

Study Guide to Accompany

BRUNNER & SUDDARTH'S

Textbook of
**MEDICAL-
SURGICAL
NURSING**

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Lippincott

9th
EDITION

STUDY GUIDE TO ACCOMPANY

BRUNNER AND SUDDARTH'S TEXTBOOK OF

Medical-Surgical

Nursing NINTH EDITION

STUDY GUIDE TO ACCOMPANY
THE NURSING AND SURGICAL NURSING

Medical-Surgical

Nursing

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Medical-Surgical Nursing

NINTH EDITION

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Preface

This book is dedicated to six great friends whose love, laughter and support help me balance the complex demands of family, work and a career:

Diana and Keévin Galbraith

Carol and Jack Tillis

Kurt and Kathy Wise

Here's to many new wonderful memories!

Preface

The *Study Guide to Brunner and Suddarth's Textbook of Medical-Surgical Nursing, Ninth Edition*, was developed as a learning tool to help you, a nursing student, focus on content areas considered essential for understanding the concepts, techniques, and disease processes presented in the textbook. A Critical Thinking approach was used to present facts from a knowledge-based level (using multiple-choice, matching, fill-in and crossword puzzles) to the highest levels of analysis and synthesis (using comparison analysis, pattern identification, contradiction recognition, supportive argumentation, and clinical problem solving). The application of theory to practice is tested by having you complete nursing care plans, outline detailed patient teaching guides, and complete decision-making trees and critical clinical pathways. Case studies are offered at the end of most sections.

The answer to every question is presented in the Answer Key at the end of the book and referenced to a page number in the textbook so you can clarify or reinforce information as necessary. Critical thinking, the nursing process, and a community-based focus to nursing care are incorporated throughout; information is tested from the viewpoint of nursing intervention. Some answers are derived from analysis and are implied. They may not be found specifically in the chapter. Pathophysiologic processes are included only if relevant to specific nursing actions.

It was my intent to present information in a manner that will stimulate critical thinking and promote learning. It is my hope that knowledge gained and reinforced will be used to provide competent nursing care to those in need.

Mary Jo Boyer, R.N., D.N.Sc.



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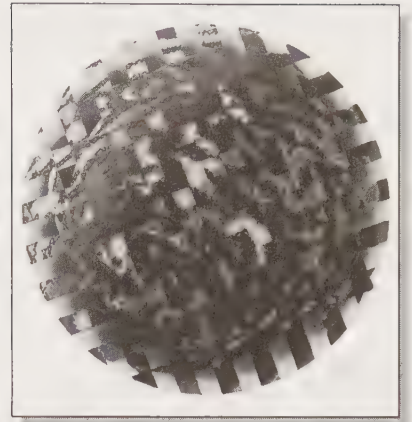
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UNIT 1

Basic Concepts in Nursing Practice



1
Health Care Delivery
and Nursing Practice

2
Community-Based Nursing
Practice

3
Critical Thinking, Ethical
Decision Making, and the
Nursing Process

4
Health Education
and Promotion

5
Health Assessment

1

Health Care Delivery and Nursing Practice

Chapter Overview

Nursing is a caring-oriented, scientific health profession that helps people to maintain and promote health as well as to prevent illness. Various conceptual models serve as a framework for nursing practice. Basic to all models is the belief that a person is a holistic organism entitled to and responsible for an optimum state of health. The modalities of nursing intervention differ slightly among the various conceptual models, but all recognize the science of nursing, its role in research and theory development, and its goal of illness prevention and wellness promotion.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Several definitions of nursing are currently being accepted. The main theme among all is that registered nurses can and should:
 - a. diagnose health alterations and prescribe specific nursing interventions.
 - b. promote optimum levels of wellness and prevent illness.
 - c. maintain health and assist patients with the dying process.
 - d. do all of the above.
2. The appropriate focus for any definition of nursing is the registered nurse's responsibility to:
 - a. appraise and enhance an individual's health-seeking perspective.
 - b. coordinate a patient's total health management with all disciplines.
 - c. diagnose acute pathology.
 - d. treat acute clinical reactions to chronic illness.
3. To view a person holistically means to think of him or her conceptually as a:
 - a. physical being who experiences pathophysiologic changes.
 - b. social being who needs the dynamics of group interaction.
 - c. psychological being whose mind influences his or her health status.
 - d. biopsychosocial being who is in constant interaction with his or her environment.

4. A Jewish patient who adheres to the dietary laws of his faith is in traction and confined to bed. He needs assistance with his evening meal of chicken, rice, beans, a roll, and a carton of milk. Choose the nursing approach that is most representative of the concept of holism.
- Nurse "A" removes items from the overbed table to make room for the dinner tray.
 - Nurse "B" pushes the overbed table toward the bed so that it will be within the patient's reach when the dinner tray arrives.
 - Nurse "C" asks a family member to assist the patient with the tray and the overbed table while she straightens the area in an attempt to provide a pleasant atmosphere for eating.
 - Nurse "D" prepares the environment and the overbed table and inspects the contents of the dinner tray. She asks the patient if he would like to make any substitutions in the foods and fluids he has received.
5. Using the concept of the wellness–illness continuum, a nursing care plan for a chronically ill patient would outline steps to:
- educate the patient about every possible complication associated with the specific illness.
 - encourage positive health characteristics within the limits of the specific illness.
 - limit all activities because of the progressive deterioration associated with all chronic illnesses.
 - recommend activity beyond the scope of tolerance to prevent early deterioration.
6. To be responsive to the changing health care needs of our society, registered nurses will need to:
- focus their care on the traditional disease-oriented approach to patient care, because hospitalized patients today are more acutely ill than they were 10 years ago.
 - learn how to delegate discharge planning to ancillary personnel so that RNs can spend their time managing the "high-tech" equipment needed for patient care.
 - place increasing emphasis on wellness, health promotion, and self-care, since the majority of Americans today suffer from chronic debilitating illness.
 - stress the curative aspects of illness, especially the acute, infectious disease processes.
7. The diagnosis-related groups (DRGs) legislation enacted in 1983 provides for:
- a fixed rate of Medicare payment per diagnosis for hospital services.
 - a retrospective method of reimbursement based on a patient's length of stay.
 - all hospital and extended-care costs (such as nursing homes and home care) per diagnosis if the hospital participates with a peer review organization (PRO).
 - total reimbursement per diagnosis for as long as the patient requires hospitalization (as long as the patient is eligible for Medicare benefits).
8. The primary focus of the nurse advocacy role in managing a clinical pathway is:
- continuity of care.
 - cost-containment practices.
 - effective utilization of services.
 - a patient's progress toward desired outcomes.
9. Nursing practice in the home and community requires competence and experience in the technique(s) of:
- decision making.
 - health teaching.
 - physical assessment.
 - all of the above.
10. Certification for registered nursing practice is:
- mandatory for nurses working in specialty areas.
 - offered by the state boards of nursing at the time a graduate writes for licensure.
 - required in all states after a nurse has been practicing for 5 years.
 - suggested by the American Nurses' Association (ANA) as a way of validating expertise in clinical practice.

Read each statement carefully. Write your response in the space provided.

1. According to the Social Policy Statement of the ANA, nursing practice involves the *diagnosis and treatment of human responses to actual or potential health problems*. Choose three health problems, and write a human response to each that would require nursing intervention.

Health Problem

Human Response Needing Nursing Health-Problem Intervention

- a. Fractured right arm
- b. _____
- c. _____
- d. _____

Self-care limitations

2. It is expected that most nursing practice in the next 5 years will be in community and long-term care settings. This movement reflects legislature and sociologic changes consistent with:

3. List Maslow's hierarchy of needs, and give an example for each need.

Need

Example

4. Health promotion efforts today emphasize negative lifestyle behaviors such as:

5. Managed health care of the 1990s has resulted in:

- a. _____
- b. _____
- c. _____
- d. _____

6. List four common characteristics of managed care (i.e., health maintenance organizations [HMOs]).

- a. _____
- b. _____
- c. _____
- d. _____

7. List the purpose and goals of case management.

8. Define the term *clinical pathway* as it relates to the concept of managed care.

9. Explain when “care mapping” may be more beneficial than “clinical pathways” for managing care.

10. Explain the expanded role of the nurse practitioner.

II. Critical Analysis Questions

Supporting Arguments

Read the paragraph below. Fill in the space provided with the best response.

Ten factors significantly impact nursing care delivery and nursing education. These factors include (a) the aging population, (b) the changing population of diseases, (c) the rising cost of health care, and (d) federally legislated health care reform. Choose one factor that you believe has the *most impact* on changing nursing care, and support your argument with data (reference pages 4–8).

The most important factor is: _____

Supporting arguments: _____

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. A person with a chronic illness can never attain a high level of wellness, because part of his or her health potential will never be reached.
2. The majority of health problems in the United States today are of an infectious and acute nature.
3. It is predicted that by the year 2010, the elderly in the United States will constitute about 35% of the total population.
4. According to the American Hospital Association (AHA) Patient's Bill of Rights, a patient may not refuse medical and nursing care if the lack of care may endanger health and safety.
5. It is predicted that health care costs will be 11% of the gross domestic product (GDP) by the year 2000.

Examining Associations

1. Examine the progression of the levels of needs in the figure below. Based on a recent clinical situation, document an example of a patient's position at the basic level of physiologic needs.



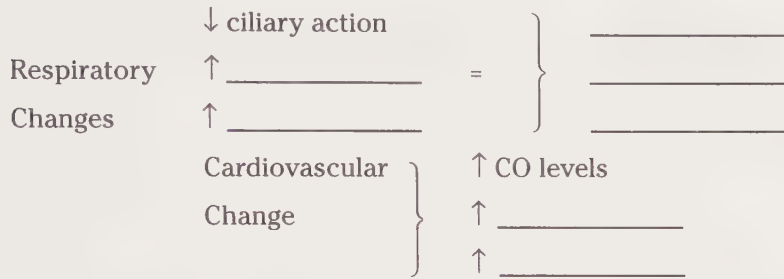
2. Using figure 1-3, page 14 of the text, examine and explain the expected behaviors among the physician, patient, nurse, and ancillary personnel in the collaborative practice model.

Generating Solutions: Clinical Problem Solving

Complete the following flow charts.

- Hoffman (1972) states, “. . . the single most important factor in health is lifestyle.” Complete this clinical pathway to illustrate how one lifestyle habit (smoking) can result in illness.

Smoking



Illnesses

- Continuous quality improvement (CQI) mandates the standardization of processes that are implemented and improved on a continuous basis. Complete the blank lines on the flow chart for the process of radial pulse assessment.

Radial Pulse Assessment

1.0	2.0	3.0	4.0	5.0
Patient ID	Explain Procedure	Identify Site	Palpate Pulse	Document Results
1.1 <u>ID Patient</u>	2.1 <u>Give</u> _____	3.1 <u>Extend</u> _____	4.1 <u>Place pads</u> _____	5.1 <u>Note</u> _____
1.2 _____	<u>instruction</u> _____	<u>forearm</u> _____	<u>of index</u> _____	<u>rate and</u> _____
1.3 _____	<u>at level of</u> _____	3.2 _____	<u>and middle</u> _____	5.2 _____
	<u>patient's</u> _____	_____	<u>finger over</u> _____	_____
	<u>learning.</u> _____		<u>radial</u> _____	_____
			<u>artery.</u> _____	5.3 _____
			4.2 _____	_____
			_____	_____
			4.3 _____	_____

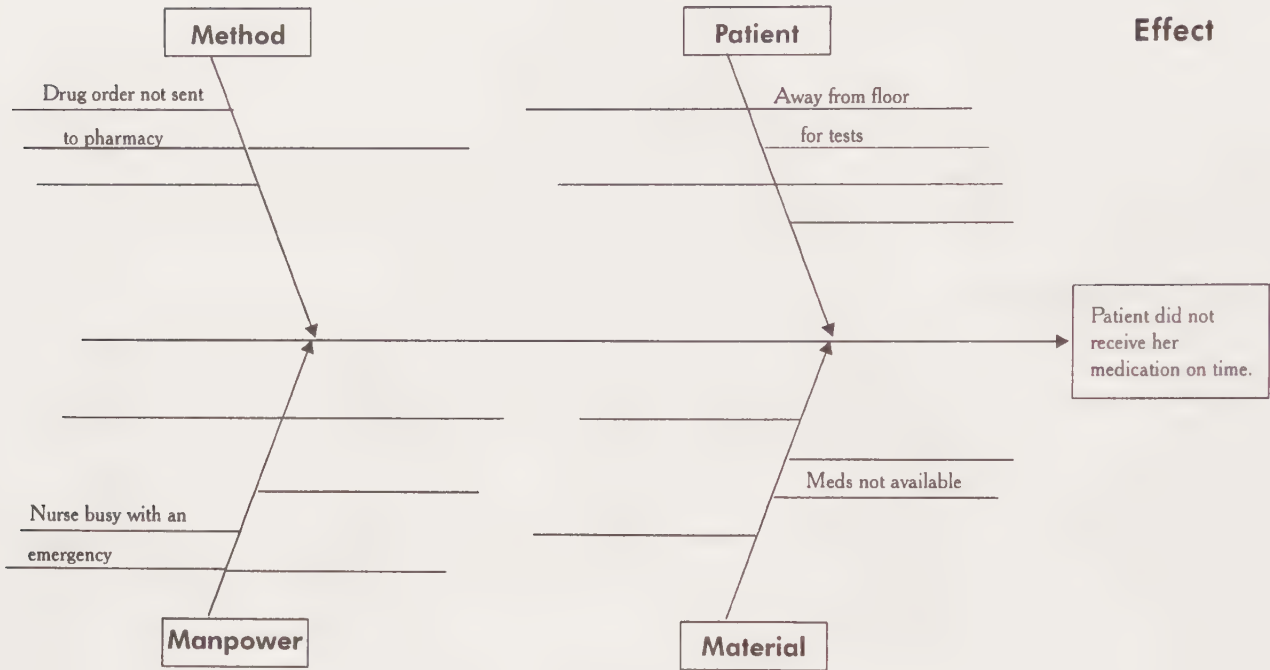
			4.4 _____	

3. Joint Commission on Accreditation of Healthcare Organizations (JCAHO) mandated in 1992 that health care organizations move toward implementation of CQI. Students need to become familiar with the tools of CQI to function as team members (reference pages 7–11).

A cause-and-effect diagram can illustrate potential causes of an effect so the cause can be examined and corrected. Have students complete the following diagram.

CQI Cause and Effect Diagram: Delayed Medication

Possible Causes



2

Community-Based Nursing Practice

Chapter Overview

Since 1983, with the advent of Diagnosis-Related Groups (DRGs), the United States has been moving slowly toward a cost-containment model of health care delivery. The response from private and corporate providers of care has been slow and resistive. However, since 1993, managed care providers have rapidly and significantly changed health care delivery in America by reimbursing for treatment for only specific time periods and, in many cases, only for specific physicians.

This rapidly changing health care finance reform movement has caused an eruption in community-based practice and an exodus of patients, nurses, and physicians from hospital-based practice. Nursing needs to respond to these challenges by making nurses expert clinicians who can independently assess, refer, and manage a variety of patient care situations.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The shift in health care delivery from acute care to community-based care is primarily the result of:
 - alternate health care delivery systems.
 - changes in federal legislation.
 - tighter insurance regulations.
 - the interfacing of all three conditions.
- Choose an alternative health care delivery system that has dramatically reduced patient care days in acute care settings.
 - Health Maintenance Organizations
 - Managed Health Care Systems
 - Preferred Provider Organizations
 - Each of the three is equally significant.
- The most frequent users of home health services are:
 - children with chronic, debilitating disorders.
 - newborns who are sent home with apnea monitors.
 - the frail and elderly who need skilled care.
 - young adults on prolonged IV therapy.
- The majority of home care expenditures are funded by:
 - direct patient payments.
 - Medicaid.
 - Medicare.
 - private insurance companies.
- A home care agency can only be reimbursed for nursing services if the nurse documents:
 - expected outcomes of nursing interventions.
 - specific patient problems.
 - the medical diagnosis and plan of care.
 - time spent on care.

6. The primary role of an elementary school nurse is that of:
- a. counselor.
 - b. consultant.
 - c. health educator.
 - d. provider of care.

Read each statement carefully. Write your response in the space provided.

1. List specific skills a nurse will need to function in community-based care.

2. Distinguish between the terms “community-based nursing” and “community-public health nursing.”

3. The first step in preparing for a home visit is for the nurse to:

4. Explain the purpose of the initial home visit.

5. List some examples of ambulatory health care settings.

6. Name several subspecialties for nurse practitioners.

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. Community-public health nursing focuses on promoting and maintaining an individual's health and wellness.
2. Tertiary prevention is a level of community nursing practice that focuses on the early detection of disease.
3. The primary purpose of the initial home care visit is to give the patient and his or her family information about care and treatments.

3

Critical Thinking, Ethical Decision Making, and the Nursing Process

Chapter Overview

Critical thinking is a systematic, rational, and purposeful examination of information for the purpose of making rational decisions. The process of examining facts is identical to the application of the nursing process.

