a wide base of support and therefore increases stability during the phase of ambulation that calls for weight-bearing on the affected side as the unaffected limb moves forward.

1, 2 This tends to change the center of gravity from directly above the feet and may cause instability. **4** This will not support the client as the strong leg moves forward and weight-bearing is on the affected side.

Reference: Ch 11, Fracture of the Hip, Nursing Care

162. 3 This allows an active preschooler to move within restrictions and encourages use of the imagination.

1 Unless carefully selected, many television shows are inappropriate and uninteresting for a preschool-age child. **2** Although a preschool-age child may still cling to a security toy, it will not stimulate the child's imagination. **4** This may provide the child with rest, but this activity is too simple for a preschool-age child and will not promote development.

Reference: Ch 32, Health Promotion of Preschoolers, Play

163. 4 Rh-negative cells are not attacked by maternal antibodies in the infant's blood. Giving Rh-positive cells will lead to further hemolysis

1 This is irrelevant because the blood cells usually do not come from the mother. **2** Rh-negative blood is not neutral; it provides a temporary safeguard from further hemolysis. **3** A reaction to other antigens in the crossmatched blood may occur.

Reference: Ch 27, Hemolytic Disorders, Data Base

164. 3 These are some of the first signs of hypoxia; the airway must be kept patent to promote oxygenation.

1, 2, 4 These are late signs of respiratory difficulty; suctioning and other measures should have been implemented before these clinical findings are manifested.

Reference: Ch 30, Respiratory Tract Infections, Nursing Care

165. 3 The priority of care at this time is to protect the spine from additional damage to the traumatized area while it heals.

1 Although important, it is not the immediate priority. A urinary tract infection can result from

urinary stasis because of prolonged immobility. **2** Although important, it is not the priority in the immediate postinjury period. **4** Vocational rehabilitation will assume greater importance after the client's condition stabilizes.

Reference: Ch 11, Spinal Cord Injury, Data Base

166. 1 Jaundice occurs because of the expected physiologic breakdown of fetal red blood cells and the inability of the newborn's immature liver to conjugate the resulting bilirubin. Breastfed neonates are more prone to physiologic jaundice because of diminished calorie and fluid intake in the three days before milk is produced.

2 Conjugation and excretion, not synthesis of bile, are compromised because of the immature liver. **3** This is unrelated to the newborn's hemoglobin level; the mother and the fetus had separate circulations. **4** Newborns usually have high hemoglobin and high hematocrit levels.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Adaptation to Extrauterine Life

167. 3 Eye patches are applied while receiving phototherapy to prevent drying of the conjunctiva, injury to the retina, and alterations in biorhythms.

1 The infant will close the eyes automatically in response to bright lights and application of a patch. **2** The infant should be exposed to bright lights periodically so circadian rhythms will become established. **4** These movements are automatic during different phases of sleep and will not be affected by eye patches.

Reference: Ch 27, Hemolytic Disorders, Data Base

168. 1 The field should be placed on a clean, dry table near the client. A client's bed surface may not be clean and the client's movements may cause the field to become contaminated.

2 The outer inch of the sterile field is considered contaminated. Sterile objects must be kept within the one-inch border of the sterile field. **3** Expired equipment must be discarded. Sterile gloves are donned after the soiled dressing is removed and contained, the hands washed, and the sterile field is prepared. **4** This is the correct technique if using forceps to hold wet gauze. This keeps the flow of the sterile solution in the direction of sterile equipment. If forceps are held with the tips higher than the wrist, sterile solution will flow in the direction of the caregiver and may become contaminated by flowing onto an unsterile surface.

Reference: Ch 3, General Nursing Care of Clients at Risk for Infection

169. 2 Increased intracranial pressure exerts pressure on the vomiting center in the brain, resulting in projectile vomiting unrelated to feeding.

1 The eyeballs will show signs of increased fluid volume in the skull and will be pushed forward, pulling the lids taut. **3** The fontanels will show signs of increased fluid volume in the skull and therefore will bulge. **4** In adults, increased intracranial pressure causes a widening pulse pressure (the systolic pressure is increased and the diastolic pressure is the same or decreased). This is rarely seen in infants and children.

Reference: Ch 30, Hydrocephalus, Data Base

170. 3 The trauma of surgery results in some seeping or oozing of blood into the remaining gastric area for 10 to 12 hours until coagulation takes place.

1, 2 This is too short a time for coagulation of blood to occur after the trauma of surgery. **4** Light-red drainage 24 to 48 hours after surgery is abnormal and unexpected; the health care provider should be notified.

Reference: Ch 8, Peptic Ulcer Disease, Nursing Care

171. 2 Too rapid administration can cause hyperkalemia, which contributes to a long refractory period in the cardiac cycle, resulting in cardiac dysrhythmias and arrest.

1 Although acidosis can cause hyperkalemia, hyperkalemia will not lead to acidosis. **3** These reactions do not occur with hyperkalemia. **4** Hyperkalemia usually causes nausea, vomiting, and diarrhea, which may result in dehydration; in this instance, fluid will shift from interstitial spaces to the intravascular compartment. With edema, the fluid shift occurs in the opposite direction.

Reference: Ch 3, Fluid and Electrolyte Balance, Major Ions (Electrolytes)

172. **Answer: 1, 3, 5.**

1 Preterm newborns have little subcutaneous fat; the skin is wrinkled, and blood vessels and bony structures are visible. **2** Sole creases develop progressively, covering the entire foot at term. **3** Breast bud size is small with underdeveloped nipples. **4** Preterm male infants' testes are undescended; rugae develop progressively and cover the entire scrotum of the full-term male newborn. **5** Preterm infants' ears contain little cartilage and are very springy when folded; at term, the ears contain cartilage and the pinnae are firm.

Reference: Ch 27, Preterm Infant, Data Base

173. **2 Small feedings reduce the amount of bulk passing into the jejunum and therefore reduce the fluid that shifts into the jejunum.**

1 Although a diet high in roughage may be avoided, a low-residue, bland diet is not necessary. **3** Daily fluid intake does not have to be restricted; however, fluids should not be taken immediately before, during, or after a meal because they promote rapid stomach emptying. **4** Concentrated sweets pass rapidly out of the stomach, and increase fluid shifts; the diet should be low in carbohydrates. Protein is needed to promote tissue repair.

Reference: Ch 8, Peptic Ulcer Disease, Nursing Care

174. **1 The residual limb is elevated for the first 24 hours after surgery to reduce edema and then is placed flat on the bed to prevent hip flexion contractures.**

2, 3 This is too soon; the residual limb is elevated in bed for the first 24 hours. **4** The dressing applied on the completion of surgery should not be disturbed at this time because it is supporting hemostasis.

Reference: Chapter 11, Amputation, Nursing Care

175. **Answer: 1, 4, 5.**

1 One of the benefits of regular exercise is that it promotes peristalsis. **2** Medications should not be recommended or taken during pregnancy without a prescription. **3** Caffeinated beverages do not relieve constipation and may be harmful. Staying hydrated by drinking 8 to 10 glasses of fluid per day may relieve the constipation. Water, milk, and fruit juices are recommended. **4** High-fiber foods promote peristalsis. **5** Setting aside a specific time of day helps establish regular bowel habits.