The nursing process is a systematic way of providing care that is goal-directed, organized, and capable of being evaluated. The components of the process—assessment, diagnosis (nursing diagnosis and collaborative problems), planning, implementation, and evaluation—serve as an outline for nursing activity. Nurses are encouraged to use these components to identify basic needs and problems, diagnose, formulate a course of action, perform suggested activities, and evaluate outcome behaviors.

The current challenge to the use of the nursing process is the complexity of contemporary ethical issues in medical-surgical nursing. The rapidly changing health care delivery system has a direct impact on the professional nurse who must expand his or her practitioner role to include analytical decision-making processes relative to ethical and moral situations.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The least effective decision-making process used in critical thinking is:
 - a. analyzing data.
 - b. establishing assumptions.
 - c. formulating conclusions.
 - d. synthesizing information.
2. The term *metacognition* refers to the critical-thinking skill of:
 - a. consultation.
 - b. data analysis.
 - c. self-reasoning.
 - d. validation.
3. *Morality* is defined as:
 - a. adherence to specific codes of conduct.
 - b. commitment to an individual value system.
 - c. dependence on specified principles of behavior.
 - d. an understanding of defined rules of behavior.
4. When an ethical decision is made based on the reasoning that “good consequences will outweigh bad consequences,” the nurse is following the:
 - a. deontological theory.
 - b. formalist theory.
 - c. moral-justification theory.
 - d. utilitarian theory.

5. Consider the ethical situation in which a nurse moves a confused, disruptive patient to a private room at the end of the hall so that other patients can rest, even though the confused patient becomes more agitated. The nurse's judgment is consistent with reasoning based on:
 - a. "consequentialism," by which good consequences for the greatest number are maximized.
 - b. "duty of obligation," by which an action, regardless of its results, is justified if the decision making was based on moral principles.
 - c. "prima facie" duty, by which an action is justified if it does not conflict with a stronger duty.
 - d. the "categorical imperative," by which the results of an action are deemed less important than the means to the end.
6. A hospital board of directors decided to close a pediatric burn treatment center (BTC) that annually admits 50 patients and to open a treatment center for terminally ill AIDS patients (with an expected annual admission of 200). This decision meant that the nearest BTC for children was 300 miles away. The board's decision was an example of ethical reasoning consistent with:
 - a. a formalist approach.
 - b. obligation or duty.
 - c. "the means justifies the end."
 - d. utilitarianism.
7. A terminally ill patient asks the nurse if she is dying. The nurse's response is influenced by the moral obligation to:
 - a. communicate the patient's wishes to the family.
 - b. consult with the physician.
 - c. provide correct information to the patient, or to "not lie."
 - d. consider all of the above measures before disclosing specific information.
8. A patient with a "Do Not Resuscitate" order requires large doses of a narcotic (which may significantly reduce respiratory function) for excruciating pain. After the patient requested pain medication, the nurse assessed a respiratory rate of 12 breaths per minute. The nurse's ethical decision should be to:
 - a. ask the patient to wait 20 minutes and reassess the respiratory rate.
 - b. give one-half the prescribed dose.
 - c. give the pain medication without fear of respiratory depression.
 - d. withhold the pain medication and contact the physician.
9. Choose the situation that *most accurately* represents a *moral problem* in contrast to a *moral dilemma*.
 - a. A 3-day postoperative patient requests narcotic pain medication every 3 hours. The nurse administers a placebo that reduces pain.
 - b. A 32-year-old father of three with advanced cancer of the lungs asks that everything be done to prolong his life, even though his chemotherapy treatments are no longer effective.
 - c. A confused 80-year-old needs restraints for protection from injury, even though the restraints increase agitation.
 - d. A young patient with AIDS has asked to not receive tube feedings to prolong life because of intense pain.
10. Assessment begins with initial patient contact. Nursing activities during this component of the nursing process include:
 - a. interviewing and obtaining a nursing history.
 - b. observing for altered symptomatology.
 - c. collecting and analyzing data.
 - d. all of the above.
11. The end result of data analysis is:
 - a. actualization of the plan of care.
 - b. determination of the patient's responses to care.
 - c. collecting and analyzing data.
 - d. identification of actual or potential health problems.
12. A therapeutic communication technique that validates what the nurse believes to be the main idea of an interaction is known as:
 - a. acknowledgment.
 - b. focusing.
 - c. restating.
 - d. summarizing.

13. An example of a medical diagnosis, in contrast to a nursing diagnosis, is:
- fever of unknown origin.
 - fluid volume excess.
 - ineffective-breathing patterns.
 - sleep-pattern disturbances.
14. Choose the nursing action that illustrates planned nursing care prioritized according to Maslow's hierarchy of needs. A nurse would:
- administer pain medication to an orthopedic patient 30 minutes before transportation to physical therapy for crutch-walking exercises.
 - discourage a terminally ill patient from participating in a plan of care, to minimize fears about death.
 - help a patient walk to the shower while the breakfast tray waits on the overbed table because the shower area is vacant at this time.
 - interrupt a family's visit with a depressed patient to assess blood pressure measurement because it is the scheduled time to take vital signs.
15. Consider the following nursing diagnosis: "Altered nutrition, less than body requirements, related to inability to feed self." An example of an immediate nursing goal is that the patient will:
- acquire competence in managing cookware designed for handicapped people.
 - assume independent responsibility for meeting self-nutrition needs.
 - learn about food products that require minimal preparation yet meet individual needs for a balanced diet.
 - master the use of special eating utensils to feed self.
16. Registered nurses are responsible for delegating patient care responsibilities to licensed practical nurses (LPNs) and ancillary personnel. The most appropriate task to delegate to a nurse aide is:
- assessing the degree of lower leg edema in a bed-rest patient.
 - making the bed of an ambulatory patient.
 - measuring the circumference of a patient's calf for edema.
 - recording the size and appearance of a bedsore.

Read each statement carefully. Write your response in the space provided.

1. Define the term *critical thinking*, according to Alfaro-LeFavre, 1997.

2. List two types of "advanced directives," or legal documents that specify a patient's wishes before hospitalization.

3. Explain the merit of having an "advanced directive."

4. Suggest an opening statement that a nurse can use during the interview process.

5. Discuss how formulation of a nursing diagnosis and identification of collaborative problems differs from a medical diagnosis.

6. Discuss the significance of using outcome criteria during the evaluation phase of the nursing process.

Read each statement below. Put an "N" in front of every nursing diagnosis and a "C" in front of every collaborative problem.

1. _____ Anxiety related to impending surgery.
2. _____ Constipation related to altered nutrition.
3. _____ Potential complication: paralytic ileus secondary to postoperative inactivity.
4. _____ Potential complication: sacral decubiti secondary to bedrest.
5. _____ Potential impairment of skin integrity related to prolonged bedrest.
6. _____ Ineffective breastfeeding related to fear of discomfort.
7. _____ Potential complication: hypoglycemia related to inadequate food intake.
8. _____ Potential complication: phlebitis related to intravenous therapy.
9. _____ Post-trauma response related to accident.
10. _____ Potential complication: oral lesions related to chemotherapy.

Match the critical-thinking strategy in Column I with its associated nursing action listed in Column II.

Column I

1. _____ categorize information
2. _____ design a plan of care
3. _____ determine assessment processes
4. _____ evaluate outcomes
5. _____ implement a standard plan
6. _____ make a nursing diagnosis
7. _____ manage collaborative problems

Column II

- a. assert a practice role
- b. formulate a relationship
- c. generate a hypothesis
- d. provide an explanation
- e. recognize a pattern
- f. search for information
- g. set priorities

Match the definitions of ethical principles listed in Column II with their associated terms listed in Column I.

Column I

1. _____ autonomy
2. _____ beneficence
3. _____ justice
4. _____ nonmaleficence
5. _____ paternalism
6. _____ veracity

Column II

- a. limiting one's autonomy based on the welfare of another
- b. similar cases should be treated the same
- c. the commitment to not deceive
- d. freedom of choice
- e. the duty to do good and not inflict harm
- f. the expectation that harm will not be done

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. Nursing ethics is considered an applied form of medical ethics because nurses only work under physician direction.
2. A moral dilemma, in contrast to a moral problem, infers no conflict of moral principle.

3. A nurse experiences *moral uncertainty* when he or she is prevented from doing what he or she believes is the correct action.
4. A nurse should always honor a terminally ill patient's request to withhold food and hydration if the patient is competent.
5. By design, Living wills are very prescriptive and are always honored as legally binding documents.

Supporting Arguments

Read each situation. Offer logical supporting arguments for your response.

1. *In vitro* fertilization, the result of sophisticated technology, has resulted in women in their 50s and 60s giving birth. Physicians argue that this is ethically sound if the woman meets the criteria that she is healthy and should live another 25 years. List three rationales to support this argument.
2. You are asked to defend the statement that "life support measures should never be used for anyone with a terminal illness." Develop three supporting arguments.
3. List two rationales to support the argument that age should be used as a criterion for determining the allocation of health care resources.

Generating Solutions: Clinical Problem Solving

Read each nursing diagnosis. Write a specific outcome.

The planning phase of the nursing process incorporates documented expected patient outcomes for specific nursing diagnoses (ND). Write one outcome that indicates an improvement for each diagnosis.

1. ND: Activity intolerance, related to dyspnea.

Outcome: _____

2. ND: Impaired physical mobility, related to total hip replacement.

Outcome: _____

3. ND: Fluid volume excess, related to compromised cardiac output.

Outcome: _____

4. ND: Altered nutrition, less than body requirements, related to anorexia.

Outcome: _____

5. ND: Sleep-pattern disturbance, related to pain.

Outcome: _____

Read the following case study. Fill in the blanks below.

CASE STUDY: Ethical Analysis

You are an RN and a board member of the American Red Cross Disaster Relief Services. A cholera epidemic has erupted among thousands of refugees in Rwanda. The board has been asked to decide how to allocate limited resources. The board decided that healthy children—those without symptoms of cholera—would be transported

out of the camps and treated at an alternative location. The decision resulted in fewer medical personnel at the camp sites where about 50 children a day were dying; in fact, some orphaned children died crawling up the steps of the clinic. The framework for decision making followed the *teleological or utilitarian approach*. Use the "Steps of an Ethical Analysis" (page 29, Chart 3-4) as a guide, and complete your decision-making process to determine if you agree or disagree with the outcomes.

Assessment

1. List two possible conflicts between ethical principles and professional obligations.

- a. _____
- b. _____

2. People involved in the decision:

Those affected by the decision:

- a. _____
 - b. _____
 - c. _____
- a. _____
 - b. _____
 - c. _____

Planning

1. Treatment options:

Medical facts:

- a. _____
 - b. _____
- a. _____
 - b. _____

2. Influencing information:

- a. _____
- b. _____

3. Ethical/moral issues:

Competing claims:

- a. _____
 - b. _____
- a. _____
 - b. _____

Implementation

Compare the utilitarian and deontological approach.

Utilitarian

Deontological

1. Basis of ethical principles:

- a. _____
 - b. _____
- a. _____
 - b. _____

2. Predict consequences of actions:

- a. _____
 - b. _____
- a. _____
 - b. _____

3. Assign a positive or negative value to each consequence.

- a. _____
 - b. _____
- a. _____
 - b. _____

4. Choose the consequence, decision, or action that predicts the highest positive value.

a. _____

a. _____

b. _____

b. _____

Evaluation

1. The best, morally correct action is to:

2. This decision is based on the ethical reasoning that:

3. The decision can be defended based on the following arguments:

a. _____

b. _____

c. _____

4

Health Education and Promotion

Chapter Overview

People have a right to be aware of all aspects of their health and its care. As a health-oriented profession, nursing has an obligation to participate in patient health teaching whenever possible. Statistics from nursing research show that structured health-teaching programs have resulted in modified patient behavior and improved health status. Patient education is so vital that many state nurse practice acts have included health teaching as a nursing responsibility. Therefore, it is up to every nurse to identify opportunities for patient education and to modify each program to meet individual needs and goals.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Patient health education is:
 - a. a primary nursing responsibility.
 - b. an essential component of nursing care.
 - c. an independent nursing function.
 - d. consistent with all of the above.
2. Nursing responsibilities associated with patient teaching include:
 - a. determining individual needs for teaching.
 - b. motivating each person to learn.
 - c. presenting information at the level of the learner.
 - d. all of the above.
3. A nurse assesses that a patient is emotionally ready to learn when the patient:
 - a. has accepted the therapeutic regimen.
 - b. is motivated.
 - c. recognizes the need to learn.
 - d. demonstrates all of the above.
4. Nursing actions that can be used to motivate a patient to learn include all of the following *except*:
 - a. feedback in the form of constructive encouragement when a person has been unsuccessful in the learning process.
 - b. negative criticism when the patient is unsuccessful, so that inappropriate behavior patterns will not be learned.
 - c. the creation of a positive atmosphere in which the patient is encouraged to express anxiety.
 - d. the establishment of realistic learning goals based on individual needs.

5. Normal aging affects changes in cognition. Therefore, when teaching an elderly patient how to administer insulin, the nurse should:
 - a. repeat the information frequently for reinforcement.
 - b. present all the information at one time so that the patient is not confused by pieces of information.
 - c. speed up the demonstration because the patient will tire easily.
 - d. do all of the above.

6. The nurse reviews a medication administration calendar with an elderly patient. Being aware of sensory changes associated with aging, the nurse should:
 - a. print directions in large, bold type, preferably using black ink.
 - b. highlight or shade important dates and times with contrasting colors.
 - c. use several different colors to emphasize special dates.
 - d. do all of the above.

7. A nursing action that involves modifying a teaching program because a learner is not experientially ready is:
 - a. changing the wording in a teaching pamphlet so that a patient with a fourth-grade reading level can understand it.
 - b. contacting family members to assist in goal development to help stimulate motivation.
 - c. postponing a teaching session with a patient until pain has subsided.
 - d. all of the above.

8. A nurse identifies a patient's inability to pour a liquid medication into a measuring spoon. This diagnosis is part of the nursing process known as:
 - a. assessment.
 - b. planning.
 - c. implementation.
 - d. evaluation.

9. A nurse develops a program of increased ambulation for a patient with an orthopedic disorder. This goal setting is a component of the nursing process known as:
 - a. assessment.
 - b. planning.
 - c. implementation.
 - d. evaluation.

10. Outcome criteria are expressed as expected outcomes of patient behavior resulting from teaching strategies. An example is:
 - a. ability to climb a flight of stairs without experiencing difficulty in breathing.
 - b. altered lifestyle resulting from inadequate lung expansion.
 - c. inadequate ventilation associated with pulmonary congestion.
 - d. potential oxygenation deficit related to ventilatory insufficiency.

Read each statement carefully. Write the best response in the space provided.

1. Explain why health education is so essential for those with chronic illness.

2. Define the term *adherence* as it relates to a person's therapeutic regimen.

3. Name several variables (factors) that influence a person's ability to adhere to a program of care.

4. Describe the nature of the teaching–learning process.

5. Discuss how learner readiness affects a learner and the learning situation.

6. Discuss the relation between the nursing process and the teaching–learning process.

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. Health education is a dependent function of nursing that requires physician approval.
2. The largest groups of people in need of health education today are children and those with infectious diseases.
3. Patients are encouraged to evidence compliance with their therapeutic regimen.
4. Evaluation, the final step in the teaching process, should be summative (done at the end of the teaching process).

5

Health Assessment

Chapter Overview

Data obtained through the health interview and the physical examination help determine the patient's needs and nursing diagnoses and help develop plans of care. Thus, individual needs can be met through systematic delivery of nursing care.

The health history provides an opportunity for establishing a trusting relationship between the nurse and the patient. This trusting relationship lays the foundation for future nursing intervention throughout the patient's cycle of wellness and illness.

During the examination, both obvious and hidden needs can be identified and nursing diagnoses developed. This hands-on process is an essential part of nursing assessment that permits validation of stated problems and provides an opportunity for identifying new areas of concern that can be met through nursing interventions.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The clinical interview obtained by the nurse should focus on nursing's concern about
 - a. a comprehensive body systems review.
 - b. current and past health problems.
 - c. family history.
 - d. all of the above.
2. A patient has certain rights concerning data collection, such as the right to know:
 - a. how information will be used.
 - b. that selected information will be held confidential.
 - c. why information is sought.
 - d. all of the above.
3. Open-ended questions permit persons to express themselves. Choose the sentence that is not an open-ended question.
 - a. "Describe the pain."
 - b. "Tell me more about your feelings."
 - c. "How did the accident happen?"
 - d. "Is the pain sharp and piercing?"
4. The single, most important factor in helping the nurse and physician arrive at a diagnosis is the:
 - a. family history.
 - b. history of the present illness.
 - c. past health history.
 - d. results of the systems review.

5. Choose the best question an interviewer would use to obtain educational or occupational information.
 - a. "Are you a blue-collar worker?"
 - b. "Do you have difficulty meeting your financial commitments?"
 - c. "Is your income more than \$20,000 per year?"
 - d. "What college did you attend?"
6. An *inappropriate* interviewer response to the patient statement, "I will not take pain medication when I am in pain," is:
 - a. "Is there another way you have learned to lessen pain when you experience it?"
 - b. Let a nurse know when you are in pain so you can be helped to decrease stimuli that may exaggerate your pain experience."
 - c. "Refusing medication can only hurt you by increasing your awareness of the pain experience."
 - d. "You have the right to make that decision. How can the nurses help you cope with your pain?"
7. All of the following are questions that will provide information about a person's lifestyle *except*:
 - a. "Do you have any food preferences?"
 - b. "Have you always lived in this geographic area?"
 - c. "How many hours of sleep do you require each day?"
 - d. "What type of exercise do you prefer?"
8. When obtaining a health history from an elderly patient, the nurse must remember to:
 - a. ask questions slowly, directly, and in a voice loud enough to be heard by those who are hearing-impaired.
 - b. clarify the frequency, severity, and history of signs and symptoms of the present illness.
 - c. conduct the interview in a calm, unrushed manner using eye-to-eye contact.
 - d. do all of the above.
9. On initial impression, the nurse assesses a patient's posture, stature, and body movements. This assessment is part of the physical examination process known as:
 - a. auscultation.
 - b. inspection.
 - c. palpation.
 - d. percussion.
10. An examiner needs to determine the upper border of a patient's liver. With the patient in the recumbent position, the examiner would percuss for a:
 - a. dull sound.
 - b. flat sound.
 - c. resonant sound.
 - d. tympanic sound.
11. During a physical examination, the nurse noted hyperresonance over inflated lung tissue in a patient with emphysema. The process used for this assessment was:
 - a. auscultation.
 - b. inspection.
 - c. palpation.
 - d. percussion.
12. A heart murmur was detected during a physical examination. The process used to obtain this information was:
 - a. auscultation.
 - b. inspection.
 - c. palpation.
 - d. percussion.
13. The triceps skin-fold thickness measurement is a good indicator of protein-calorie malnutrition. The standard female measurement is:
 - a. 13.5 mm.
 - b. 15.0 mm.
 - c. 16.5 mm.
 - d. 18.0 mm.
14. A serum albumin level of 2.50 g/dl indicates:
 - a. a severe protein deficiency.
 - b. low levels of serum protein.
 - c. an acceptable amount of protein.
 - d. an extremely high measurement of protein.
15. Several factors contribute to the altered nutritional status of the elderly. A *primary nutritional nursing consideration* during physical assessment is:
 - a. altered metabolism and nutrient use secondary to an acute or chronic illness.
 - b. decreased appetite related to loneliness.
 - c. limited financial resources.
 - d. the patient's ability to shop for and prepare food.

Read each statement carefully. Write your response in the space provided.

1. Describe how the nursing database differs from the physician's database.

2. Explain how mutual trust and confidence between the interviewer and the patient facilitate the communication process.

3. Define the term *chief complaint*.

4. Three health problems related to dietary excess that contribute to the leading causes of illness and death in the United States today are: _____, _____, and _____.

5. The most common anthropometric measurements include height, weight, and the circumference of the _____, _____, and _____.

6. Explain the concept of *negative nitrogen balance*.

Correlate the following statements with the assessment most likely used to obtain the data. Write the word or code on the line provided.

Code:

INS—inspection

PAL—palpation

PER—percussion

AUS—auscultation

1. Asymmetry of movement is associated with a central nervous system disorder. _____

2. Clubbing of the fingers is a diagnostic symptom of chronic pulmonary disorders. _____

3. Tenderness is present in the area of the thyroid isthmus. _____

4. Tactile fremitus is diagnostic of lung consolidation. _____

5. Tympanic or drumlike sounds are produced by pneumothorax. _____

6. The first heart sound is created by the simultaneous closure of the mitral and tricuspid valves. _____

7. A friction rub is present with pericarditis. _____

8. Nodules present with gout lie adjacent to the joint capsule. _____

Match the body area listed in Column II with the descriptive sign of poor nutrition listed in Column I.

Column I

Column II

- | | |
|-------------------------------------|-------------|
| 1. _____ atrophic papillae | a. abdomen |
| 2. _____ brittle, dull, depigmented | b. eyes |
| 3. _____ cheilosis | c. hair |
| 4. _____ flaccid, underdeveloped | d. lips |
| 5. _____ fluorosis | e. muscles |
| 6. _____ xerophthalmia | f. skeleton |
| | g. teeth |
| | h. tongue |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks below.

CASE STUDY: Mrs. Allred

Part I: Estimate ideal body weight

Part II: Calculate a balanced diet using the Food Guide Pyramid as a reference

Mrs. Allred is a 40-year-old, 5'5" - tall Hispanic with three children under the age of 5. She had no known history of any physical illness before experiencing fatigue and irritability that she believed was the result of her parenting responsibilities. Mrs. Allred does not exercise regularly, eats snack foods while watching television with her children, and is too tired to prepare balanced meals for her family. She orders fast food or pizza for dinner at least three times a week.

Part I: Estimate ideal body weight

1. Calculate Mrs. Allred's frame size based on a wrist circumference of 16 cm.
 - a. small frame
 - b. medium frame
 - c. large frame
2. Calculate Mrs. Allred's ideal body weight (IBW): _____ lb. Therefore, she needs to (gain/lose) _____ lb. (approximate).

Part II: Calculate a balanced diet for Mrs. Allred's ideal body weight, as determined in Part I. Use the Food Guide Pyramid (Figure 5-9 and Chart 5-3) as a reference.

1. Convert IBW in pounds to kilograms. _____
2. Determine basal energy needs (1 kcal/kg/hr) _____ calories
3. Increase by 40% (moderate activity) _____ calories
4. Divide calories into:
Carbohydrates (50%) _____
Fats (30%) _____
Protein (20%) _____

5. Estimate grams for each:

Carbohydrates _____ Fats _____ Protein _____

6. Patient teaching guidelines:

Learner's Self-Evaluation Tool for End of Unit 1 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

_____ _____ _____
_____ _____ _____

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

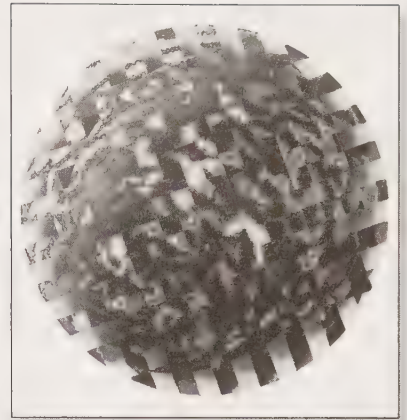
I will do this on _____ (date and time).

5. I believe my mastery of this unit to be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.

UNIT 2

Biophysical and Psychological Concepts in Nursing Practice



6
Homeostasis, Stress,
and Adaptation

7
Individual and Family
Considerations Related
to Illness

8
Perspectives in Transcultural
Nursing

9
Chronic Illness

10
Principles and Practices
of Rehabilitation

11
Health Care of the Older
Adult

6

Homeostasis, Stress, and Adaptation

Chapter Overview

Homeostasis is a dynamic state of motion and reaction in which the body attempts to maintain constancy of its internal environment. Stress is an essential part of everyday life. Stressors, both physiologic and psychosocial, stimulate us to function within our capabilities and, occasionally, motivate us to achieve beyond our potential. Distress is produced when our bodies cannot adapt to the quantity or the duration of various stressors. With prolonged distress, the organism may fail. Nurses need to be able to recognize the influence of stressors and to be aware of interventions that will help people maintain health and adapt to illness. If adaptation is not realistic, the nurse needs to help the patient cope with death.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Stress is a change state perceived as:
 - a. challenging.
 - b. damaging.
 - c. threatening.
 - d. having all of the above characteristics.
2. An individual's adaptation to stress is influenced by the stressor's:
 - a. frequency and duration.
 - b. number of occurrences and magnitude.
 - c. sequencing (intermittent or enduring).
 - d. combined characteristics as listed above.
3. An example of a functional, yet maladaptive, response of the body to a threat is:
 - a. collateral circulation subsequent to diminished tissue perfusion.
 - b. decreased cardiac output subsequent to cardiomegaly.
 - c. increased pulmonary ventilation subsequent to increased levels of carbon dioxide.
 - d. muscle atrophy subsequent to disuse.
4. Health promotion should be initiated before compensatory processes become maladaptive. Preventive nursing measures include all of the following *except*:
 - a. demonstrating wound cleansing to a patient who has a necrotic leg ulcer resulting from vascular disease.
 - b. showing a patient with a casted extremity how to perform isometric exercises.
 - c. suggesting stress-reducing measures for a patient with a diagnosis of angina pectoris.
 - d. teaching weight management to a patient who has a family history of obesity and a blood pressure reading of 125/90.

5. Maladaptive compensatory mechanisms result in disease processes in which cells may be:
 - a. dead.
 - b. diseased.
 - c. injured.
 - d. affected in all of the above ways.
6. Adaptation to a stressor is positively correlated with:
 - a. previous coping mechanisms.
 - b. the duration of the stressor.
 - c. the severity of the stressor.
 - d. all of the above.
7. During the initial stress response, primary appraisal refers to:
 - a. evaluating the effectiveness of several coping mechanisms.
 - b. organizing all available resources to deal with the stressor.
 - c. identifying support services needed for coping.
 - d. weighing the significance of the stressful event.
8. Helen, age 48, is diagnosed with pneumonia. She has been paralyzed from the chest down for 7 years. The nurse realizes that Helen needs additional support to cope with her infection, because:
 - a. coping measures become less effective with advancing age.
 - b. the patient's available coping resources are already being used to manage the problems of immobility.
 - c. an acute infectious process requires more adaptive mechanisms than a chronic stressor.
 - d. this additional physical stressor places unmanageable demands on the patient's internal and external resources.
9. Helen cooperates and willingly follows the treatment regimen. The nurse wonders how Helen can project such a positive outlook and cope with additional stress. Helen's ability to cope is probably due to all of the following *except*:
 - a. acceptance that "life is not fair" and that people have limited control over their health.
 - b. adoption of the problem-focused method of coping.
 - c. her ability to draw on past coping behaviors and apply them to new situations.
 - d. the support of family and friends who call and visit frequently.
10. Elizabeth is newly admitted to the medical unit. She has periodic episodes of shortness of breath and tightness in her throat. She is crying. To evaluate the impact of physiologic and psychological components on her illness, the nurse should:
 - a. perform a thorough physical examination and include subjective patient statements as well as objective laboratory data.
 - b. focus primary attention on the respiratory system because this is the patient's chief complaint.
 - c. determine that the patient is not in acute distress, then perform a complete physical examination and include data about her lifestyle and social relationships.
 - d. attempt to discover the reasons behind the patient's anxieties, because stress can cause breathing difficulties.
11. During the nursing interview, a patient with shortness of breath reveals that she is in the process of getting a divorce. This information alerts the nurse to initially:
 - a. try to determine if there is a psychological basis for the physical symptoms.
 - b. restrict family members from visiting because their presence may aggravate the patient's symptoms.
 - c. teach the patient specific breathing exercises that can be used to manage symptoms.
 - d. request that the physician recommend counseling services.
12. A patient is admitted to the emergency department for observation after a minor automobile accident. Based on an understanding of the sympathetic nervous system's response to stress, the nurse would expect to find all of the following during assessment *except*:
 - a. cold, clammy skin.
 - b. decreased heart rate.
 - c. rapid respirations.
 - d. skeletal muscle tension.
13. Physiologically, the sympathoadrenal response results in all of the following *except*:
 - a. decreased blood flow to the abdominal viscera.
 - b. decreased peripheral vasoconstriction.
 - c. increased myocardial contractility.
 - d. increased secretion of serum glucose.

14. The hypothalamic–pituitary response is a long-acting, physiologic response to stress that involves:
- stimulation of the anterior pituitary to produce adrenocorticotrophic hormone (ACTH).
 - the production of cortisol from the adrenal cortex.
 - protein catabolism and gluconeogenesis.
 - all of the above mechanisms.
15. An example of a negative feedback process is increased:
- aldosterone secretion in burn trauma, resulting in excess sodium retention.
 - cardiac output in hemorrhage, resulting in increased blood loss.
 - secretion of antidiuretic hormone (ADH) in congestive heart failure, causing increased fluid retention.
 - secretion of thyroid-stimulating factor (TSH), which stops when circulating thyroxine levels reach normal.
16. A patient experiences lower leg pain associated with lactic acid accumulation (an example of a local response involving a feedback loop). The nurse expects the pain to lessen when:
- aerobic metabolism is reinstated.
 - anaerobic metabolism becomes the major pathway for energy release.
 - muscle use and subsequent glucose catabolism increase.
 - vasoconstriction diminishes blood flow, thereby slowing the removal of waste products.
17. A patient has a diagnosis of hypertrophy of the heart muscle (an example of cellular adaptation to injury). The nurse expects all of the following *except*:
- compromised cardiac output.
 - muscle mass changes evident on radiologic examinations.
 - cellular alteration compensatory to some stimulus.
 - decreased cell size, leading to more effective ventricular contractions.
18. Cell injury results when stressors interfere with the body's optimal balance by altering cellular ability to:
- grow and reproduce.
 - synthesize enzymes.
 - transform energy.
 - do all of the above.
19. An adult patient's hemoglobin is 7 g/dl. This should alert the nurse to assess for signs and symptoms associated with:
- hyperemia
 - hypertension
 - hypoglycemia
 - hypoxia
20. A diabetic is admitted to the hospital with a blood sugar level of 320 mg/dl. The nurse decides to monitor fluid intake and output, because:
- decreased blood osmolarity causes fluid to shift into the interstitial spaces, resulting in polydipsia.
 - polydipsia occurs when glucose catabolism is accelerated, thereby increasing the body's need for fluids.
 - polyuria results from osmotic diuresis, which is compensatory to hyperglycemia.
 - the blood's hypotonicity will result in tissue fluid retention and weight gain.
21. Nursing care for a patient with a fever is based on all of the following body responses except one. Indicate the *exception*.
- Diaphoresis, which is a compensatory mechanism that cools the body.
 - Increased heart rate, which helps to meet increased metabolic demands.
 - Increased nutrient catabolism, which will influence the body's caloric needs.
 - Vasodilation of surface blood vessels, which will prevent excessive heat loss.
22. Anti-infectives are not useful against biologic agents known as:
- bacteria.
 - fungi.
 - mycoplasmas.
 - viruses.

23. Viruses are infectious agents that:
- burst out of invaded cells to enter other cells.
 - infect specific cells.
 - replicate within invaded cells.
 - do all of the above.
24. Genetic disorders arising from inherited traits include all of the following *except*:
- hemophilia.
 - meningitis.
 - phenylketonuria.
 - sickle cell anemia.
25. A nurse who is caring for a patient with a localized response to a bee sting expects symptoms to include all of the following *except*:
- blanching due to compensatory vasoconstriction.
 - hyperemia due to increased blood flow.
 - pain due to pressure on the nerve endings.
 - swelling due to increased vascular permeability.
26. While caring for a patient with an infected surgical incision, the nurse observes for signs of a systemic response. These include all of the following *except*:
- leukopenia owing to increased white blood cell production.
 - a febrile state caused by the release of pyrogens.
 - anorexia, malaise, and weakness.
 - loss of appetite and complaints of aching.
27. Nursing assessment to determine individual social support systems includes obtaining information about the person's:
- belief that he or she belongs to a group that is mutually dependent and communicative.
 - concept of being cared for and loved.
 - impression of being esteemed and valued.
 - perception of all of the above.
28. Mrs. Talbot is scheduled for a breast biopsy in the morning. There is a history of breast malignancy in her family. While caring for her the evening before surgery, the most appropriate nursing action would be to:
- administer a soothing back massage to promote relaxation and decrease stress.
 - make sure she eats all of her evening meal because she will be NPO after midnight.
 - minimize the emotional impact of surgery by encouraging her to socialize with other patients.
 - sit with her and provide an opportunity for her to talk about her concerns.

Match the primary category of stressors listed in Column II with its associated stressors listed in Column I.

Column I

- _____ anxieties
- _____ genetic disorders
- _____ hypoxia
- _____ infectious agents
- _____ lifechanges
- _____ nutritional imbalance
- _____ social relationships
- _____ trauma

Column II

- physiologic
- psychosocial

Read each statement carefully. Write your response in the space provided.

- The "father of stress" is:

- Define stress according to Hans Selye.

3. Psychosocial stressors are classified as day-to-day occurrences (daily hassles), major events that affect large groups, and those infrequently occurring situations that directly affect a person. List two examples from your personal experiences that could be included under each classification.

- | | |
|--|----------|
| a. Day-to-day occurrences | a. _____ |
| | _____ |
| b. Major events that affect large groups of people | b. _____ |
| | _____ |
| c. Infrequently occurring major stressors | c. _____ |
| | _____ |

4. Discuss the linkage between illness and critical life events.

5. Discuss how internal cognitive processes and external resources are used by an individual to manage stress.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Complete the flow chart.