Reference: Ch 25, Prenatal Period; Physical, Physiologic, and Emotional Changes during Pregnancy

176. **2 This statement acknowledges the client's feelings and offers as opportunity to talk in the future; this shows the nurse cares and is not abandoning the client. Pursuing the topic while the client is angry may result in an escalation of the client's anger, jeopardizing the nurse and others.**

1, 3, 4 This requires trust on the part of the client, which may or may not be justified at this time; the client feels betrayed and is angry.

Reference: Ch 18, Schizophrenic Disorders, Nursing Care

177. **3 A relaxed uterus is the most frequent cause of bleeding in the early postpartum period. The uterus can be returned to a state of firmness via intermittent gentle fundal massage.**

1 Immediate action is directed toward the client's safety; the health care provider is called if nursing

intervention does not control the bleeding. **2** The vital signs are checked after another intervention that addresses the client's immediate needs. **4** Steady bleeding is a complication that must be attended to immediately.

Reference: Ch 25, Intrapartum Period, Nursing Care

178. 4 Atelectasis refers to the collapse of alveoli; breath sounds over the area are diminished.

1 A productive cough most often is associated with inflammation or infection, not atelectasis. **2** This is not specific to atelectasis. Clubbing of the fingertips is a late sign of chronic hypoxia related to prolonged obstructive lung disease. **3** Crackles are associated with fluid in the alveoli, which occurs with heart failure and pulmonary edema.

Reference: Ch 3, Perioperative Care, Nursing Care of Clients during the Postoperative Period

179. 3 Chemotherapy and leukemia cause immunosuppression (low WBCs), thus increasing the risk for infection.

1 The child should maintain physical activity that can be tolerated. **2** Although vital signs must be checked to assess for changes in pulse or blood pressure, unless there is clinical evidence of bleeding, it is not necessary to obtain vital signs every 2 hours. **4** Children need stimulation that is appropriate for their developmental level except when acutely ill.

Reference: Ch 32, Leukemia, Nursing Care

180. 3 A common side effect of vinCRISTine is a paralytic ileus that results in constipation.

Preventative measures include high-fiber foods and fluids that exceed minimum requirements.

These will keep the stool bulky and soft, thereby promoting evacuation.

1, 2, 4 This will not provide the roughage and fluids needed to minimize the constipation associated with vinCRISTine.

Reference: Ch 32, Leukemia, Nursing Care

181. 3 A low platelet count predisposes to bleeding, which may be evident in the urine. RBCs are seen microscopically in the sediment.

1 Protein is not found in the urine when the platelet count is low. **2** Glucose is not found in the urine when the platelet count is low. **4** Lymphocytes usually are not found in the urine.

Reference: Ch 32, Leukemia, Nursing Care

182. 3 The protective blood-brain barrier initially screens leukemic cells from the central nervous system (CNS). However, in advanced stages, leukemic infiltration occurs. Chemotherapeutic agents, also screened out by the blood-brain barrier, are ineffective.

1 Radiation destroys, not just retards, malignant cells. **2** Radiation does not decrease cerebral edema. **4** Irradiation of the cranium is needed because chemotherapy does not pass the blood-brain barrier.

Reference: Ch 32, Leukemia, Nursing Care

183. 3 The health care provider needs to be aware of the reason for the client's lack of response to the medication so that an alternate treatment plan or financial assistance can be arranged (e.g., go to The National Council on the Aging website [BenefitsCheckUp.org] to establish whether the client is eligible for assistance from any community, state, or federal programs or from the drug company).

1 A health care provider may prefer the proprietary form of the medication. Asking the pharmacist to provide a generic form of the medication is unsafe. Recommending that the client obtain a generic form of the medication is not within the legal role of the nurse, unless the health care provider documents that this is acceptable. **2** Medications purchased over the Internet may be illegally imported, counterfeit, expired, or contaminated and therefore should be avoided. **4** Although some

prescription insurance plans may help to reduce the cost of some medications, the client may not be able to afford the insurance.

Reference: Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

184. 2 The most likely cause is a disturbance in the ratio of calcium to phosphorus, with the amount of serum calcium reduced and the serum phosphorus increased; milk and other dairy products are excellent sources of calcium.

1 Leg cramps are related to hypocalcemia, not hypercalcemia. **3** An elevated potassium level is manifested by muscle weakness. **4** A low potassium level is evidenced by fatigue and muscle weakness.

Reference: Ch 25, Prenatal Period; Physical, Physiological, and Emotional Changes during Pregnancy

185. 4 Simvastatin (Zocor) is contraindicated in pregnancy because it is capable of causing fetal damage (teratogenic). It is a Pregnancy Category X teratogen.

1 Simvastatin should be taken in the evening because most cholesterol is synthesized between 12 midnight and 3:00 AM. **2** Liver function tests should be done at 6 to 12 weeks initially and only then every 6 months. **3** Although wearing sunscreen should be taught, sensitivity reactions are a rare occurrence; it is not as important as the action in another option.

Reference: Ch 6, Related Pharmacology, Antilipidemics

186. Answer: 3, 4.

1 This usually is accomplished at 5 years of age. **2** This requires balance that is not present until 4 or 5 years of age; the 3-year-old child usually can ride a tricycle. **3** This can be expected; usually, it is accomplished by 3 years of age. **4** Children at 3 years of age are able to walk up the stairs alternating the feet; they also can jump off the bottom step. **5** This is not accomplished until later in the school-age years.

Reference: Ch 32, Growth and Development, Three Years

187. 1 A side effect of methylphenidate (Ritalin) is anorexia; it should be given during or immediately after breakfast.

2 The absorption rate is not affected by the timing of when it is given. **3** This is not a side effect of methylphenidate. **4** At this age, the parents are responsible for administering medications.

Reference: Ch 17, General Nursing Care of Children with Disorders First Evident in Infancy, Childhood, or Adolescence

188. 3 The high-pressure alarm signifies increased pressure in the tubing or the respiratory tract; obstruction usually is caused by excessive secretions.

1 This is a dependent function of the nurse and cannot be implemented without a health care provider's order. **2** High-volume, low-pressure cuffs make this unnecessary; it will decrease the effectiveness of the ventilator and compromise respiratory status. **4** The temperature can remain constant, usually at about 5° F to 10° F below body temperature.

Reference: Ch 7, Related Procedures, Mechanical Ventilation

189. 1 The system must remain airtight (closed) to prevent collapse of the lung.

2 The system is kept closed; a record of drainage is kept by marking the outside of the container or chamber. **3** It should bubble but not vigorously; vigorous bubbling will not increase the suction but will cause the fluid to evaporate more rapidly. **4** The water level will fluctuate as the client inhales and exhales. The level will increase with inspiration and decrease with expiration; this is known as *tidaling*.

Reference: Ch 7, Related Procedures, Chest Tubes

190. **1 Hallucinations occur most often when sensory stimulation is diminished because there is less competition for attention.**

2, 3, 4 This activity competes for sensory attention and thereby diminishes hallucinations.

Reference: Ch 18, Schizophrenic Disorders, Nursing Care

191. **4 A life-threatening effect of cycloSPORINE (Gengraf, Sandimmune) is nephrotoxicity. Therefore, creatinine and blood urea nitrogen (BUN) levels should be monitored.**

1 Although abnormal hairiness (hirsutism) is an effect of cycloSPORINE, it is not life-threatening. 2 Diarrhea, not constipation, is a response to cycloSPORINE. 3 CycloSPORINE does not cause cardiovascular life-threatening effects.