Fill in the physiologic reactions of the body that respond to sympathetic nervous system stimulation and provide the rationale for each reaction.

General body arousal		Rationale
↑Norepinephrine =	↑ _____	_____
	↑ _____	↑ _____
	↑ _____	_____
	↑ _____	↑ _____
↓		
Skeletal muscles	_____	↑ _____
Pupils	_____	↑ _____
Ventilation	_____	_____

Read the following case study. Fill in the blanks below.

CASE STUDY

Use the “Pathophysiologic Response to Hypertensive Heart Disease” (pages 74–78, Table 6–1 and Figure 6–2) as a guide. Using the nursing process as a guide, develop a nursing plan of care for each compensatory mechanism. The answers to the first mechanism, decreased renal blood flow, are given in the Answer Key.

Renin secretion is compensatory to decreased renal blood flow. Renin indirectly leads to sodium and water retention by stimulating the release of aldosterone. This mechanism initially results in increased cardiac output.

Selected Compensatory Mechanisms

- a. Renal blood flow is decreased as a result of hypertensive heart disease
- b. Arteriole constriction occurs, resulting from renin secretion.
- c. Sodium and water retention occurs subsequent to aldosterone secretion.
- d. Increased cardiac output is due to increased extracellular fluid.

Nursing Implications

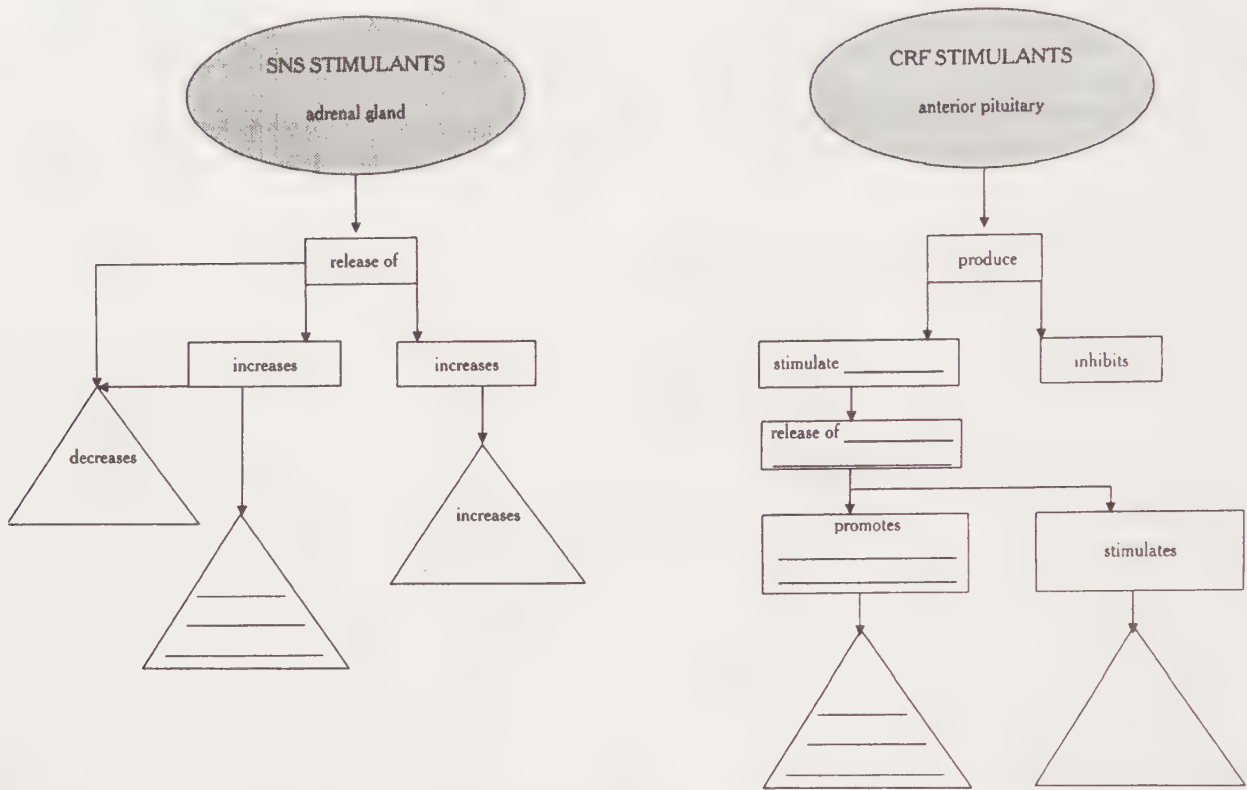
Assessment
Nursing Diagnoses
Collaborative Problems
Planning
Implementation
Evaluation

Rationale

Identifying Patterns

The sympathetic-adrenal-medullary response and the hypothalamic-pituitary response to stressors are adaptive and protective mechanisms that maintain the homeostasis balance of the body.

Based on the information provided in Chapter 6, please complete the following flow chart.



Legend: A ○ represents the beginning of the process, a □ represents the steps in the process, and a △ represents the physiologic end responses.

7

Individual and Family Considerations Related to Illness

Chapter Overview

Illness is a unique human experience that elicits as many variable responses as there are people. Experiences are influenced by physiologic adaptability, sociocultural exposures, and psychological stability. Responses influence nursing interventions that aim to meet identified needs. Nursing care plans should be specific for each person. Many people can be helped to cope with the illness experience to the best of their potential.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Compelling research has been established that shows the health of the immune system is correlated to the functioning of the:
 - a. central nervous system.
 - b. emotional moods and behavior.
 - c. neuroendocrine responses.
 - d. interconnections among all of the above.
2. To examine an individual's response to illness, a nurse should:
 - a. analyze the way the patient thinks about stress, illness, and adaptive behavior.
 - b. observe the patient's present behavior.
 - c. obtain a description of the patient's previous coping mechanisms.
 - d. do all of the above.
3. A person's perception of illness as a stressor is primarily influenced by:
 - a. finances.
 - b. intelligence.
 - c. occupational status.
 - d. previous coping experiences.
4. The basic system disturbance believed responsible for the symptoms of post-traumatic stress disorder (PTSD) is the:
 - a. cardiopulmonary.
 - b. neurological.
 - c. renal.
 - d. respiratory.
5. In the United States, approximately ____ of clinically depressed individuals commit suicide.
 - a. 5%
 - b. 15%
 - c. 25%
 - d. 40%

6. It took Mr. "A" 3 months to admit that he was sick, in need of medical and nursing care, and to accept his diagnosis of adenocarcinoma of the right kidney. An emotional response you would expect to see associated with this stage of illness is:
 - a. shame.
 - b. denial.
 - c. guilt and shame.
 - d. regression.
7. A person who experiences pain, anguish, and an acute sense of sadness is most likely in the stage of mourning known as:
 - a. awareness.
 - b. disbelief.
 - c. shock.
 - d. restitution.
8. Nursing interventions to help a person deal with denial include:
 - a. allowing the patient to use denial when it serves an immediate purpose and is not harmful.
 - b. challenging the patient's use of denial as a defense mechanism.
 - c. encouraging the use of denial as a satisfactory method of dealing with illness.
 - d. supporting the denial behavior, knowing that the patient needs this coping mechanism.
9. A communication breakdown will most probably occur if a nurse:
 - a. anticipates barriers to communication and works out solutions in advance.
 - b. clarifies facts about an illness with the patient during the patient's denial of that illness.
 - c. plans a teaching session for a time when the patient is free from pain.
 - d. presents a teaching program when the patient demonstrates a readiness to learn.
10. Mrs. Renton is hospitalized in the final states of metastatic carcinoma. She tells her physician that she will accept her prognosis if he can keep her alive until her grandchild is born in 3 months. Mrs. Renton is in that stage of dying identified by Kubler-Ross as:
 - a. isolation.
 - b. anger.
 - c. bargaining.
 - d. depression.

Read each statement carefully. Write your response in the space provided.

1. Write the most commonly accepted definition of a mental/emotional disorder.

2. List the five major family functions described by Wright and Leahy (1994) that significantly influence an individual's response to illness.

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | |

3. Record seven traits identified by Burr (1994) that enhance coping of family members under stress.

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | |

4. Identify five common emotional responses to post-traumatic stress disorder (PTSD).

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | |

5. Document seven life events that are known to trigger symptoms of post-traumatic stress disorder.

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | |

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. Since 1980, there has been a gradual decline in the number of individuals who seek holistic health care treatment.
2. The philosophical framework supporting holistic health care is emphasis on the spiritual domain of healing.
3. Clinical depression is a common response to health problems, especially for the young and the elderly.
4. The majority of people who commit suicide are depressed, isolated from friends, and have not sought personal or professional help.
5. Depression is a nonserious emotional response associated with everyday unhappiness.

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Hodgkin's Disease

Joan, a 29-year-old mother of two, works 20 hours a week as a secretary. She was diagnosed with Hodgkin's disease the week of her 29th birthday.

1. Joan's reaction to the diagnosis was to increase her working time to 40 hours per week and to increase her social activities. Joan's response is characteristic of the:
 - a. first stage of illness.
 - b. second stage of illness.
 - c. third stage of illness.
 - d. fourth stage of illness.
2. The most prominent emotion you would expect Joan to experience at the time of her diagnosis is:
 - a. acceptance.
 - b. denial.
 - c. depression.
 - d. guilt.
3. Nursing intervention at the time of the diagnosis would *not* include:
 - a. answering questions.
 - b. listening to the patient ventilate.
 - c. reinforcing reality.
 - d. supporting denial.

CASE STUDY: Radical Mastectomy

Kathy, a 45-year-old, single executive with a major oil company, lives alone in a high-rise city apartment. She is recovering from a right radical mastectomy performed 3 days ago.

1. Kathy is firm about not bathing in the morning because her normal home routine involves a nightly relaxing tub bath. The nurse should:
 - a. document in the plan of care that bathing is to take place near bedtime.
 - b. explain the clinical routine to Kathy to help her understand the necessity for each patient to comply so that all patients will receive optimum care.
 - c. gently remind Kathy that she is not in control in a hospital; the nurses decide when baths will be taken.
 - d. give Kathy a choice of morning bath care or evening shower care because staffing on the evening shift is not sufficient to meet her needs.
2. Kathy refuses to acknowledge that her breast was removed. She believes that her breast is intact under the dressings. The nurse should:
 - a. call the physician to change the dressings so Kathy can see the incision.
 - b. recognize that Kathy is experiencing denial, a normal stage of the grieving process.
 - c. reinforce Kathy's belief for several days until her body can adjust to the stress of surgery.
 - d. remind Kathy that she needs to accept her diagnosis so that she can begin rehabilitation exercises.
3. Kathy screams at her nurse because the nurse is 10 minutes late administering Kathy's pain medication. The nurse is aware that anger:
 - a. is a maladaptive response to a stressful situation.
 - b. is an anticipated reaction to a change in body appearance.
 - c. should be reinforced to help reality orientation.
 - d. should be repressed so that Kathy can gain control of her surroundings.
4. To help Kathy adjust to her altered body image, the nurse should:
 - a. offer acceptance.
 - b. reinforce Kathy's concept of self-worth.
 - c. understand Kathy's emotional responses to her illness and her surgery.
 - d. consider all of the above.

8

Perspectives in Transcultural Nursing

Chapter Overview

Our nation and the world are becoming more culturally diverse as the global market expands, as computer technology brings us closer, and as more individuals value the differences among subcultures. Each of us is identified by our customs, beliefs, values, and family traditions. Our challenge in daily living and in the delivery of nursing care is to appreciate each other's uniqueness and to learn how to interpret verbal and nonverbal cues so we can all live in harmony.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Choose the minority group in the United States that is not federally recognized as a minority:
 - a. Asian/Pacific Islanders.
 - b. Hispanic Americans.
 - c. Native Americans.
 - d. Islamics.
2. The most common non-English language spoken in the United States is:
 - a. German.
 - b. French.
 - c. Italian.
 - d. Spanish.
3. Madeline Leininger's theory of transcultural nursing supports providing care that:
 - a. allows for restructuring.
 - b. can be accommodated.
 - c. is congruent.
 - d. reflects all the above characteristics.
4. Personal space is a culturally defined phenomenon. In comparing cultures, individuals who require the most personal space between themselves and others would be from:
 - a. Japan.
 - b. Latin America.
 - c. the Middle East.
 - d. the United States.
5. Choose the culture that does not consider eye contact impolite when speaking with another:
 - a. American.
 - b. Arabian.
 - c. Indo-Chinese.
 - d. Native American.
6. The cultural group that stares at the floor during conversation is the:
 - a. Asian.
 - b. Appalachian.
 - c. Indo-Chinese.
 - d. Native American.

7. The cultural group that has a wide frame of reference for attitudes about time is the:
 - a. Hispanic.
 - b. Arabian.
 - c. Native American.
 - d. Asian.
8. A nurse would expect that a woman from a(n) _____ culture would want only a female physician to examine her.
 - a. Arabian.
 - b. Asian.
 - c. Japanese.
 - d. Latin American.
9. Choose the religious group that shuns the use of caffeine-containing beverages:
 - a. Hindu.
 - b. Jewish.
 - c. Mormon.
 - d. Seventh Day Adventist.
10. The yin-yang theory of harmony and illness is rooted in the _____ paradigm of health and illness.
 - a. biomedical.
 - b. holistic.
 - c. religious.
 - d. scientific.

Read each statement carefully. Write your response in the space provided.

1. Describe the four basic characteristics of culture.

1. _____
2. _____
3. _____
4. _____

2. Give at least five examples of groupings that can be used to identify subcultures.

1. _____	4. _____
2. _____	5. _____
3. _____	

3. List four strategies that individuals tend to use when communication has broken down.

1. _____	3. _____
2. _____	4. _____

4. Name four religious groups that routinely incorporate fasting into the religious practice.

1. _____	3. _____
2. _____	4. _____

5. Explain the concept of yin-yang.

9

Chronic Illness

Chapter Overview

Chronic illness affects all ages to varying degrees of severity and debility. It randomly strikes and is predicated by genetic codes and predisposing factors. Its effects can be subtle or glaring. Regardless of cause, the results are similar—a compromised lifestyle with psychosocial and financial burdens. Only a few are able to balance the demands of chronic illness so activities of daily living and self-image are not compromised.

Nursing roles with the chronically ill are numerous. Central to all interventions and frameworks is the underlying commitment to maximize an individual's potential and support all efforts at health maintenance.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A medical condition is considered *chronic* when long-term management is required for a *minimum* of:
 - a. 8 weeks.
 - b. 3 months.
 - c. 16 weeks.
 - d. 6 months.

2. It is estimated that the number of people affiliated with chronic conditions will _____ by the year 2030.
 - a. decrease by 25%
 - b. double
 - c. increase by 50%
 - d. triple

3. As chronic conditions increase, it is expected that the percentage of individuals with limitations of a major activity will approach _____.
 - a. 35
 - b. 50
 - c. 70
 - d. 85

4. The most disabling chronic condition in the United States is projected to be:
 - a. extremity paralysis.
 - b. mental retardation.
 - c. multiple sclerosis.
 - d. respiratory cancers.

5. Chronic illness can be monitored using the Trajectory Model. The phase where a diagnosis occurs is known as:
 - a. pre-trajectory.
 - b. trajectory.
 - c. crises.
 - d. downward course.

6. A person at risk for developing a chronic condition because of genetic factors is said to be in the _____ phase of the Trajectory Model.
- a. pre-trajectory
 - b. trajectory
 - c. unstable
 - d. acute

Read each statement carefully. Write your response in the space provided.

1. List four reasons believed to significantly increase the occurrence of chronic conditions in the United States.

1. _____

2. _____

3. _____

4. _____

2. List six common management problems related to chronic conditions.

1. _____	4. _____
2. _____	5. _____
3. _____	6. _____

3. Define the concept of Trajectory Model as it relates to chronic illness.

4. The two most frequent interferences with activities of daily living (ADL) related to chronic illness are:

1. _____

2. _____

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. Chronic illnesses decrease in frequency with age because individuals' immunologic systems adapt and overcome the impact.
2. Individuals with chronic illness will always function in a dependent role because they have a compromised system.
3. Orthopedic deformities are chronic disorders that are projected to be least prevalent in the United States, according to the Robert Wood Johnson Foundation
4. The presence of a chronic disease prevents the development of other chronic conditions.
5. A therapeutic way to manage chronic illness is to superimpose an "acute care framework" on a chronic condition so severe medical problems are not overlooked.
6. In the Trajectory Model of chronic illness, medical aspects of illness are separated into their social and psychological components so that care can be targeted to specific areas.

10

Principles and Practices of Rehabilitation

Chapter Overview

Rehabilitation means the process of returning a person to a condition of optimum wellness. This need exists whenever an illness or disease alters a person's health status and someone has identified that rehabilitation is possible for improved health functioning. Once identified, rehabilitation goals can be met by the person alone or by a health care provider. Rehabilitation begins as soon as the need exists, whether the person is in his or her home environment or in a clinical setting. Nurses need to be sensitive to early identification of rehabilitation needs based on detailed assessment. A course of therapy can then be prescribed, implemented, and evaluated.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Rehabilitation, an integral part of nursing, should begin:
 - a. after the patient feels comfortable in the clinical setting.
 - b. after the physician has prescribed rehabilitative goals.
 - c. when an exercise program has been initiated.
 - d. with initial patient contact.
2. The normal first emotional reactions to a disability are:
 - a. anger and hostility.
 - b. confusion and denial.
 - c. depression and regression.
 - d. grief and mourning.
3. The key member of the rehabilitation team is the:
 - a. nurse.
 - b. patient.
 - c. physical therapist.
 - d. physician.
4. The PULSES profile uses six components to evaluate self-care independence. The assessment of bladder control would be documented under:
 - a. "E," excretory function.
 - b. "L," lower system functions.
 - c. "P," physical condition.
 - d. "S," sensory functions.
5. Therapeutic exercises that are carried out by the patient with the nurse assisting are classified as:
 - a. active.
 - b. active assistive.
 - c. passive.
 - d. resistive.

6. A nurse who wants to help a patient assume the side-lying position would:
- align the lower extremities in a neutral position.
 - extend the legs with a firm support under the popliteal area.
 - place the uppermost hip slightly forward in a position of slight abduction.
 - position the trunk so that hip flexion is minimized.
7. A pressure ulcer is associated with the presence of:
- dehydration and skin dryness.
 - excessive skin moisture.
 - inflammation and infection.
 - small nutrient vessel compression.
8. A patient at potential risk for a pressure ulcer is assessed by the nurse. A laboratory study the nurse should examine is:
- serum albumin.
 - serum glucose.
 - prothrombin time.
 - sedimentation rate.
9. A diet recommended for hypoproteinemia that "sparing" protein is one high in:
- carbohydrates.
 - fats.
 - minerals.
 - vitamins.
10. Wound healing depends on collagen formation, which depends on vitamin:
- A.
 - C.
 - D.
 - K.
11. To initiate a schedule of bladder training, a nurse should:
- encourage the patient to wait 30 minutes after drinking a measured amount of fluid before attempting to void.
 - give up to 2,500 ml of fluid daily.
 - teach bladder massage to increase intra-abdominal pressure.
 - do all of the above.
12. Successful bowel training depends on:
- a daily defecation time that is within 15 minutes of the same time every day.
 - an adequate intake of fiber-containing foods.
 - fluid intake between 2 and 4 L /day.
 - all of the above.
13. Sexual problems faced by the disabled include:
- impaired self-image.
 - lack of opportunities to form friendships.
 - limited access to information about sexuality.
 - all of the above.
14. A rehabilitation program for an elderly hip-fracture patient must focus on the:
- impact of multiple system pathology on recovery.
 - influence of mental status changes on health improvement.
 - periodic physiologic evaluation of bone repair.
 - value of all of the above factors.
15. Insufficient cerebral circulation can result from the use of the tilt table and can be identified by:
- diaphoresis.
 - nausea.
 - tachycardia.
 - all of the above.
16. Weight-bearing on long bones is essential for preventing:
- calcium loss.
 - potassium loss.
 - protein loss.
 - sodium loss.

Match the explanations of range-of-motion techniques listed in Column II with their associated terms in Column I.

Column I

1. _____ adduction
2. _____ dorsiflexion
3. _____ extension
4. _____ inversion
5. _____ pronation
6. _____ abduction

Column II

- a. bending of the foot toward the leg
- b. increasing the angle of a joint
- c. moving away from the midline of the body
- d. movement that turns the sole of the foot inward
- e. movement toward the midline of the body
- f. rotating the forearm so that the palm is down

Read each statement carefully. Write your response in the space provided.

1. Define the term *physiatrist*.

2. List three complications commonly associated with a prolonged immobility.

1. _____
2. _____
3. _____

3. Two common musculoskeletal complications for patients who are in bed for prolonged periods are:

1. _____
2. _____

4. Four factors that contribute to footdrop are:

1. _____
2. _____
3. _____
4. _____

5. A joint should be moved through its range of motion _____ times, at least once a day.

6. For crutch-walking, the sequence for the four-point gait begins with the _____ crutch and ends with the _____ foot.

7. Examples of orthotic devices include:

8. Life-threatening complications of pressure sores include:

9. Eschar covering an ulcer should be removed surgically because eschar: _____

10. Weight-bearing on long bones is essential to prevent: _____

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

View Figure 10–4, page 137 of the text and answer the following clinically focussed questions.

CLINICAL SITUATION: Impaired Skin Integrity

1. Define the term *pressure ulcer*.

2. The initial sign of pressure is _____ caused by _____.
3. Choose the two most susceptible surfaces for pressure ulcer formation: the _____ and the _____.
4. The least favorable position to use to shift body weight would be:
- | | |
|---------------|-------------------|
| a. prone. | c. semi-Fowler's. |
| b. recumbent. | d. side-lying. |
5. The patient should be repositioned:
- | | |
|----------------------|------------------------|
| a. every 30 minutes. | c. every 3 to 4 hours. |
| b. hourly. | d. once per shift. |
6. Explain why a gel-type flotation pad and an air-fluidized bed reduce pressure.

This logic is based on _____ law.

7. Explain why the shearing force is increased when the head of the bed is raised, even if only by a few centimeters.

Read the following case studies. Circle the correct answer.

CASE STUDY: Traumatic Amputation Psychosocial Perspective

Oliver, a 42-year-old mechanical engineer, works at a major paper mill. While he was doing routine maintenance work, his foot slipped, and he fell against an industrial paper cutter. He suffered a traumatic amputation of his left hand.

1. The nurse expects Oliver's initial emotional reaction on admission to the emergency department to be one of:
- | | |
|-------------------------------|--------------------------|
| a. adjustment and acceptance. | c. denial and confusion. |
| b. anger and regression. | d. grief and depression. |
2. If Oliver begins to mourn for his missing body part, the nurse should:
- | | |
|--|---|
| a. emphasize all the abilities he has with his remaining hand. | c. listen as he talks about his loss. |
| b. encourage him to cheer up. | d. remind him of his limited abilities, to reinforce reality. |

3. The nurse notices that Oliver blames his loss on his family, because he has rationalized that he had to work in a dangerous area to generate sufficient income to support his seven children and his dependent parents. A nursing care plan for Oliver should include:
 - a. advising him about budgeting his income to minimize the stress associated with financial worries.
 - b. allowing him to project his emotions.
 - c. demonstrating self-assistive devices that will help him meet his activities of daily living.
 - d. encouraging him to have a positive attitude toward his disability to facilitate his recovery.
4. After several weeks, Oliver seems to be adjusting to his disability. Behaviors consistent with this period include:
 - a. acceptance of his limitations.
 - b. interest in obtaining information about his disability.
 - c. redirecting his energies toward coping.
 - d. all of the above.

CASE STUDY: Buck's Extension Traction

Patricia is 67 years old and has limited mobility as a result of a right hip fracture. She is in Buck's extension traction awaiting surgery.

1. During morning care, the nurse suggests that Patricia attempt isometric exercises of her legs. This suggestion is based on the nurse's goal of:
 - a. encouraging normal muscle function.
 - b. maintaining muscle strength while immobilizing the joints.
 - c. providing resistance to increase muscle strength.
 - d. retaining as much joint range of motion as possible.
2. The nursing goals associated with therapeutic isometric exercises include all of the following *except*:
 - a. enhanced joint mobility.
 - b. improved patient well-being.
 - c. increased strength of the musculature that controls the joints.
 - d. prevention of venous stasis.
3. To assist Patricia with isometric exercises of her lower extremities, the nurse should teach her to:
 - a. contract or tighten her thigh and calf muscles without moving her knees and hip joints, to hold for several seconds, and then to "let go."
 - b. slowly move her legs through limited range of motion while the nurse stabilizes the proximal joint and supports the distal part.
 - c. move her legs through their full range of motion while the nurse supports each distal part.
 - d. put each leg through full range of motion while the nurse offers slight resistance to the movement.

11

Health Care of the Older Adult

Chapter Overview

Aging is a normal process that begins with birth and continues throughout life. Most stereotypes concerning the elderly are negative. Erikson's stage of ego integrity versus despair implies that the elderly person will either accept the life he or she has lived or be dissatisfied with its outcome. The aged population is increasing rapidly, and health professionals must meet the challenge to make these added years healthy and productive.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The study of old age is referred to as:
 - ageism.
 - geriatrics.
 - gerontotics.
 - gerontology.
- Psychological adjustment to aging is believed to be related to successful completion of:
 - aging.
 - developmental tasks.
 - physical adjustment.
 - societal position.
- Nursing interventions to help older people deal with psychological aging include:
 - attentive listening.
 - discussing their personal plans for the future.
 - focusing their attention on the present.
 - all of the above.
- All of the following are true concerning Erikson's task of ego integrity *except*:
 - the person accepts his or her lifestyle as it is.
 - the person feels dissatisfied with life.
 - one is still in control of one's life.
 - the person made the best choices for particular situations.
- Choose the sociological theory that suggests that adjustment to old age depends on the person's ability to continue life patterns throughout his or her lifetime.
 - Activity
 - Continuity
 - Disengagement
- The process most sensitive to deterioration with aging seems to be:
 - creativity.
 - judgment.
 - intelligence.
 - short-term memory.

7. The cardiac condition most frequently seen among the aged is:
 - a. aortic stenosis.
 - b. coronary artery disease.
 - c. mitral valve prolapse.
 - d. ventricular tachycardia.
8. Respiratory changes associated with aging include all of the following *except*:
 - a. decreased residual volume.
 - b. changes in the anteroposterior diameter of the chest.
 - c. loss of elastic tissue surrounding the alveoli.
 - d. reduced vital capacity.
9. Choose the false statement concerning genitourinary system changes in the older adult.
 - a. The renal filtration rate decreases.
 - b. The acid–base balance is restored more slowly.
 - c. Bladder capacity increases with advanced age.
 - d. Urinary frequency, urgency, and incontinence are common problems.
10. Bone changes associated with aging frequently result from a loss of:
 - a. calcium.
 - b. magnesium.
 - c. vitamin A.
 - d. vitamin C.
11. Nervous system changes associated with aging include all of the following *except*:
 - a. a decrease in brain weight subsequent to the destruction of brain cells.
 - b. an increase in blood flow to the brain to compensate for the gradual loss of brain cells.
 - c. atrophy of the convolutions of the brain surface.
 - d. widening and deepening of the spaces between the convolutions of the brain.
12. Nursing measures to deal with sensory changes in the aged include:
 - a. increasing room lighting without increasing glare.
 - b. speaking louder than normal.
 - c. suggesting appetite stimulants before meals.
 - d. all of the above actions.
13. Drug dosages must be reduced in the elderly because:
 - a. cardiac output is significantly reduced.
 - b. the number of mucosal cells in the gastrointestinal tract is reduced.
 - c. drug biotransformation takes longer in older persons.
 - d. all of the above are true.
14. The medications that remain in the body longer in the elderly because of increased body fat are:
 - a. anticoagulants.
 - b. barbiturates.
 - c. digitalis glycosides.
 - d. diuretics.
15. The seventh leading cause of death in older persons is:
 - a. accidents.
 - b. drug toxicity.
 - c. elder abuse.
 - d. malnutrition.
16. The major source of public funding that provides nursing home care for the poor elderly is:
 - a. Medicaid.
 - b. Medicare.

Read each statement carefully. Write your response in the space provided.

1. In approximately _____ years, there will be a higher percentage (_____ %) of people over 65 than the percentage of those under age 18 (_____ %).
2. The major cause of disability in those over age 65 is _____.
3. The leading cause of death in those over age 65 is _____ followed by _____ and _____.
4. The ability to acquire new information and learn new skills significantly decreases after age _____.

5. The dementias in older adults are characterized by a decrease in the following intellectual skills:
_____, _____, _____, and _____.

6. List the five most common infections in the elderly

1. _____

4. _____

2. _____

5. _____

3. _____

II. Critical Analysis Questions

Interpreting Data

Refer to Figure 11-1 on page 149 to answer the following questions.

1. In the decade between the years 2000 and 2010, the percentage of those over 65 years of age will increase by _____%.
2. In the decade between 2010 and 2020, the percentage increase in those over 65 years will be _____%, more than _____ the prior 10 years (2000–2010).
3. Will the percentage increase in those greater than age 65 continue from 2020 to 2030 at a slower, equal, or greater rate? _____. The percentage increase for the decade is projected to be _____%.
4. The number of persons over 65 years increased at an equal rate of growth (_____%) over the two timespans of _____ and _____.
5. By the year 2030, approximately _____ million individuals will be older than age 65.

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. Bones are composed of postmitotic cells that diminish and cause bone density.
2. Osteoporosis, accelerated by the loss of estrogen, can be reversed with a high-calcium diet.
3. If the symptoms of delirium go untreated, symptoms will eventually decrease and the person will regain his or her previous level of consciousness.
4. Older persons should “take it easy” and avoid vigorous activity.
5. Baseline body temperature is usually one degree Fahrenheit higher than normal in an older person because dehydration is common.

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Loneliness

Suzanne is a 75-year-old retired schoolteacher. She was recently widowed and lives alone. She is financially secure but socially isolated because she has outlived most of her friends. Her children are self-sufficient and very busy with their own lives.

1. Psychological threats that Suzanne may experience include:
 - a. a deterioration of self-concept.
 - b. a loss of self-esteem.
 - c. extensive grief over frequently occurring losses.
 - d. all of the above.

2. Suzanne is concerned about the dryness of her skin. Suggestions for skin care include:
 - a. applying ointment to the skin several times a day.
 - b. avoiding overexposure to the sun.
 - c. patting the skin dry instead of rubbing it with a towel.
 - d. all of the above measures.
3. Suzanne notices that food does not taste the same as before. She needs to be aware that this sensory change is most probably related to:
 - a. a decrease in the number of taste buds.
 - b. a loss of appetite associated with a decreased sense of smell.
 - c. altered enzyme secretions.
 - d. diminished gastric secretions.
4. An analysis of Suzanne's diet shows that it does not contain adequate protein. Her daily protein intake, for a body weight of 134 lb, should be about:
 - a. 30 g.
 - b. 40 g.
 - c. 50 g.
 - d. 60 g.
5. Most accidents among older people involve falls within the home. Preventive nursing measures include advising Suzanne to:
 - a. avoid climbing and bending.
 - b. keep personal items stored at a level between her hips and her eyes.
 - c. make certain that all her shoes fit securely.
 - d. do all of the above.

CASE STUDY: Alzheimer's Disease

Thomas, a 75-year-old retired bricklayer, lives at home with Anne, his 65-year-old wife, who is healthy and active. Lately she has noticed that he is negative, hostile, and suspicious of her. He gets lost in his own home, and his conversations have been accompanied by forgetfulness. Recently his physician has indicated a probable diagnosis of Alzheimer's disease.

1. Choose the statement that is false concerning Alzheimer's disease.
 - a. It is found only in old persons.
 - b. The disease process is irreversible.
 - c. The probable cause is neuropathologic and biochemical.
 - d. The cells that are affected by the disease are the ones that use acetylcholine.
2. The nurse should suggest that Anne deal with Thomas' behavior by:
 - a. reasoning with him.
 - b. providing reality orientation.
 - c. providing a calm and predictable environment.
 - d. not structuring activities for him.
3. An important point to communicate to Anne is:
 - a. there are no realistic goals appropriate for Thomas.
 - b. lists and written instructions will only tend to confuse him.
 - c. Thomas should be restrained when agitated.
 - d. maintaining personal dignity and autonomy is still an important part of Thomas' life.
4. Caregivers of patients with Alzheimer's disease should be aware that:
 - a. Alzheimer's support groups exist.
 - b. Alzheimer's disease does not eliminate the need for intimacy.
 - c. socializing with old friends may be comforting.
 - d. all of the above are appropriate.

CASE STUDY: Dehydration

Vera, an 89-year-old widow, was transferred from a nursing home to a hospital with a diagnosis of dehydration. Vera needs to be in bed because of her generalized weakness. She is occasionally confused and disoriented.

1. From his or her knowledge of temperature regulation in the elderly, the nurse should:
 - a. make sure that the environmental temperature is adequate.
 - b. palpate Vera's skin periodically to assess for warmth.
 - c. place extra blankets at Vera's bedside in case she becomes cold, especially in the evening.
 - d. do all of the above.

2. The nurse initiates a 2-hour turning schedule for Vera, based on the knowledge that the underlying cause of all decubiti is:
 - a. altered skin turgor.
 - b. nutritional deficiency.
 - c. pressure.
 - d. vasoconstriction.
3. Vera has been incontinent of urine since admission. Nursing interventions include all of the following *except*:
 - a. initiating a bladder training program.
 - b. offering fluids frequently to maintain a minimum daily intake of 2 to 3 L.
 - c. providing means for limited daily exercises and ambulation.
 - d. securing a physician's order for urethral catheterization.
4. The nurse suggests that Vera sit in a rocking chair for 20 minutes, four times a day. This suggestion is based on the knowledge that rocking:
 - a. discourages hypostatic pulmonary congestion.
 - b. increases pulmonary ventilation.
 - c. improves venous return through contraction of the calf muscles.
 - d. does all of the above.