Reference: Ch 12, Chronic Kidney Failure/End-Stage Renal Disease, Nursing Care

192. **4 The primary concern for pregnant women who practice pica is that their diet is nutritionally inadequate. Nutritional guidance may be necessary based on this assessment.**

1 Pica does not indicate a psychologic/emotional disturbance; frequently, it is influenced by the client's culture. 2 If not toxic to the mother, it generally is not fetotoxic. 3 Iron is routinely prescribed during pregnancy; this does not specifically address the practice of pica.

Reference: Ch 25, Prenatal Period; Physical, Physiological, and Emotional Changes during Pregnancy

193. **3 Ambulation decreases irregular contractions (i.e., preparatory contractions, Braxton Hicks contractions).**

1 Preparatory contractions increase when the client is resting. 2 These contractions are not indicative of true labor and need not be timed. 4 Medications should not be recommended by the nurse; this is a dependent nursing function.

Reference: Ch 25, Intrapartum Period, Data Base

194. **3 Losartan (Cozaar) is an antihypertensive. It blocks vasoconstrictor and aldosterone-producing effects of angiotensin II at receptor sites. A lowering of the client's blood pressure reflects a therapeutic response and should be monitored frequently.**

1 The client may be at risk for hyperkalemia, not hypokalemia. 2 Losartan may be taken without regard to meals. 4 Doubling a dose is unsafe. A missed dose can be taken as long as it is not close to the next scheduled dose.

Reference: Ch 6, Related Pharmacology, Antihypertensives

195. **4 A negative rubella titer indicates no immunity. Immunizations are given safely during the immediate postpartum period.**

1 Penicillin will not affect the client's immune status. 2 The mother's negative rubella titer does not affect the infant. 3 A client with a negative titer has no immunity to rubella.

Reference: Ch 25, Postpartum Period, Nursing Care

196. **4 The shunt may obstruct, leading to accumulation of cerebrospinal fluid (CSF) and increased intracranial pressure.**

1 Although providing pain relief for the infant is an important part of postsurgical care, monitoring for potentially severe complications such as increased intracranial pressure takes precedence. 2 Positioning the infant flat helps to prevent complications that may result from too rapid reduction of intracranial fluid. 3 The infant is positioned off the shunt to prevent pressure on the valve and incisional area.

Reference: Ch 30, Hydrocephalus, Nursing Care

197. **4 A well-balanced diet with fewer calories because of decreased metabolism is suggested for**

older adults.

1 Limited financial resources are one cause of malnutrition in the older adult. **2** Fluid needs do not increase. An older client who becomes dehydrated probably is not maintaining a minimum fluid intake. **3** High carbohydrates will provide excessive calories, which may result in obesity. Balance should be maintained among the food groups according to dietary guidelines advocated by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services; protein is needed for tissue replacement.

Reference: Ch 5, The Middle-Older Adult (Age 75 to 84 Years) and Old-Older Adult

198. 2 Because the drug was just administered, the blood level of the drug will be at its highest.

1 This will produce inaccurate results; peak and trough levels are measured in relation to the time a drug is administered. **3** This result will reveal a drug blood level halfway between peak and trough levels. **4** This is done for a trough level, when the drug level is at its lowest.

Reference: Ch 2, Medication Administration, Factors Influencing Drug Dosage and Response

199. 3 The presence of food limits the irritating effect of steroids on the gastric mucosa.

1 Food does not increase or decrease absorption of steroids. **2** It may help the client remember to take the medication, but it is not the reason for taking it with meals. **4** The medication is not affected by an acid environment.

Reference: Ch 9, Related Pharmacology, Adrenocorticoids

200. 1 Determining fetal well-being supersedes all other measures; if the fetal heart rate (FHR) is absent or is persistently decelerating, immediate intervention is required.

2, 3, 4 This is important, but it is not the priority.

Reference: Ch 25, Intrapartum Period, Nursing Care

201. 3 The fetal heart rate (FHR) is expected to decelerate when the head is compressed during a contraction. If the FHR returns to baseline at the end of the contraction, fetal well-being is indicated.

1 Cord compression during a contraction is a common occurrence; no intervention is necessary if the FHR returns to baseline at the end of the contraction. **2** There is no need for further intervention; this is an expected occurrence as long as the FHR returns to baseline at the end of the contraction. **4** This position will increase pressure on the vena cava.

Reference: Ch 25, Intrapartum Period, Nursing Care

202. 4 Clients with bulimia eat to blunt emotional pain because they frequently feel unloved, inadequate, and/or unworthy; purging is precipitated to relieve feelings of guilt for bingeing and/or to limit the fear of obesity.

1 The bingeing and purging usually are done alone and in secret. **2** Clients with bulimia often feel out of control and perform their behaviors in secret. **3** This is one of the psychodynamic theories related to anorexia nervosa, not to bulimia nervosa.

Reference: Ch 20, Eating Disorders, Overview

203. Answer: 1, 2, 3.

1 Irritability and emotional lability, fluctuating between euphoria and anger, are common moods associated with mania. **2** An inflated self-esteem and delusions of grandeur represent mood-congruent psychotic features of mania; clients believe that they possess extraordinary talents, that they are famous, or that they know someone famous. **3** They are extremely talkative, and their speech is rapid, with an urgent quality; they rapidly change subjects and have flight of ideas and racing thoughts. **4** This occurs most often with schizophrenia; the client loses the train of thinking and is unable to retrieve the previous thought. **5** This is related to depression; clients with mania

move fast, pace, fidget, and rarely are still.

Reference: Ch 19, Manic Episode of a Bipolar Disorder, Data Base

204. 1 Circulatory collapse can be caused by exposure to an infection or by overexertion of a client with chronic adrenocortical insufficiency (Addison disease).

2, 3, 4 This is an appropriate room assignment because the roommate does not have a communicable infection.

Reference: Ch 9, Addison Disease, Nursing Care

205. 3 Tetanus immune globulin contains ready-made antibodies and confers short-term passive immunity.

1 Passive immunity lasts a short time, not throughout life. **2** Immune globulins confer passive artificial immunity, not long-lasting active immunity. **4** Immune globulins are antibodies; they do not stimulate the production of antibodies.

Reference: Ch 13, Tetanus, Data Base

206. 1 Because of diminished mineralocorticoid secretion, clients with Addison disease are prone to develop hyponatremia. Therefore, the addition of salt to the diet is advised.

2 Intake of calories and fluid is determined on an individual basis, not because the client has Addison disease. **3** Protein is not omitted from the diet; ingestion of essential amino acids is necessary for optimum metabolism. **4** Fluids are not restricted for clients with Addison disease.

Reference: Ch 9, Addison Disease, Nursing Care

207. 3 Development of mood swings and psychosis is possible during long-term therapy with glucocorticoids because of fluid and electrolyte alterations.

1, 2, 4 This is not a response to long-term glucocorticoid therapy.

Reference: Ch 9, Related Pharmacology, Adrenocorticoids

208. Answer: 1, 2, 4, 6.

1 These infants are either stiff and unyielding or flaccid and unresponsive. **2** These infants have difficulty reaching out to the environment and tend to be withdrawn. They get little response from parents and do not learn how to respond to others. **3** These infants show little satisfaction and are very difficult to comfort. **4** These infants show little satisfaction and are nonresponsive or minimally responsive to human contact. **5** These infants are not physically or emotionally responsive to others; they resist being held and respond in a stiff and unyielding posture. **6** These infants have social and language deficits and display minimal interest in the environment or others.