Learner's Self-Evaluation Tool for End of Unit 2 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

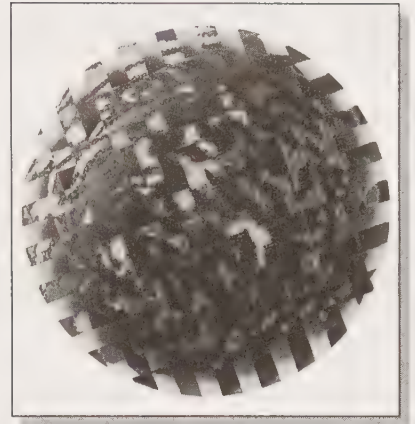
I will do this on _____ (date and time).

5. I believe my mastery of this unit to be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. < 80% Make an appointment with your instructor.

UNIT 3

Concepts and Challenges in Patient Management



12
Pain Management

13
Fluids and Electrolytes:
Balance and Disturbances

14
Shock and Multisystem
Failure

15
Oncology: Nursing
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12

Pain Management

Chapter Overview

Pain is a major symptom in many diseases and one of the most common reasons why a person seeks medical attention. Although pain is a common experience, it is very personal and different for everyone. Care of the person experiencing pain requires an understanding of the physiologic, psychological, and sociocultural aspects of pain, as well as an appreciation of the patient's personal perception of the pain experience.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Acute pain can be classified as chronic when it persists for:
 - 1–2 months.
 - 3 months
 - 3–5 months.
 - greater than 6 months.
- Acute pain may be described as having the following characteristic. It:
 - does not usually respond well to treatment.
 - is associated with a specific injury.
 - serves no useful purpose.
 - responds well to placebos.
- A physiologic response not usually associated with acute pain is:
 - decreased cardiac output.
 - altered insulin response.
 - increased metabolic rate.
 - retention of fluids.
- A chemical substance thought to inhibit the transmission of pain is:
 - acetylcholine.
 - bradykinin.
 - enkephalin.
 - histamine.
- Chronic pain may be described as:
 - attributable to a specific cause.
 - prolonged in duration.
 - rapidly occurring and subsiding with treatment.
 - separate from any central or peripheral pathology.
- An example of chronic benign pain is:
 - a migraine headache.
 - an exacerbation of rheumatoid arthritis.
 - low back pain.
 - sickle cell crisis.
- All of the following statements about endorphins are true *except*:
 - their release inhibits the transmission of painful impulses.
 - they represent the same mechanism of pain relief as non-narcotic analgesics.
 - they are endogenous neurotransmitters structurally similar to opioids.
 - they are found in heavy concentrations in the central nervous system.

8. The nurse assessing for pain should:
 - a. believe a patient when he or she states that pain is present.
 - b. doubt that pain exists when no physical origin can be identified.
 - c. realize that patients frequently imagine and state that they have pain without actually feeling painful sensations.
 - d. do all of the above.
9. When a nurse asks a patient to describe the *quality* of his or her pain, the nurse expects the patient to use a descriptive term such as:
 - a. burning.
 - b. chronic.
 - c. intermittent.
 - d. severe.
10. A physiologic indicator of acute pain is:
 - a. diaphoresis.
 - b. bradycardia.
 - c. hypotension.
 - d. lowered respiratory rate.
11. A nursing measure to manage anxiety during the anticipation of pain should include:
 - a. focusing the patient's attention on another problem.
 - b. teaching about the nature of the impending pain and associated relief measures.
 - c. using an anxiety-reducing technique, such as desensitization.
 - d. any or all of the above.
12. Pain in the elderly requires careful assessment, because older people:
 - a. are expected to experience chronic pain.
 - b. have a decreased pain threshold.
 - c. experience reduced sensory perception.
 - d. have increased sensory perception.
13. Administration of analgesics to the elderly requires careful patient assessment, because older people:
 - a. metabolize drugs more rapidly.
 - b. have increased hepatic, renal, and gastrointestinal function.
 - c. are more sensitive to drugs.
 - d. have lower ratios of body fat and muscle mass.
14. A nursing plan of care for pain management should include:
 - a. altering factors that influence the pain sensation.
 - b. determining responses to the patient's behavior toward pain.
 - c. selecting goals for nursing intervention.
 - d. all of the above.
15. The advantage(s) of using intraspinal infusion to deliver analgesics is(are):
 - a. reduced side effects of systemic analgesia.
 - b. reduced effects on pulse, respirations, and blood pressure.
 - c. reduced need for frequent injections.
 - d. all of the above.
16. The drug of choice for epidural administration of analgesia is:
 - a. codeine.
 - b. Demerol.
 - c. Dilaudid.
 - d. morphine.
17. The most worrisome adverse effect of epidural opioids is:
 - a. asystole.
 - b. hypertension.
 - c. bradypnea.
 - d. tachycardia.
18. A *preventive approach* to pain relief with nonsteroidal anti-inflammatory drugs (NSAIDs) means that the medication is given:
 - a. before the pain becomes severe.
 - b. before the pain is experienced.
 - c. when pain is at its peak.
 - d. when the level of pain tolerance has been exceeded.
19. Cutaneous stimulation is helpful in reducing painful sensations, because it:
 - a. provides distraction from the pain source and decreases awareness.
 - b. releases endorphins.
 - c. stimulates large-diameter nerve fibers and reduces the intensity of pain.
 - d. accomplishes all of the above.

20. The nurse's major area of assessment for a patient receiving patient controlled analgesia (PCA) is assessment of the ____ system.
- a. cardiovascular
 - b. integumentary
 - c. neurologic
 - d. respiratory

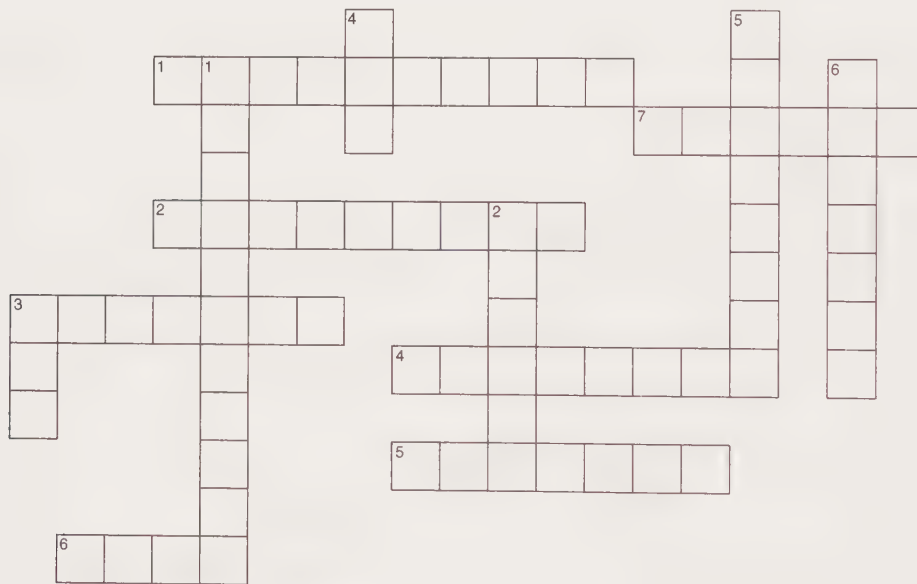
Complete the following crossword puzzle using terminology associated with pain management.

Down

1. Pain receptors in the skin.
2. Nonsteroidal agents that decrease inflammation and increase the effects of analgesics.
3. A type of analgesia that is controlled by the patient using a special pump.
4. A drug is prescribed on an "as needed" basis for pain management.
5. The only commercially available transdermal opioid medication.
6. Significantly increases a person's response to pain.

Across

1. Chemicals known to inhibit the transmission or perception of pain.
2. This substance, released in response to a painful stimuli, causes vasodilation.
3. An inactive substance given in place of pain medication.
4. Medication administration directly into the subarachnoid space and cerebrospinal fluid.
5. A type of cutaneous stimulation that decreases pain transmission through the descending pain pathway.
6. Transcutaneous stimulation of nonpain receptors in the same area of an injury.
7. Term used to describe a pain's rhythm.



II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answer.

CASE STUDY: Pain Experience

Courtney is a young, healthy adult who slipped off the stairs going down to the basement and struck her forehead on the cement flooring. Courtney did not lose consciousness but did sustain a mild concussion and a hematoma that was 5 cm in width and protruded outward about 6 cm. She experienced immediate acute pain at the site of injury plus a pounding headache.

1. An immediate assessment of the localized pain, based on the patient's description, is that it should be:
 - a. brief in duration.
 - b. mild in intensity.
 - c. persistent after healing has occurred.
 - d. recurrent for 3 to 4 months.
2. During the assessment process, the nurse attempts to determine Courtney's physiologic and behavioral responses to her pain experience. The nurse is aware that a patient can be in pain yet appear to be "pain free." A behavioral response indicative of acute pain is:
 - a. an expressionless face.
 - b. clear verbalization of details.
 - c. muscle tension.
 - d. physical inactivity.
3. The nurse uses distraction to help Courtney cope with her pain experience. A suggested activity is:
 - a. promoting relaxation.
 - b. playing music or using a videotape.
 - c. using cutaneous stimulation.
 - d. any or all of the above.
4. After treatment, Courtney is discharged to home while still in pain. The nurse should:
 - a. clarify that Courtney knows what type of pain signals a problem.
 - b. remind Courtney that acute pain may persist for several days.
 - c. review methods of pain management.
 - d. do all of the above.

13

Fluids and Electrolytes: Balance and Disturbances

Chapter Overview

Our bodies are constantly striving to maintain physiologic homeostasis, an interdependent process that affects all major body systems. Inherent in each system is a fluid medium that aids in the transport and exchange of various elements, including electrolytes. A deviation in fluid and electrolyte balance can be the cause or result of altered homeostasis. A significant or prolonged deviation can lead to illness and, if untreated, to death. Because of the acuity of symptoms associated with an imbalance, nurses need to familiarize themselves with the principles of fluid and electrolyte balance, recognize parameters of disturbance, make a diagnosis, implement a course of action that will resolve the situation, and evaluate the outcomes on the basis of specific criteria.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A febrile patient's fluid output is in excess of normal because of diaphoresis. The nurse should plan fluid replacement based on the knowledge that insensible losses in an *afebrile* person are normally not greater than:
 - a. 300 ml/24 hr.
 - b. 600 ml/24 hr.
 - c. 900 ml/24 hr.
 - d. 1200 ml/24 hr.
2. A patient's serum sodium is within normal range. The nurse estimates that the serum osmolality should be:
 - a. less than 136 mOsm/kg.
 - b. 280 to 295 mOsm/kg.
 - c. greater than 408 mOsm/kg.
 - d. 350 to 544 mOsm/kg.
3. A nurse is directed to administer a hypotonic intravenous solution. Looking at the following labeled solutions, she should choose:
 - a. 0.45% sodium chloride.
 - b. 0.90% sodium chloride.
 - c. 5% dextrose in water.
 - d. 5% dextrose in normal saline solution.
4. A patient is hemorrhaging from multiple trauma sites. The nurse expects that compensatory mechanisms associated with hypovolemia would cause all of the following symptoms *except*:
 - a. hypertension.
 - b. oliguria.
 - c. tachycardia.
 - d. tachypnea.

5. Nursing intervention for a patient with a diagnosis of hyponatremia includes all of the following *except*:
 - a. assessing for symptoms of nausea and malaise.
 - b. encouraging the intake of low-sodium liquids, such as coffee or tea.
 - c. monitoring neurologic status.
 - d. restricting tap water intake.
6. A patient with abnormal sodium losses is receiving a house diet. To provide 1,600 mg of sodium daily, the nurse could supplement the patient's diet with:
 - a. one beef cube and 8 oz. of tomato juice.
 - b. four beef cubes and 8 oz. of tomato juice.
 - c. one beef cube and 16 oz. of tomato juice.
 - d. one beef cube and 12 oz. of tomato juice.
7. To return a patient with hyponatremia to normal sodium levels, it is safer to restrict fluid intake than to administer sodium:
 - a. in patients who are unconscious.
 - b. to prevent fluid overload.
 - c. to prevent dehydration.
 - d. in patients who show neurologic symptoms.
8. Hypernatremia is associated with a:
 - a. serum osmolality of 245 mOsm/kg.
 - b. serum sodium of 150 mEq/L.
 - c. urine specific gravity below 1.003.
 - d. combination of all of the above.
9. One of the dangers of treating hypernatremia is:
 - a. red blood cell crenation.
 - b. red blood cell hydrolysis.
 - c. cerebral edema.
 - d. renal shutdown.
10. Your semiconscious patient presents with restlessness and weakness. He has a dry, swollen tongue. His body temperature is 99.3° F and his urine specific gravity is 1.020. Choose the most likely serum sodium (Na⁺) value for this patient.
 - a. 110 mEq/L
 - b. 140 mEq/L
 - c. 155 mEq/L
 - d. 165 mEq/L
11. A patient is admitted who has had severe vomiting for 24 hours. She states that she is exhausted and weak. The results of an admitting ECG show flat T waves and ST segment depression. Choose the most likely potassium (K⁺) value for this patient.
 - a. 4.0 mEq/L
 - b. 8.0 mEq/L
 - c. 2.0 mEq/L
 - d. 2.6 mEq/L
12. A patient complains of tingling in his fingers. He has positive Trousseau's and Chvostek's signs. He says that he feels depressed. Choose the most likely serum calcium (Ca²⁺) value for this patient.
 - a. 11 mg/dl
 - b. 9 mg/dl
 - c. 7 mg/dl
 - d. 5 mg/dl
13. To supplement a diet with foods high in potassium, the nurse should recommend the addition of:
 - a. fruits such as bananas and apricots.
 - b. green leafy vegetables.
 - c. milk and yogurt.
 - d. nuts and legumes.
14. If a patient has severe hyperkalemia, it is possible to administer calcium gluconate intravenously to:
 - a. immediately lower the potassium (K⁺) level by active transport.
 - b. antagonize the action of K⁺ on the heart.
 - c. prevent transient renal failure (TRF).
 - d. accomplish all of the above.
15. Management of hypercalcemia includes all of the following actions except administration of:
 - a. fluid to dilute the calcium levels.
 - b. the diuretic furosemide (Lasix), without saline, to increase calcium excretion through the kidneys.
 - c. inorganic phosphate salts.
 - d. intravenous phosphate therapy.
16. A patient is admitted with a diagnosis of renal failure. He also mentions that he has had stomach distress and has ingested numerous antacid tablets over the past 2 days. His blood pressure is 110/70, his face is flushed, and he is experiencing generalized weakness. Choose the most likely magnesium (Mg²⁺) value.
 - a. 11 mEq/L
 - b. 5 mEq/L
 - c. 2 mEq/L
 - d. 1 mEq/L

17. Management of the foregoing patient should include:
- a regular diet with extra fruits and green vegetables.
 - potassium-sparing diuretics.
 - discontinuance of any oral magnesium salts.
 - all of the above measures.
18. The most common buffer system in the body is the:
- plasma protein buffer system.
 - hemoglobin buffer system.
 - phosphate buffer system.
 - bicarbonate-carbonic acid buffer system.
19. The kidneys regulate acid-base balance by all of the following mechanisms *except*:
- excreting hydrogen ions (H^+).
 - reabsorbing or excreting HCO_3^- into the blood.
 - reabsorbing carbon dioxide into the blood.
 - retaining hydrogen ions.
20. The lungs regulate acid-base balance by all of the following mechanisms *except*:
- excreting HCO_3^- into the blood.
 - slowing ventilation.
 - controlling carbon dioxide levels.
 - increasing ventilation.
21. Choose the condition that exhibits blood values with a low pH and a low plasma bicarbonate concentration.
- Respiratory acidosis
 - Respiratory alkalosis
 - Metabolic acidosis
 - Metabolic alkalosis
22. Nursing assessment for a patient with metabolic alkalosis includes evaluation of laboratory data for all of the following *except*:
- hypocalcemia.
 - hypoglycemia.
 - hypokalemia.
 - hypoxemia.
23. Choose the condition that exhibits blood values with a low pH and a high PCO_2 .
- Respiratory acidosis
 - Respiratory alkalosis
 - Metabolic acidosis
 - Metabolic alkalosis

Read each statement carefully. Write your response in the space provided.

- The major positively charged ion in intracellular fluid is _____;
the major positively charged ion in extracellular fluid is _____.
- Define *colloidal osmotic pressure*.