Reference: Ch 30, Failure to Thrive, Data Base

209. 3 Head control and rolling over are achieved at 4 and 5 months, respectively. Transferring objects from one hand to another and sitting unsupported are achieved at 7 and 8 months, respectively.

1, 2 This is too young; the ability to roll over is achieved by approximately 5 months of age. **4** This is too old; transferring objects from hand to hand usually is achieved at approximately 7 months.

Reference: Ch 30, Growth and Development, Developmental Timetable

210. 4 Accidental overdose can cause death. Another nurse should verify accuracy of the order, dose, and pump settings to prevent harm to the client.

1 Although administering the loading dose over 10 minutes is an appropriate intervention, it is not the first thing the nurse should do. **2** Although monitoring for dysrhythmias is important because they are common with this medication and may be life-threatening, it is not the first thing the nurse should do. **3** Although taking the vital signs continuously during the infusion is important because the dose needs be slowed or discontinued if the blood pressure decreases excessively, it is not the

first thing the nurse should do.

Reference: Ch 6, Related Pharmacology, Phosphodiesterase Inhibitors

211. 4 When emotional stress overwhelms an individual's ability to cope, the unconscious seeks to reduce stress. A conversion reaction removes the client from the stressful situation, and the conversion reaction's physical/sensory manifestation causes little or no anxiety in the individual. This lack of concern is called *la belle indiffERENCE*.

1 No physiologic changes are involved with this unconscious resolution of a conflict. **2, 3** The conversion of anxiety to physical symptoms operates on an unconscious level.

Reference: Ch 19, Conversion Disorders, Data Base

212. 3 This helps the client identify behavior and feelings in a nonthreatening manner.

1 This judges the client, indicating a lack of acceptance. **2** The nurse's behavior is not the issue; the situation should be turned back to the client's behavior. **4** This evasion and refusal to answer will have the psychologic effect of removing the nurse from the group.

Reference: Ch 16, Group Therapy, Nursing Care Associated with Group Therapy

213. Answer: 2, 4, 5.

1 Fatigue is associated with withdrawal from caffeine or stimulants. **2** Anxiety is a symptom that is commonly associated with withdrawal from alcohol. **3** A runny nose and tearing of the eyes are associated with withdrawal from opioids. **4** When a person is withdrawing from alcohol, associated autonomic hyperactivity causes an increased heart rate and diaphoresis. **5** The withdrawal of alcohol affects the central nervous system, resulting in excited motor activity.

Reference: Ch 20, Alcohol Abuse and Dependency, Nursing Care

214. 2 Accidental ligation of a ureter is a serious complication of total abdominal hysterectomy. A decrease in urine output should be reported immediately to the surgeon.

1 An apical rate of 90 falls within expected limits but should be evaluated in relation to the client's previous vital signs. **3** A nasogastric tube is not inserted routinely. **4** This is expected.

Reference: Ch 24, Uterine Neoplasms, Nursing Care

215. 2 Because of tissue destruction, potassium ions are liberated from the injured cells. The result is hyperkalemia.

1 Blood volume decreases, not increases, and hypovolemic shock may occur. **3** Capillary permeability is increased, not decreased, as a result of the inflammatory response. **4** Because of the fluid shift, glomerular filtration is decreased, leading to an increased, not decreased, specific gravity.

Reference: Ch 10, Burns, Data Base

216. 4 The nurse, knowing the client was combative, was negligent in not providing close supervision; a reasonable, prudent nurse should have observed the client closely to protect against self-imposed injury and to protect others.

1 A client can be placed in restraints only because of current unsafe behaviors, not because of past history. **2** It is unrealistic to keep a client sedated at all times. **3** All clients should be supervised, especially those who have a history of combativeness.

Reference: Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

217. 3 This sets appropriate limits for the client who cannot set self-limits; it rejects the behavior but accepts the client.

1 This may have the effect of reinforcing the behavior rather than decreasing it. **2** This does not show acceptance of the client, nor does it help the client control behavior. **4** This does not address the problem directly; the nurse's response can confuse the client because the client may not be aware of

why the nurse is refusing to talk.

Reference: Ch 19, Manic Episode of a Bipolar Disorder, Nursing Care

218. 4 Exercise reduces the body's need for insulin. Increased muscle activity accelerates transport of glucose into muscle cells, thus producing an insulin-like effect.

1 With increased growth and associated dietary intake, the need for insulin increases during puberty. **2** An infectious process may require increased insulin. **3** Emotional stress increases the need for insulin.

Reference: Ch 33, Diabetes Mellitus, Data Base

219. Answer: 2, 5.

1 Diarrhea with melena is not associated with cholecystitis. Melena is tarry stools associated with upper GI bleeding; diarrhea is associated with increased intestinal motility. **2** Interference with bile flow into the intestine will lead to an increasing inability to tolerate fatty foods. The unemulsified fat remains in the intestine for prolonged periods, and the result is an inhibition of stomach emptying with possible gas formation. **3** Coffee-ground emesis is indicative of gastric bleeding; it is not associated with cholecystitis. **4** Gnawing pain when the stomach is empty is associated with duodenal ulcers, not with cholecystitis. **5** The gallbladder is in the upper right quadrant of the abdomen, and when inflamed it will cause pain in this area.

Reference: Ch 8, Cholelithiasis/Cholecystitis, Data Base

220. 1 Bleeding and hemorrhage are the most serious concerns. Bleeding disorders are common when bile does not flow through the intestine. Vitamin K, a fat-soluble vitamin synthesized in the small intestine, requires bile salts for its absorption; vitamin K is used by the liver to synthesize prothrombin necessary for clotting.

2, 3, 4 This is not as serious as the concern presented in another option.

Reference: Ch 8, Cholelithiasis/Cholecystitis, Nursing Care

221. 2 Exploration of the common bile duct may cause edema; a T-tube prevents edema from obstructing the duct.

1 The cystic duct is ligated when the gallbladder is removed. **3** The T-tube will not prevent the formation of an abscess. **4** A T-tube can be used to inject dye for a cholangiogram, but it is not inserted for that purpose.

Reference: Ch 8, Cholelithiasis/Cholecystitis, Nursing Care

222. 2 A colostomy does not function for 2 to 4 days postoperatively because of the lack of peristalsis.

1 Bowel sounds will be absent until peristaltic activity returns. **3** A dusky-colored, edematous-appearing stoma indicates a problem with circulation to the stoma; it should be cherry red. **4** Red bloody drainage from the nasogastric tube indicates gastric bleeding, which is abnormal.

Reference: Ch 8, Cancer of Small Intestine, Colon, or Rectum; Nursing Care

223. 4 The nurse has invaded the client's right to privacy. The client's marital status has no bearing on the needs of the client at this time.

1, 2 This action is an invasion of privacy. **3** There is no indication at this time that the client requires this referral.

Reference: Ch 2, Communication, The Nurse-Client Relationship

224. 3 With the head and chest elevated, gravity promotes respiratory excursion; alternating side-lying positions allows for pulmonary drainage and expansion. Placing the infant in an infant seat helps to maintain these positions.

1 This causes the abdominal viscera to put pressure on the diaphragm, thereby impeding lung

expansion. **2** It is difficult to maintain a 5-week-old infant in this position; in addition, this position will not promote rest. **4** This position will make it difficult for the lungs to expand, causing difficulty in breathing. The prone position is contraindicated for all infants because of its relationship to sudden infant death syndrome (SIDS).

Reference: Ch 30, Cardiac Malformations, General Nursing Care of Children with Cardiac Malformations

225. **Answer: 5, 2, 1, 4, 3.**

5 Sociocultural (e.g., fashion, “superwoman” issues, and the diet and fitness industry), biologic, psychologic, and familial factors all influence the development of anorexia nervosa. **2** Dieting, exercise, purging, and laxatives are used to lose weight, with the resulting primary gain of a feeling of control over one’s life. **1** As weight is lost, the individual feels a sense of accomplishment, and self-esteem increases. **4** Finally, secondary gains such as attention from parents and peers reinforce the behaviors associated with anorexia nervosa. **3** Continued dieting leads to multisystem dysfunction and a deterioration of physical status.

Reference: Ch 20, Anorexia Nervosa, Data Base

226. **4 Immunosuppressants such as azathioprine (Imuran) and cycloSPORINE (Sandimmune, Gengraf) are given to prevent rejection and therefore depress WBCs.**

1 An increased WBC level is associated with bacterial infection. **2** High creatinine levels do not cause leukopenia; increased creatinine levels are caused by kidney failure. **3** Rejection of the kidney does not cause leukopenia; signs of rejection include decreased urine output, increased serum creatinine, hypertension, and edema.

Reference: Ch 12, Chronic Kidney Failure/End-Stage Renal Disease, Nursing Care

227. **4 This is recommended to keep weight gain to no more than 25 lb so that the increased cardiac workload that occurs during pregnancy can be controlled as much as possible.**

1 Fats specifically are not limited; however, they should be eaten in moderation to control the total number of calories consumed. **2, 3** This is not advised for clients with cardiac problems.

Reference: Ch 26, Heart Disease, Nursing Care

228. **2 This provides the opportunity for paternal-infant attachment/bonding. Touching the infant may reduce some of the father’s anxiety.**

1 Although helpful, this does not meet the need for paternal-infant attachment/bonding. **3** This does not acknowledge the father’s anxiety; also, he may not be ready to absorb this information. **4** This is a simplistic approach to the father’s emotional needs and does not address the father’s concerns.

Reference: Ch 27, Foundations of Nursing Care for Newborns, Parent-Infant Relationships

229. **2 Whole milk does not meet the infant’s need for vitamin C and iron.**

1 Whole milk contains adequate fats, but the calcium content is $3\frac{1}{2}$ times that of human milk. **3** Whole milk contains adequate thiamine, but the sodium content is 3 times that of human milk. **4** Whole milk contains adequate carbohydrates, but the protein content is 3 times that of human milk.

Reference: Ch 30, Nutrition during Infancy, Guidelines for Infant Nutrition

230. **Answer: 2, 3.**

1 Cyanosis is not commonly associated with a transfusion reaction. **2** Mismatched blood cells are attacked by antibodies, and the hemoglobin released from ruptured erythrocytes plugs the kidney tubules; this kidney involvement results in backache. **3** Shivering occurs as part of the inflammatory response associated with a transfusion reaction. **4** Tachycardia, not bradycardia, is associated with a transfusion reaction. **5** Hypotension, not hypertension, is associated with a transfusion reaction.

Reference: Ch 6, Related Procedures, Blood Transfusion

231. 3 Diminished renal function usually is evidenced by a decrease in urine output to less than 100 to 400 mL/24 hours.

1 Glycosuria is unrelated to a transfusion reaction. **2, 4** Although this finding is related to the renal system and may reflect an acute hemolytic reaction, its presence does not necessarily indicate kidney damage.

Reference: Ch 12, Acute Kidney Failure, Data Base

232. 1 Damaged kidneys are unable to excrete potassium, resulting in hyperkalemia. Potassium, part of the sodium-potassium pump, is involved with muscle contraction. The clinical manifestations indicate hyperkalemia. The expected serum level of potassium is 3.5 to 5.5 mEq/L.

2 Hyponatremia generally is not associated with acute renal failure; hyponatremia is associated with headache, muscle weakness, apathy, and abdominal cramps, not with an irregular pulse or diarrhea. The expected serum level of sodium is 136 to 145 mEq/L. With acute kidney failure the serum sodium may be normal, increased, or decreased. **3** Hypouricemia will not occur because serum uric acid is increased in clients with kidney failure. **4** Hypercalcemia is not associated with the assessment data listed in the scenario. The expected serum calcium level is 9.0 to 10.5 mg/dL. The serum calcium level with acute kidney failure may be slightly decreased.

Reference: Ch 12, Acute Kidney Failure, Data Base

233. 2 The waste products of protein metabolism are the main cause of uremia. The degree of protein restriction is determined by the severity of the disease.

1 Fluid restriction may be necessary to prevent edema, heart failure, or hypertension; fluid intake does not directly influence uremia. **3** Sodium is restricted to control fluid retention, not uremia. **4** Potassium is restricted to prevent hyperkalemia, not uremia.

Reference: Ch 12, Acute Kidney Failure, Data Base

234. 2 If fluid is not draining adequately, the client should be positioned from side to side or with the head raised, or manual pressure should be applied to the lower abdomen to facilitate drainage.

1 A supine position does not facilitate drainage by gravity. **3** The health care provider, not the nurse, removes the cannula. **4** This deficit is not enough to require notifying the health care provider.

Reference: Ch 12, Chronic Kidney Failure/End-Stage Renal Disease, Nursing Care

235. 1 When one's effort toward meeting a goal is blocked or thwarted, frustration results. The child with special needs may be repeatedly thwarted when trying to meet developmental needs, especially in an environment where certain achievements beyond the child's ability are expected.

2 This does not occur. **3** This is an external factor that has little to do with the child's ability to cope with limitations. **4** This is not a frequent occurrence.

Reference: Ch 29, The Family, Nursing Care Related to Meeting the Needs of the Family of a Child with Special Needs

236. 1 During the first stage of alcohol detoxification, nausea and anorexia are experienced.

2 Irritability, not euphoria, is experienced during this stage. **3** Tachycardia, not bradycardia, is experienced during this stage. **4** Hypertension, not hypotension, is experienced during this stage.

Reference: Ch 20, Alcohol Abuse and Dependency, Nursing Care

237. 3 This amount of drainage is inadequate; 1000 mL of bile is expected in 24 hours via this surgically implanted tube. The presence of a mechanical obstruction (tube compression or kinking) should be determined.

1 This is unlikely; also, this is not an independent nursing function. **2** This is unlikely; common bile

duct edema takes several days to subside. **4** A T-tube drains by gravity, not by suction.

Reference: Ch 8, Cholelithiasis/Cholecystitis, Nursing Care

238. 4 The situation is so traumatic that the individual may be unable to use past coping behaviors to comprehend what occurred.

1 This may be a later concern. The client should be the focus of care at this time. **2** Social isolation is not an immediate concern. **3** Coping skills, not thought processes, are challenged at this time.

Reference: Ch 16, Rape Counseling, Nursing Care

239. 2 Safety is a priority. Also, maintaining the cannula in place may be compromised if the client is confused or agitated, thus interfering with the consistent delivery of oxygen. Agitation may be an indication of hypoxia.