- The major organ that carefully regulates serum potassium balance is the _____.
- Calcium levels are primarily regulated by _____.
- The normal blood pH is _____.
- The upper and lower level blood pH levels that are incompatible with life are _____.
- Indicate which of the following contribute to hypomagnesemia by writing *low* in the space provided, and indicate which contribute to hypermagnesemia by writing *high* in the space provided.
 - _____ alcohol abuse
 - _____ renal failure
 - _____ diarrhea
 - _____ gentamicin administration
 - _____ untreated ketoacidosis

8. Indicate which of the following contribute to hypophosphatemia by writing *low* in the space provided, and indicate which contribute to hyperphosphatemia by writing *high* in the space provided.
- _____ hyperparathyroidism
 - _____ renal failure
 - _____ major thermal burns
 - _____ alcohol withdrawal
 - _____ neoplastic disease chemotherapy
9. Indicate which of the following contribute to hypocalcemia by writing *low* in the space provided, and indicate which contribute to hypercalcemia by writing *high* in the space provided.
- _____ hyperparathyroidism
 - _____ massive administration of citrated blood
 - _____ malignant tumors
 - _____ immobilization because of multiple fractures
 - _____ pancreatitis
 - _____ thiazide diuretics
 - _____ renal failure
 - _____ aminoglycoside administration
10. Indicate which of the following contribute to hypokalemia by writing *low* in the space provided, and indicate which contribute to hyperkalemia by writing *high* in the space provided.
- _____ alkalosis
 - _____ too tight a tourniquet when collecting a blood sample
 - _____ vomiting
 - _____ gastric suction
 - _____ leukocytosis
 - _____ anorexia nervosa
 - _____ hyperaldosteronism
 - _____ furosemide (Lasix) administration
 - _____ steroid administration
 - _____ renal failure
 - _____ penicillin administration
 - _____ adrenal steroid deficiency
11. Indicate which of the following contribute to hyponatremia by writing *low* in the space provided, and indicate which contribute to hypernatremia by writing *high* in the space provided.
- _____ vomiting
 - _____ diarrhea
 - _____ watery diarrhea
 - _____ inability to quench thirst
 - _____ burns over large surface area
 - _____ diuretics
 - _____ heat stroke
 - _____ adrenal insufficiency
 - _____ syndrome of inappropriate antidiuretic hormone
 - _____ posttherapeutic abortion
 - _____ diabetes insipidus with water restriction
 - _____ excessive parenteral administration of dextrose and water solution
12. For each of the following indicate the probable cause by writing *m-acid* for metabolic acidosis, *m-alka* for metabolic alkalosis, *r-acid* for respiratory acidosis, or *r-alka* for respiratory alkalosis.
- _____ sedative overdose
 - _____ lactic acidosis
 - _____ ketoacidosis
 - _____ severe pneumonia
 - _____ hypoxemia

- f. _____ acute pulmonary edema
- g. _____ diarrhea
- h. _____ vomiting
- i. _____ hypokalemia
- j. _____ gram-negative bacterial infection

13. Explain why the administration of a 3% to 5% sodium chloride solution requires intense monitoring.

14. List several symptoms associated with air embolism, a complication of intravenous therapy.

15. The major complication of intravenous therapy is _____.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Congestive Heart Failure

George, 88 years old, is suffering from congestive heart failure. He was admitted to the hospital with a diagnosis of extracellular volume excess. He was frightened, slightly confused, and dyspneic on exertion.

1. During the assessment process, the nurse expects to identify the following *except*:

a. a full pulse.	c. edema.
b. decreased central venous pressure.	d. neck vein distention.
2. A manifestation of extracellular volume excess is:

a. altered serum osmolality.	c. increased hematocrit when volume excess develops quickly.
b. hyponatremia.	d. rapid weight gain.
3. A nursing plan of care for George should include:

a. auscultating for abnormal breath sounds.	c. weighing the patient daily.
b. inspecting for leg edema.	d. all of the above.
4. Nursing intervention for George should include all of the following *except*:

a. administering diuretics, as prescribed, to help remove excess fluid.	c. inspecting for sacral edema to note the degree of fluid retention.
b. assisting the patient to a recumbent position to minimize his breathing effort.	d. teaching dietary restriction of sodium to help decrease water retention.

CASE STUDY: Extracellular Fluid Volume Deficit (FVD)

Harriet, 30 years old, has been admitted to the burn treatment center with full-thickness burns over 30% of her upper body. Her diagnosis is consistent with extracellular volume deficit.

1. The major indicator of extracellular volume deficit can be identified by assessing for:

a. a full and bounding pulse.	c. an elevated temperature.
b. a drop in postural blood pressure.	d. pitting edema of the lower extremities.
2. Manifestations of extracellular volume deficit include all of the following *except*:

a. collapsed neck veins.	c. elevated hematocrit.
b. decreased serum albumin.	d. weight loss.

3. A nursing plan of care for Harriet should include assessing blood pressure with the patient in the supine and upright positions. A diagnostic reading that should be recorded and reported is:
- supine, 140/90; sitting, 120/80; standing, 110/70.
 - supine, 140/90; sitting, 130/90; standing, 130/90.
 - supine, 140/90; sitting, 140/85; standing, 135/85.
 - supine, 140/90; sitting, 140/90; standing, 130/90.
4. Nursing intervention for Harriet includes all of the following *except*:
- monitoring urinary output to assess kidney perfusion.
 - positioning the patient flat in bed with legs elevated to maintain adequate circulating volume.
 - placing the patient in the Trendelenburg position to maximize cerebral blood flow.
 - teaching leg exercises to promote venous return and prevent postural hypotension when the patient stands.

CASE STUDY: Diabetes Mellitus

Isaac, 63 years old, was admitted to the hospital with a diagnosis of diabetes mellitus. On admission the nurse observed rapid respirations, confusion, and signs of dehydration.

- Isaac's arterial blood gas values are pH, 7.27; HCO_3 , 20 mEq/L; PaO_2 , 33 mm Hg. These values are consistent with a diagnosis of compensated:
 - metabolic acidosis.
 - metabolic alkalosis.
 - respiratory acidosis.
 - respiratory alkalosis.
- A manifestation *not associated* with altered acid–base balance is:
 - bradycardia.
 - hypertension.
 - lethargy.
 - hypokalemia.
- In terms of cellular buffering response, the nurse should expect that the major electrolyte disturbance is:
 - hyperkalemia.
 - hyponatremia.
 - hypocalcemia.
 - hypokalemia.
- The nurse should anticipate that the physician will attempt to reverse this acid–base imbalance by prescribing an intravenous administration of:
 - potassium chloride.
 - potassium iodide.
 - sodium bicarbonate.
 - sodium chloride.

14

Shock and Multisystem Failure

Chapter Overview

The clinical picture of shock can present as a sudden occurrence resulting from bodily insult (hypovolemic shock caused by trauma) or as an insidious progression of cellular deterioration caused by an infectious agent (septic shock caused by gram-negative bacteria). Once the shock syndrome occurs, the nurse's efforts are directed toward reversing the progression of pathophysiologic responses. Additionally, the nurse works collaboratively with other members of the health care team to manage fluid replacement, nutritional support, and vasoactive drug therapy to prevent the sequence of multiple organ failure (MOF), which has a 25% to 100% mortality rate.

As a student nurse, your efforts need to be directed toward perfecting your physical assessment skills, understanding the underlying physiologic processes involved in the syndrome, and mastering the proficiency of skilled intervention. A multidisciplinary approach to care and cure will help manage the syndrome and decrease its associated morbidity and mortality.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The primary mechanism of blood pressure regulation results from the initial stimulation of ____ receptors.
 - a. chemical
 - b. hormonal
 - c. neural
 - d. pressure
2. Calculate a patient's mean arterial pressure (MAP) when the blood pressure is 110/70.
 - a. 65
 - b. 73
 - c. 83
 - d. 91
3. The stage of shock characterized by a normal blood pressure is the ____ stage.
 - a. initial
 - b. compensated
 - c. progressive
 - d. irreversible
4. A nurse assesses a patient in shock whose lungs have decompensated. The nurse would *not expect* to find the following symptoms:
 - a. a heart rate > 100/min
 - b. crackles
 - c. lethargy and mental confusion
 - d. respirations fewer than 15/min

5. Oliguria occurs in the progressive stage of shock because the kidneys decompensate. To assess for this condition, the nurse should look for the following signs or symptoms:
 - a. congestive heart failure
 - b. decreased capillary permeability and localized edema
 - c. increased BUN and serum creatinine
 - d. systolic BP >120 mm Hg
6. Hematologic system changes in progressive shock would not be characterized by:
 - a. generalized hypoxemia.
 - b. hypertension.
 - c. metabolic acidosis.
 - d. sluggish blood flow.
7. Depleted ATP stores and multiple organ failure are characteristic of the ____ stage of shock.
 - a. initial
 - b. compensatory
 - c. progressive
 - d. irreversible
8. The primary goal in treating cardiogenic shock is to:
 - a. improve the heart's pumping mechanism.
 - b. limit further myocardial damage.
 - c. preserve the healthy myocardium.
 - d. treat the oxygenation needs of the heart muscle.
9. The drug of choice for cardiac pain relief is IV:
 - a. codeine.
 - b. Demerol.
 - c. Dilaudid.
 - d. morphine.
10. Sympathomimetic drugs increase cardiac output by all of the following measures *except* by:
 - a. decreasing preload and afterload.
 - b. increasing myocardial contractility.
 - c. tachycardia.
 - d. vasoconstriction.
11. The vasoactive effects of dopamine are diminished when high doses are given because vasoconstriction increases cardiac workload. Doses are titrated for therapeutic range. A nontherapeutic drug dose for a 154-lb (70-kg) man would be:
 - a. 210 µg/min.
 - b. 350 µg/min.
 - c. 490 µg/min.
 - d. 630 µg/min.
12. The negative effect of intravenous nitroglycerin (Tridil) for shock management is:
 - a. reduced preload.
 - b. reduced afterload.
 - c. increased cardiac output.
 - d. increased blood pressure.
13. Intra-aortic balloon counterpulsation (IABC) is a mechanical, assistive device used as a temporary means of improving the heart's pumping ability. IABC is primarily meant to:
 - a. decrease cardiac work.
 - b. decrease stroke volume.
 - c. increase preload.
 - d. maintain current coronary circulation.
14. The primary etiology of distributive shock is:
 - a. arterial and venous dilatation.
 - b. compromised cardiac contractility.
 - c. decreased blood volume.
 - d. obstructed blood flow.
15. Patients receiving fluid replacement should frequently be monitored for:
 - a. adequate urinary output.
 - b. changes in mental status.
 - c. vital sign stability.
 - d. all of the above.
16. The most commonly used colloidal solution to treat hypovolemic shock is:
 - a. blood products.
 - b. 5% albumin.
 - c. 6% dextran.
 - d. 6% hetastarch.
17. Vasoactive agents are effective in treating shock because of their ability to:
 - a. decrease blood pressure.
 - b. decrease stroke volume.
 - c. increase cardiac output.
 - d. increase cardiac preload.
18. A common vasoactive agent used to improve cardiac contractility is:
 - a. dopamine.
 - b. epinephrine.
 - c. nitroprusside.
 - d. phenylephrine.

19. The sequence of multiple organ dysfunction syndrome (MODS) usually begins in the:
- heart.
 - kidneys.
 - liver.
 - lungs.
20. A 40% mortality rate can be found with early stage MODS that is associated with:
- autocatabolism.
 - a hypermetabolic phase.
 - septic shock.
 - all of the above.

Read the definitions of the terms related to shock and multisystem failure. Find each term in the scramblegram and circle it. Terms may be written in any direction.

D	A	O	L	E	R	P	B	D	F	H	R
B	L	C	F	I	L	U	M	P	R	E	T
C	B	A	J	A	R	L	D	G	N	H	G
Y	U	D	K	S	E	M	J	I	L	F	K
L	M	G	W	F	B	O	N	E	D	N	O
M	I	S	P	T	G	N	S	G	N	U	L
A	N	D	T	C	R	A	R	M	I	H	I
I	V	I	A	D	H	Y	I	R	P	D	G
M	L	O	R	O	C	Y	P	J	R	K	U
E	A	L	T	P	X	E	L	S	I	O	R
X	C	L	B	A	I	D	M	N	D	M	I
O	S	O	K	M	W	E	S	O	E	P	A
P	V	C	O	I	L	M	A	H	K	I	F
Y	R	A	Q	N	F	A	N	T	O	C	P
H	T	R	C	E	S	E	P	T	I	C	J
C	K	G	P	N	W	T	U	C	M	B	K
F	H	J	M	E	S	B	M	E	D	I	A
H	A	D	G	K	O	R	H	L	O	B	F

Definition of Terms

1. A syndrome of inadequate blood flow to body tissues.
2. Nutrients, chemically broken down within the cell, are stored in this form.
3. This substance is responsible for the conversion of angiotensin I.
4. This hormone, secreted by the pituitary gland, causes the kidneys to retain fluid.
5. Insufficient oxygenation of the blood.
6. The degree of stretch of cardiac muscle before its contraction.
7. Urinary output less than 30 ml/hr.
8. A colloid that rapidly expands plasma volume.

9. A popular vasoactive agent that improves cardiac contractility.
10. The most common type of distributive shock.
11. A central line used to monitor venous pressure.
12. The most common side effect of fluid replacement in shock.
13. These solutions are used to expand intravascular volume in shock.
14. Multiple organ failure usually begins in this organ.
15. A vasodilator used to reduce the heart's demand for oxygen in conditions of shock.

Match the type of shock listed in Column II with its associated cause listed in Column I. An answer may be used more than once.

Column I

1. _____ valvular damage
2. _____ peritonitis
3. _____ burns
4. _____ bee sting allergy
5. _____ immunosuppression
6. _____ spinal cord injury
7. _____ dysrhythmias
8. _____ vomiting
9. _____ diuresis
10. _____ penicillin sensitivity

Column II

- a. hypovolemic, owing to an internal fluid shift
- b. hypovolemic, owing to an external fluid loss
- c. cardiogenic of a noncoronary nature
- d. distributive of a neurogenic nature
- e. distributive of an anaphylactic nature
- f. distributive of a septic nature

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: Hypovolemic Shock

Mr. Mazda is a 57-year-old, 154-lb (70-kg) patient, who was received on the nursing unit from the recovery room after having a hemicolectomy for colon cancer. On initial assessment, Mr. Mazda was alert, yet anxious, his skin was cool, pale, and moist, and his abdominal dressings were saturated with bright red blood. Urinary output was 100 ml over 4 hours. The patient was receiving 1,000 ml of LR. Vital signs were 80/60, 126, and 40 (baseline VS were 130/70, 84, 22). The nurse assessed that the patient was experiencing hypovolemic shock.

1. A nurse understands that hypovolemic shock will occur with an intravascular volume reduction of 15% to 25%. Therefore, the nurse determines that Mr. Mazda, who weighs 70 kg, has probably lost:
 - a. 200 ml of blood.
 - b. 500 ml of blood.
 - c. 750 ml of blood.
 - d. 1,000 ml of blood.
2. The nurse knows to monitor vital signs every 5 to 15 minutes and to be concerned about the patient's pulse pressure of _____.

3. The nurse knows that the progressive pattern of changes in vital signs is more important than the exact readings. A _____ in pulse rate, followed by a _____ in blood pressure, is indicative of shock.
4. The nurse understands that a systolic reading of 80 mm Hg is serious, because a systolic reading below _____ mm Hg in a normotensive person indicates well advanced shock.
5. Urinary output will be measured hourly. An output less than _____ ml/hr is indicative of decreased glomerular filtration.
6. Nursing interventions include notifying the physician, reinforcing the abdominal dressings, and treating the patient for shock by administering fluids ordered such as:
- a. _____
 - b. _____
 - c. _____
 - d. _____

15

Oncology: Nursing Management in Cancer Care

Chapter Overview

The diagnosis of cancer is a frightening experience that threatens patients and their families, associates, and communities. As health care providers coming into contact with cancer patients and their families, nurses are challenged to care for multisystem physical problems as well as for many emotional needs. Nurses have the additional obligation of educating patients about modifiable risk factors and the importance of early detection.

The role of the nurse is crucial in caring for the “person” behind the disease. The importance of keen assessment skills and sensitive care planning cannot be overemphasized.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- As a cause of death in the United States, cancer ranks:
 - first.
 - second.
 - third.
 - fourth.
- The etiology of cancer can be associated with specific agents or factors such as:
 - dietary and genetic factors.
 - hormonal and chemical agents.
 - viruses.
 - all of the above.
- David, age 67, is admitted for diagnostic studies to rule out cancer. He is white, has been employed as a landscaper for 40 years, and has a 36-year history of smoking one pack of cigarettes a day. David has three risk factors associated with the development of cancer. Choose the least significant risk factor among the following:
 - age
 - sex
 - occupation
 - race
- Cancer cells can affect the immune system by:
 - stimulating the release of T-cell lymphocytes into the circulation.
 - suppressing the patient's natural defenses.
 - mobilizing macrophages.
 - all of the above.