1 Although rest should be encouraged (the client could rest in a chair), the priority is that the client receives the oxygen. **3** In the adult, nasal cannulas do not come in a variety of sizes; the elastic strap is adjustable. **4** Two liters of oxygen per minute is not contraindicated for a client with chronic obstructive pulmonary disease (COPD); if the client has COPD, levels above 2 L should be avoided to prevent the possibility of CO₂ narcosis.

Reference: Ch 7, Related Procedures, Oxygen Therapy

240. 1 Secretions in the upper airway that interfere with the free flow of air with each breath produce gurgling sounds.

2 Oropharyngeal suction will not address fine crackles at the base of the lungs. **3** Cyanosis can result from a variety of problems unrelated to the presence of secretions; suctioning should be done only when secretions are blocking the airway. **4** Suctioning is not needed in the absence of accumulated oropharyngeal secretions.

Reference: Ch 7, Related Procedures, Suctioning of Airway

241. 1 Isoniazid (INH) is used as a prophylactic agent for people who have been exposed to tuberculosis. Isoniazid is used in drug combinations to treat tuberculosis, which has improved compliance with drug therapy; combination drugs (e.g., Rifamate [contains rifampin, isoniazid, and pyrazinamide])

2 Multiple puncture tests (MPTs), such as the tine test, are used to test for tuberculosis; these are no longer recommended. They are not a treatment for the prevention or cure of tuberculosis. **3** Bacille Calmette-Guérin (BCG) is a vaccine that provides limited immunity; it is not recommended for use in the United States. **4** Purified protein derivative (PPD), the Mantoux test, is a widely used skin test for detecting tuberculosis; it is not a treatment for the prevention or treatment of tuberculosis.

Reference: Ch 7, Pulmonary Tuberculosis, Data Base

242. Answer: 2, 5, 6.

1 Discolored toenails result from a fungus under the nail or chronic hypoxia, not varicose veins. **2** Leg fatigue is a common clinical manifestation caused by venous stasis and inadequate tissue oxygenation. **3** Localized heat in a calf is a sign of thrombophlebitis. **4** Reddened areas on a leg are indicative of thrombophlebitis. **5** Vein walls weaken and dilate, resulting in distended, protruding veins that appear tortuous and darkened. **6** As vein walls weaken and dilate, venous pressure increases and the valves become incompetent; venous stasis and inadequate oxygenation result in leg pain.

Reference: Ch 6, Vascular Disease: Varicose Veins, Data Base

243. 4 As valves become incompetent, they allow blood to pool in the veins, which increases hydrostatic pressure and leads to further valve destruction. Compression hose provide external pressure, thereby facilitating venous return and minimizing blood pooling in the veins. The legs

are less congested after sleeping, and therefore the hose should be put on before getting out of bed in the morning and before the legs are in the dependent position.

1 The client should engage in exercise such as walking or swimming because muscle contraction encourages venous return to the heart. Prolonged sitting, standing, or crossing the legs should be avoided because they reduce venous return. **2** Limiting fluid intake will not alter the leakage of fluid or blood into the interstitial space. This occurs in response to the increased hydrostatic pressure in the veins. **3** Although applying moisturizing lotion may make the skin more supple, it will not treat enlarged and tortuous veins.

Reference: Ch 6, Review of Anatomy and Physiology, Regulatory Mechanisms Affecting Circulation

244. 4 Starvation or inadequate/inappropriate nutrition can lead to electrolyte imbalances, which are life-threatening.

1, 2 This is not the priority at this time. **3** Client independence, not separation from family members, is supported.

Reference: Ch 20, Anorexia Nervosa, Data Base

245. 1 Diarrhea, nausea, and vomiting are common side effects; clients should take these medications with a meal or light snack.

2 These drugs may cause hyperglycemia, not hypoglycemia. **3** Circumoral (perioral), not peripheral, paresthesias may occur with protease inhibitors; peripheral paresthesias may occur with nucleoside reverse transcriptase inhibitors. **4** Seeing yellow halos around lights does not occur with protease inhibitors; it may occur with digoxin toxicity.

Reference: Ch 13, Acquired Immunodeficiency Syndrome, Data Base

246. 4 Antioxidants in cranberry juice may inhibit the mechanism that metabolizes warfarin (Coumadin), causing elevations in the international normalized ratio (INR) and resulting in hemorrhage.

1, 2, 3 This juice is not contraindicated when warfarin (Coumadin) is taken.

Reference: Ch 6, Related Pharmacology, Anticoagulants

247. 2 By monitoring and reporting changes in the child's behavior, the health care provider can determine the effectiveness of the medication and the optimum dosage.

1 Parents should not be encouraged to tutor their children because there may be too much emotional interaction. **3** This child's behavior is not deliberate or easily controllable; this type of statement may lead to diminished self-esteem in the child if control does not occur. **4** Children, especially children with ADHD, need more structure than do adults.

Reference: Ch 17, General Nursing Care of Children with Disorders First Evident in Infancy, Childhood, or Adolescence

248. 4 Bending increases intraocular pressure and must be avoided.

1, 2 This is not necessary. **3** Coughing deeply increases intraocular pressure and is contraindicated.

Reference: Ch 11, Cataract, Nursing Care

249. 4 Nursing assistants are not permitted to reinforce, much less change, a dressing. This requires the expertise of a licensed nurse.

1 Nursing assistants are permitted to collect urine from a client's urinary drainage bag and communicate a patient's I&O to the nurse. **2** Obtaining vital signs, including blood pressure, of stable clients is within the scope of practice of a nursing assistant. **3** Removing boots to provide hygiene is permitted to be performed by a nursing assistant; it is part of the activities of daily living.

Reference: Ch 2, Leadership and Management, Delegation

250. **1 Epoetin (Epogen) will increase a sense of well-being, but it will not cure the underlying medical problem. This misconception needs to be corrected.**

2 Seizures are a risk during the first 90 days of therapy, especially if the hematocrit increases more than 4 points in a two-week period. A dose adjustment may be necessary. **3** Blood transfusions may still be necessary when the client is severely anemic. **4** Supplemental iron therapy is still necessary when receiving epoetin because the increased RBC production still requires iron.

Reference: Ch 6, Related Pharmacology, Antianemics

251. **Answer: 1, 2, 3, 4, 5.**

1 Anorexia and vague abdominal discomfort occur because of areas of intestinal inflammation. **2** Bleeding tendencies (e.g., petechiae, bleeding gums) occur because of decreased platelets. **3** Irritability results because of the stress of the pathophysiological changes that occur with the disease. **4** Pallor results because of decreased erythrocytes (anemia). **5** Listlessness and lethargy result because of decreased erythrocytes (anemia).

Reference: Ch 32, Leukemia, Data Base

252. **4 Warm, moist heat will reduce inflammation and pain, thus promoting mobility.**

1 Acetaminophen administered at night will not decrease pain experienced the following morning. **2** Ice will not be beneficial regardless of the time it is administered. **3** Gentle stretching, not active exercise, should be employed.

Reference: Ch 33, Juvenile Idiopathic Arthritis, Nursing Care

253. **4 After a suprapubic prostatectomy, leakage of urine generally is identified around the suprapubic tube. This creates an environment in which bacteria can flourish if the dressing is not changed frequently.**

1 Uremia is caused by inadequate kidney function; it is not directly related to bladder infection. **2** Negative pressure on the bladder may traumatize the delicate tissue; urine should flow via gravity. **3** Clamping off the tube causes urinary stasis, which increases the risk for infection.

Reference: Ch 12, Benign Prostatic Hyperplasia, Nursing Care

254. **Answer: 360 mg per day. First compute the client's weight in kilograms and then compute the dosage. Use the "Desired over Have" formula of ratio and proportion to solve this problem.**

$$\frac{\text{Desired}}{\text{Have}} = \frac{176 \text{ lb}}{2.2 \text{ lb}} = \frac{x \text{ kg}}{1 \text{ kg}}$$

$$2.2 x = 176$$

$$x = 176 \div 2.2$$

$$x = 80 \text{ kg}$$

$$\frac{\text{Desired}}{\text{Have}} = \frac{80 \text{ kg}}{1 \text{ kg}} \times \frac{x \text{ mg}}{8 \text{ mg}}$$

$$1x = 80 \times 8$$

$$x = 640 \text{ mg}$$

Reference: Ch 2, Medication Administration, Nursing Responsibilities Related to Medication Administration

255. 4 Keeping a record of what one eats helps to limit unconscious and nervous eating by making the individual aware of intake.

1 Limiting calories to 900 per day is a severe restriction that requires a health care provider's order. **2** Exercise causes rapid head movements, which may precipitate a Ménière's attack. **3** Although this is a therapeutic intervention, the nurse first should make suggestions that help increase the client's awareness of personal eating habits.

Reference: Ch 8, Obesity, Nursing Care

256. 4 A liquid iron preparation may stain tooth enamel; therefore, it should be diluted and administered through a straw.

1 Constipation, rather than loose stools, often results from the administration of iron. **2** To avoid gastric irritation, iron should be given with food. **3** To improve absorption, iron may be given with orange juice.

Reference: Ch 31, Health Promotion of Toddlers, Childhood Nutrition

257. 2 Selegiline (Eldepryl) concurrently used with an opioid analgesic can result in a fatal reaction (e.g., excitation, rigidity, hypertension, hypotension, coma).

1 Foods high in tyramine (e.g., cheese, wine, beer, pickled products) should be avoided, not encouraged. When foods high in tyramine are broken down, they release specific biogenic amines. When the breakdown of these biogenic amines is inhibited by monoamine oxidase inhibitors, such as selegiline, pressor substances accumulate in the body, causing a quick increase in blood pressure to excessively high levels, precipitating intracranial bleeding and death. **3** It is recommended that this medication be taken at breakfast and lunch when its effects are more apparent while the client is awake; it should not be taken in the evening or at bedtime. **4** This medication does not influence serum glucose levels. It can produce false positive or negative results for glycosuria.

Reference: Ch 11, Related Pharmacology, Antiparkinson Agents

258. 3 The added cardiac workload of individuals with anemia who are receiving transfusions increases the risk for heart failure that leads to pulmonary edema.

1, 2, 4 Although this may occur, a child with β -Thalassemia does not have an increased risk of developing this complication.

Reference: Ch 31, β -Thalassemia, Nursing Care

259. 4 This disorder interferes with the ability to perceive and respond to sensory stimuli, which causes a deficit in interpreting new sensory data and makes learning difficult.

1, 3 This is not necessarily true. **2** It is not an intellectual deficit that prevents learning but rather a perceptual difficulty; these children may have superior intelligence.

Reference: Ch 17, Attention Deficit Hyperactivity Disorder, Data Base

260. 1 Because the client is paralyzed and movement is compromised, daily inspection to determine the presence of reddened areas or lesions is necessary so that treatment can be initiated quickly. Identifying gross clinical changes is within the scope of practice of home health aides.

2 This may contribute to circumscribed pressure, which can lead to skin breakdown. Rubber promotes perspiration, which increases the risk of pressure ulcers. **3** Massage of reddened areas may cause further damage and should be avoided. **4** Because sensation may be compromised, a heating pad should not be used.

Reference: [Ch 10](#), Pressure Ulcers, Nursing Care

261. 4 Until the client learns new ways of coping with anxiety, this pattern of behavior will continue. Learning new ways to deal with stress will break the pattern.

1 This will avoid the problem. **2** This will reinforce the sick role. **3** A certain amount of stress is present in everyday family situations; the elimination of stress is impossible.

Reference: [Ch 19](#), General Nursing Care of Clients with Anxiety Disorders

262. 3 Documentation of nursing findings during assessment is a nursing function. This facilitates early treatment.

1 This medical intervention is beyond the scope of nursing practice. **2** Inadequate oral hygiene has not been identified as a cause of plaques; once-daily treatment is insufficient for anyone. **4** Candida is a frequent secondary infection in clients with AIDS; it is treated when present.

Reference: [Ch 13](#), Acquired Immunodeficiency Syndrome, Data Base

263. 4 Using soap and water, and protective ointment helps maintain skin integrity and prevent infection.

1 Applying an oil-based ointment is contraindicated because it will interfere with adherence of the appliance. **2** Soap and water are adequate unless peroxide is specifically prescribed by the health care provider; gauze bandages generally are not applied around or over a stoma. **3** Rubbing may be irritating and may promote conditions that contribute to infection.

Reference: [Ch 8](#), Related Procedures, Colostomy Irrigation

264. 2 Few physical restraints on activity are required postoperatively, but the client may have emotional problems as a result of body image changes.

1 Swimming is not prohibited because water does not harm the stoma. **3** Activities of daily living (ADLs) are resumed 6 to 8 weeks after surgery. **4** No changes in lifestyle are necessary.

Reference: [Ch 8](#), Cancer of Small Intestine, Colon, or Rectum; Nursing Care

265. 1 Antidiuretic hormone (ADH) causes water retention, resulting in decreased urine output.

2 ADH acts on nephrons to cause water to be reabsorbed from glomerular filtrate, leading to an increased specific gravity of urine. **3** The client is overhydrated so that serum sodium is decreased. **4** Blood volume may increase, causing dilution of nitrogenous wastes in the blood.

Reference: [Ch 9](#), Syndrome of Inappropriate Antidiuretic Hormone Secretion, Data Base

Study Worksheets for Reviewing Your Test-Taking Performance

Introduction

Two comprehensive examinations have been included with this book. Comprehensive Examination 1 appears in the book and on the companion CD, and Comprehensive Examination 2 appears just on the companion CD. The questions in these examinations have been developed to reflect the current NCLEX-RN computer adaptive test (CAT). Their purpose is to provide an opportunity for test takers to experience a testing situation that approximates the NCLEX-RN examination. These questions cross clinical disciplines and require the test taker to respond to individual and specific needs associated with common health problems and nursing responsibilities. Answers and Rationales are provided for each question. The rationales for correct and incorrect options introduce or reinforce the theories, principles, concepts, and information contained within the practice of nursing. The NCLEX-RN test plan classifications and reference to the chapter and section where information contained in the question can be found in Mosby's Comprehensive Review of Nursing does not appear at the end of each question's answer and rationale in the book for Comprehensive Examination 1; however, this information for both Comprehensive Examinations is included on the companion CD. These examinations on the CD provide an opportunity for students to take computerized comprehensive examinations.

How to Maximize Use of the Comprehensive Examinations

To achieve maximum learning from the experience of taking an integrated, comprehensive examination, we have divided each Comprehensive Examination into two sections. Part A contains 75 questions, which is the minimum number of questions every candidate must answer on the NCLEX-RN. Part B contains 190 questions. Part B and Part A together total 265 questions, the maximum number of questions on the NCLEX-RN examination.

With Comprehensive Examination 1, we recommend that you review the answers and rationales and the classifications of questions for each part as you complete it. In Comprehensive Examination 2, which appears on the Companion CD, you should wait until you have completed both parts before checking the answers and rationales and classifications of questions. We have made these recommendations so Test 1 will reinforce your immediate learning and so Test 2, although it also reinforces learning, will better reflect the actual situation that you will experience when you take the computerized NCLEX-RN examination.

To help you analyze your mistakes on the comprehensive examinations and to provide a database for making study plans, Focus for Study worksheets have been included in this chapter to help you identify and record errors in the way you process information and to help you identify and record gaps in knowledge. Follow the directions that appear below under HOW TO DEVELOP A FOCUS FOR STUDY. As you review material in class notes or in this book, pay attention to correcting your most common problems and identifying the topics you should review further. It might be helpful to set priorities; review the most difficult topics first so that you will have time to review them more than once. The worksheets can be used to focus your future study. Remember, if you study the proper subject matter, the knowledge you gain will provide you with the ability to answer questions, regardless of the medium used to ask the question, because the required knowledge of the subject matter does not change.

How to Develop a Focus for Study

You will find two Focus for Study Worksheets on pp. 820-824.

- Focus for Study Worksheet–Adapted NCLEX-RN® Test Plan
- Focus for Study Worksheet–Content Areas

These Focus for Study Worksheets should be used at the completion of each Comprehensive Examination to analyze each question that you answered incorrectly. It is important that you take the time to complete the worksheets carefully. The resulting information will assist you in identifying areas of strength and weakness and will help you to use your study time effectively and efficiently.

Focus for Study Worksheet: Adapted NCLEX-RN® Test Plan

This worksheet has 19 columns across the top. The first column allows you to insert the number of the question that you answered incorrectly. Eight columns are the subclassifications of Client Need; six columns are the subclassifications of Integrated Processes (including the Nursing Process); and four columns are the subclassifications of the Cognitive Level of the question. **These classifications can be found in Introduction for Students Preparing for the NCLEX-RN® Examination in the beginning of this book.**

To develop a meaningful focus of study, simply follow these directions.

1. In the Comprehensive Examination, reread the question that you missed.
2. In the Answers and Rationales section, read the rationale for the correct answer and the rationales for all the incorrect options.
3. Reread the answer you chose, and read the reason your answer was incorrect.
4. Place the number of the question you got wrong in its own box in the first column.
5. Look at the classifications for the question that accompany the answers and rationales for the question. Place an X in the box on the Focus for Study Worksheet–Adapted NCLEX-RN Test Plan that relates to Client Need, Integrated Processes (including Nursing Process), and Cognitive Level for the question.
6. Perform steps 1 through 5 for each question that you got wrong.
7. At the completion of your review of the questions you got wrong, count the Xs in each column and put the total at the bottom of the column.

At the completion of this process, you will have an overview of where you made mistakes in relation to the NCLEX-RN test plan. You may see a pattern of errors that will provide a direction for studying.

Focus for Study Worksheet Reference/Chapter

This worksheet has eight columns. The first column lists Content Areas that reflect a broad classification of information that is essential to the practice of nursing. These content areas mirror the chapters in Mosby's Comprehensive Review of Nursing for the NCLEX-RN Examination. The other seven columns reflect specific information that crosses clinical disciplines: Pathophysiology, Pharmacology, Nutrition, Diagnostic Studies, Developmental Factors, Physical Care, and Emotional Care.

To develop a meaningful focus of study, simply follow these directions.

1. In the Comprehensive Examination, reread the question that you missed.

2. In the Answers and Rationales section, read the rationale for the correct answer, as well as the rationales for all incorrect options.
3. Reread the answer you chose, and read the reason your answer was incorrect.
4. Identify the Reference for the question by looking at the group of classifications that accompanies the rationale for the question. Next to Reference will be the chapter and the headings under which the information in the question is reviewed in this book. Find this content area in column one of the worksheet, Reference/Chapter.
5. Look at the question you missed, and decide where the subject matter that is being tested best fits under one of the headings in the first horizontal row of the worksheet (Pathophysiology & Basic Sciences, Pharmacology, Nutrition, Diagnostic Studies, Developmental Factors, Physical Care, and Emotional Care).
6. Write the number of the question you got wrong in the box that intersects the content area row and the appropriate heading in the vertical column of the worksheet. Make your numbers small so that more than one question number can fit in a box if necessary.
7. Perform steps 1 through 6 for each question you got wrong.

At the completion of this process, you will be able to identify the areas of knowledge in which you missed the greatest number of questions. These gaps require additional study. You can access a review of the information tested in the question by going to the appropriate chapter and heading in Mosby's Comprehensive Review of Nursing for the NCLEX-RN Examination that is listed next to Reference in the classifications that follow each question's answers and rationales. Also, the topics in the worksheets can be found in the index of most nursing textbooks. Therefore, you can use whatever text or resource material is available to you and with which you are already familiar.

As you review material in class notes or in this book, pay attention to correcting your most common problems and identifying the topics you should review further. It might be helpful to set priorities; review the most difficult topics first so that you will have time to review them more than once. Remember, if you study the proper subject matter, the knowledge you gain will provide you with the ability to answer questions, regardless of the medium used to ask the question, because the required knowledge of the subject matter does not change.

Focus for Study Worksheet—Adapted NCLEX-RN® Test Plan

Number of the Question	Client Need							
	Safe & Effective Care Environment		Health Promotion & Maintenance	Psychological Integrity	Physiological Integrity			
	Management of Care	Safety & Infection Control			Basic Care & Comfort	Pharmacological & Parenteral Therapies	Reduction of Risk Potential	Physiological Adaption

Integrated Process						Cognitive Level			
Emotional Care (Caring)	Communication & Documentation	Teaching & Learning	Nursing Process			Knowledge	Comprehension	Application	Analysis
			Assessment & Analysis	Planning & Implementation	Evaluation & Outcomes				

Focus for Study Worksheet—Content Areas

Reference/Chapter	Pathophysiology & Basic Sciences	Pharmacology	Nutrition
Foundations of Nursing Practice (Ch 1, 2, & 3)			
Growth & Development of the Adult (Ch 5)			
Circulatory System Disorders (Ch 6)			
Respiratory System Disorders (Ch 7)			
Gastrointestinal System Disorders (Ch 8)			
Endocrine System Disorders (Ch 9)			
Integumentary System Disorders (Ch 10)			
Neuromusculoskeletal System Disorders (Ch 11)			
Urinary/Reproductive System Disorders (Ch 12)			
Infectious Diseases (Ch 13)			
Foundations & the Practice of Mental Health/Psychiatric Nursing (Ch 15 & 16)			
Disorders First Evident during Infancy, Childhood, or Adolescence (Ch 17)			
Disorders Related to Alterations in Cognition & Perception (Ch 18)			
Disorders Related to Anxiety & Alterations in Mood (Ch 19)			
Disorders Related to Alterations in Behavior (Ch 20)			
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