5. To reduce nitrate intake because of possible carcinogenic action, the nurse suggests that a patient decrease his or her intake of:
 - a. eggs and milk.
 - b. fish and poultry.
 - c. ham and bacon.
 - d. green, leafy vegetables.
6. An endoscopic procedure can be used to remove an entire piece of suspicious tissue growth. The diagnostic biopsy method used for this procedure is known as:
 - a. excisional.
 - b. incisional.
 - c. needle biopsy.
 - d. staging.
7. A patient is admitted for an excisional biopsy of a breast lesion. The nurse should do all of the following *except*:
 - a. clarify information provided by the physician.
 - b. provide aseptic care to the incision postoperatively.
 - c. provide time for the patient to discuss her concerns.
 - d. counsel the patient about the possibility of losing her breast.
8. Surgery done to remove lesions that are likely to develop into cancer is known as:
 - a. diagnostic.
 - b. palliative.
 - c. prophylactic.
 - d. reconstructive.
9. An example of palliative surgery is a:
 - a. colectomy.
 - b. cordotomy.
 - c. mastectomy.
 - d. nephrectomy.
10. The incorrect rationale for the effectiveness of radiation therapy is its ability to:
 - a. cause cell death.
 - b. break the strands of the DNA helix.
 - c. disrupt mitosis by slowing dividing cells.
 - d. interrupt cellular growth when a nonsurgical approach is needed.
11. Radiation therapy for the treatment of cancer is administered over several weeks to:
 - a. allow time for the patient to cope with the treatment.
 - b. allow time for the repair of healthy tissue.
 - c. decrease the incidence of leukopenia and thrombocytopenia.
 - d. accomplish all of the above.
12. A patient with uterine cancer is being treated with internal radiation therapy. A primary nursing responsibility is to:
 - a. explain to the patient that she will continue to emit radiation for approximately 1 week after the implant is removed.
 - b. maintain as much distance as possible from the patient while in the room.
 - c. alert family members that they should restrict their visiting to 5 minutes at any one time.
 - d. wear a lead apron when providing direct patient care.
13. A major disadvantage of chemotherapy is that it:
 - a. attacks cancer cells during their vulnerable phase.
 - b. functions against disseminated disease.
 - c. is systemic.
 - d. targets normal body cells as well as cancer cells.
14. When a patient takes vincristine, a plant alkaloid, the nurse should assess for symptoms of toxicity affecting the:
 - a. gastrointestinal system.
 - b. nervous system.
 - c. pulmonary system.
 - d. urinary system.
15. Initial nursing action for extravasation of a chemotherapeutic agent includes all of the following *except*:
 - a. applying warm compresses to the phlebotic area.
 - b. immediately discontinuing the infusion.
 - c. injecting an antidote, if required.
 - d. placing ice over the site of infiltration.
16. Realizing that chemotherapy can result in renal damage, the nurse should:
 - a. encourage fluid intake to dilute the urine.
 - b. take measures to acidify the urine, and thus prevent uric acid crystallization.
 - c. withhold medication when the blood urea nitrogen level exceeds 20 mg/dl.
 - d. limit fluids to 1,000 ml daily to prevent accumulation of the drugs' end products after cell lysis.

17. Allopurinol may be prescribed for a patient who is receiving chemotherapy to:
 - a. stimulate the immune system against the tumor cells.
 - b. treat drug-related anemia.
 - c. prevent alopecia.
 - d. lower serum and urine uric acid levels.
18. The use of hyperthermia as a treatment modality for cancer may cause:
 - a. fatigue, nausea, and vomiting.
 - b. hypotension, skin burn, and tissue damage.
 - c. thrombophlebitis, diarrhea, and peripheral neuropathies.
 - d. all of the above side effects.
19. Bacille Calm ette-Guerin (BCG) is a biologic response modifier that is a standard form of treatment for cancer of the:
 - a. bladder.
 - b. breast.
 - c. lungs.
 - d. skin.
20. The nurse should assess a cancer patient's nutritional status by:
 - a. weighing the patient daily.
 - b. monitoring daily calorie intake.
 - c. observing for proper wound healing.
 - d. doing all of the above.

Match the type of neoplasm in Column II with its associated description listed in Column I.

Column 1

Column 2

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. _____ Cells bear little resemblance to the normal cells of the tissue from which they arose. 2. _____ Rate of growth is usually slow. 3. _____ Tumor tissue is encapsulated. 4. _____ Tumor spreads by way of blood and lymph channels to other areas of the body. 5. _____ Growth tends to recur when removed. | <ol style="list-style-type: none"> a. Benign b. Malignant |
|--|---|

Read each statement carefully. Write your response in the space provided.

1. List in order of frequency the three leading causes of cancer deaths in the United States.

Men

Women

- 1 _____
- 2 _____
- 3 _____

- 1 _____
- 2 _____
- 3 _____

2. Distinguish between the terms *invasion* and *metastasis* as they relate to the spread of cancerous cells.

Invasion:

Metastasis:

3. List two significant tumor-specific antigens present in cancer cells that help with diagnosis and treatment:

1. _____
2. _____

4. At least _____% of all cancers are thought to be related to the environment around us.

5. Three cruciferous vegetables that appear to reduce cancer risk are _____, _____, and _____.
6. Describe what is meant by primary and secondary prevention of cancer, and provide an example of how nurses can participate in both types of prevention.

Definition

Primary: _____

Secondary: _____

Example

Primary: _____

Secondary: _____

7. Distinguish between the three goals of cancer treatment.

Cure:

Control:

Palliation:

8. Toxicity occurs with radiation therapy. For each heading in Column I, list several examples of side effects in Column II.

Column I

1. Skin

2. Oral mucosal membrane

3. Stomach or colon

4. Bone marrow-producing sites

Column II

1.a. _____

b. _____

c. _____

2.a. _____

b. _____

c. _____

d. _____

3.a. _____

b. _____

c. _____

d. _____

4.a. _____

b. _____

c. _____

9. Describe the modes of action in the following classifications of chemotherapeutic agents.

Cell-cycle-specific: _____

Cell-cycle-nonspecific: _____

10. List five signs that indicate that an extravasation of an infusion of a cancer chemotherapeutic agent has occurred:

a. _____ d. _____

b. _____ e. _____

c. _____

11. Describe the role of hyperthermia in the treatment of cancer.

12. Describe the role of interferons in the treatment of cancer.

Match the drug category listed in Column II with an associated antineoplastic agent listed in Column I. An answer may be used more than once.

Column I

1. _____ vincristine
2. _____ 5-fluorouracil
3. _____ cisplatin
4. _____ estrogens
5. _____ thiotepa
6. _____ lomustine
7. _____ mitomycin
8. _____ amsacrine
9. _____ pentostatin
10. _____ paclitaxel (Taxol)

Column II

- a. alkylating agent
- b. nitrosourea
- c. antimetabolite
- d. antitumor antibiotic
- e. plant alkaloid/natural product
- f. hormonal agent

II. Critical Analysis Questions

Analyzing Comparisons

Read each analogy. Fill in the space provided with the best response.

1. Primary cancer prevention: preventing or reducing the risk of cancer: Tertiary prevention:

2. Staging of tumor cells: tumor size and existence of metastasis: Grading:

3. Allogenic bone marrow transplant: an unrelated donor: Syngenic bone marrow transplant:

4. Stomatitis: oral tissue inflammation: Alopecia _____

5. Anorexia: loss of appetite: Cachexia: _____

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answer.

CASE STUDY: Cancer of the Breast

Kim is a 45-year-old mother of four who, after a needle aspiration biopsy, is diagnosed as having a malignant breast tumor, stage III. She was scheduled for a modified radical mastectomy. On assessment, her breast tissue had a dimpling or “orange-peel” appearance. Nursing diagnoses included (a) fear and ineffective coping related to the diagnosis and (b) disturbance in self-concept related to the nature of surgery.

1. Realizing that Kim’s mother died of breast cancer, the nurse correlates the cause of Kim’s diagnosis to:
 - a. environmental factors.
 - b. genetics.
 - c. dietary factors.
 - d. chemical agents.
2. To assist Kim in adapting to the loss of her breast, the nurse should assess her:
 - a. attitude toward her body image.
 - b. feelings of self-esteem.
 - c. social and sexual values.
 - d. attitudes and values regarding all of the above.
3. Kim’s husband refuses to participate in any discussion about his wife’s diagnosis. The nurse realizes that he is using the defense mechanism of:
 - a. denial.
 - b. depression.
 - c. rationalization.
 - d. repression.
4. Postoperatively Kim experiences severe incisional pain. The nurse realizes that Kim’s perception of pain is possibly influenced by:
 - a. tissue manipulation during surgery.
 - b. apprehension regarding the prognosis of her condition.
 - c. anger stemming from her change in body image.
 - d. all of the above.

Kim is scheduled to begin radiation therapy, followed by chemotherapy with 5-fluorouracil.

5. Realizing the side effects of radiation therapy, the nurse should prepare Kim for all of the following *except*:
 - a. the possibility that her lungs may produce more mucus.
 - b. that the skin at the treatment area may become red and inflamed.
 - c. that she may tire more easily and require additional rest periods.
 - d. that alopecia will occur as a result of the quickly growing hair follicles.
6. The nurse should teach Kim what she can do to protect her skin between radiation treatments. Measures include all of the following *except*:
 - a. handling the area gently.
 - b. avoiding irritation with soap and water.
 - c. using a heat lamp once a day directed to the radiation site to promote tissue repair.
 - d. wearing loose-fitting clothing.

After radiation therapy, Kim begins a regimen of chemotherapy with 5-fluorouracil. Three weeks after treatment begins, Kim develops a fever, sore throat, and cold symptoms.

7. The nurse knows that the symptoms could be due to all of the following *except*:
 - a. hypercalcemia.
 - b. bone marrow depression.
 - c. altered nutrition.
 - d. leukopenia.
8. Nursing assessment during Kim’s chemotherapy includes observing for:
 - a. evidence of stomatitis.
 - b. renal and hepatic abnormalities.
 - c. symptoms of infection owing to granulocytopenia.
 - d. all of the above.

9. Kim is diagnosed as having thrombocytopenia. The nurse should assess for all of the following *except*:
- a. hematuria.
 - b. fever.
 - c. hematemesis.
 - d. ecchymosis.

Learner's Self-Evaluation Tool for End of Unit 3 Review

1. The most important concepts or facts I have learned from this unit are:

- 1. _____
- 2. _____
- 3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

I will do this on _____ (date and time).

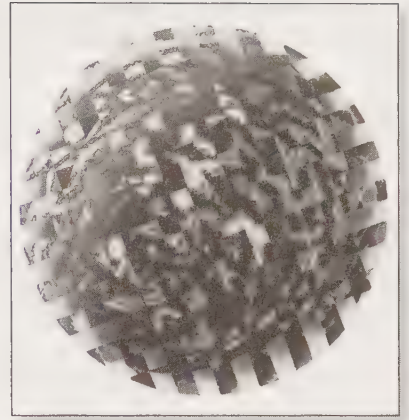
5. I believe my mastery of this unit to be:

- a. 100% Great job! Good Luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. < 80% Make an appointment with your instructor.



UNIT 4

Perioperative Concepts and Management



16

Preoperative Nursing
Management

17

Intraoperative Nursing
Management

18

Postoperative Nursing
Management

16

Preoperative Nursing Management

Chapter Overview

Preoperative nursing care begins with the nurse's initial contact with the surgical patient. The goal of the preoperative period is to identify individual needs so that accepted protocols of care can be modified. Assessment includes observing for alterations in normal physiologic functioning, determining specific nutritional needs, evaluating current pharmacotherapy, and identifying psychosocial patterns of behavior. This assessment process should result in a detailed nursing care plan. One area that must never be overlooked in the preoperative period is the initiation of a rehabilitation program.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. An informed consent is required for:
 - a. closed reduction of a fracture.
 - b. insertion of an intravenous catheter.
 - c. irrigation of the external ear canal.
 - d. urethral catheterization.
2. An example of a surgical procedure classified as urgent would be a(n):
 - a. appendectomy.
 - b. exploratory laparotomy.
 - c. repair of multiple stab wounds.
 - d. face lift.
3. Expected patient outcomes for relief of anxiety related to a surgical procedure include all of the following *except*:
 - a. understands the nature of the surgery and voluntarily signs a consent.
 - b. verbalizes an understanding of the preanesthetic medication.
 - c. requests a visit with a member of the clergy.
 - d. questions the anesthesiologist about anesthesia-related concerns.
4. Choose a statement that indicates that a patient is knowledgeable about his or her impending surgery. The patient:
 - a. participates willingly in the preoperative preparation.
 - b. discusses stress factors that are making him or her depressed.
 - c. expresses concern about postoperative pain.
 - d. verbalizes his or her fears to family.

5. Hidden fears may be indicated when a patient:
 - a. avoids communication.
 - b. repeatedly asks questions that have previously been answered.
 - c. talks incessantly.
 - d. does all of the above.
6. Choose the appropriate response to the statement "I'm so nervous about my surgery"
 - a. "Relax, your recovery period will be shorter if you're less nervous."
 - b. "Stop worrying. It only makes you more nervous."
 - c. "You needn't worry. Your doctor has done this surgery many times before."
 - d. "You seem nervous about your surgery."
7. Protein replacement for nutritional balance can be accomplished with a diet:
 - a. high in carbohydrates.
 - b. high in protein.
 - c. low in fats.
 - d. that includes all of the above.
8. Obesity is positively correlated to surgical complications of the:
 - a. cardiovascular system.
 - b. gastrointestinal system.
 - c. pulmonary system.
 - d. systems previously listed.
9. A significant mortality rate exists for those alcoholics who experience "delirium tremens" postoperatively. When caring for the alcoholic, the nurse should assess for symptoms of alcoholic withdrawal:
 - a. within the first 12 hours.
 - b. about 24 hours postoperatively.
 - c. on the second or third day.
 - d. 4 days after surgery.
10. The nurse should advise all surgical patients who smoke to stop smoking at least ____ week(s) before surgery.
 - a. 1
 - b. 2
 - c. 3
 - d. 4
11. Because liver disease is associated with a high surgical mortality, the nurse knows to alert the physician for a(n):
 - a. blood ammonia of 180 $\mu\text{g}/\text{dl}$.
 - b. LDH of 300 units.
 - c. serum albumin of 5.0 g/dl.
 - d. serum globulin of 2.8 g/dl.
12. Surgery would be contraindicated for a renal patient with a(n):
 - a. BUN of 42 mg/dl.
 - b. creatine kinase of 120 U/L.
 - c. serum creatinine of 0.9 mg/dl.
 - d. urine creatinine of 1.2 mg/dl.
13. The chief life-threatening hazard for surgical patients with uncontrolled diabetes is:
 - a. dehydration.
 - b. hypertension.
 - c. hypoglycemia.
 - d. glucosuria.
14. A nursing history of prior drug therapy is based on the particular concern(s) that:
 - a. phenothiazines may increase the hypotensive action of anesthetics.
 - b. thiazide diuretics may cause excessive respiratory depression during anesthesia.
 - c. tranquilizers may cause anxiety and even seizures if withdrawn suddenly.
 - d. all of the above potential complications could occur.
15. Assessment of a gerontologic patient reveals bilateral dimmed vision. This information alerts the nurse to plan for:
 - a. a safe environment.
 - b. restrictions of the patient's unassisted mobility activities.
 - c. probable cataract extractions.
 - d. referral to an ophthalmologist.
16. Hazards of surgery for the geriatric patient are directly related to the:
 - a. number of coexisting health problems.
 - b. type of surgical procedure.
 - c. severity of the surgery.
 - d. all of the above.

17. The nursing goal(s) of encouraging postoperative body movement is (are) to:
 - a. contribute to optimal respiratory function.
 - b. improve circulation.
 - c. prevent venous stasis.
 - d. promote all of the above activities.
18. Food and water are usually withheld beginning at midnight of the surgical day. However, if necessary, water may be given up to:
 - a. 8 hours before surgery.
 - b. 6 hours before surgery.
 - c. 4 hours before surgery.
 - d. 2 hours before surgery.
19. The primary goal in withholding food before surgery is to prevent:
 - a. aspiration.
 - b. distention.
 - c. infection.
 - d. obstruction.
20. The purpose of preoperative skin preparation is to:
 - a. reduce the number of microorganisms.
 - b. remove all resident bacteria.
 - c. render the skin sterile.
 - d. accomplish all of the above.
21. The least desirable method of hair removal is use of:
 - a. electric clippers.
 - b. a depilatory cream in nonsensitive patients.
 - c. a razor with an extruded blade.
 - d. scissors for long hair (more than 3 mm).
22. Purposes of preanesthetic medication include all of the following *except*:
 - a. facilitation of anesthesia induction.
 - b. lowering of the dose of the anesthetic agent used.
 - c. potentiation of the effects of anesthesia.
 - d. reduction of preoperative pain.

For each drug classification below, list the potential effects of prior drug therapy on a patient's surgical course.

Drug Classification

Potential Effects of Drug Therapy

Adrenal Corticosteroids

Diuretics

Phenothiazines

Tranquilizers

Antidepressants

Insulin

Antibiotics

For each essential preoperative nursing intervention listed in Column I, write an appropriate nursing goal under Column II.

Column I: Nursing Activity

Column II: Nursing Goal

Restriction of nutrition and fluids

Intestinal preparation

Preoperative skin preparation (cleansing)

Urinary catheterization

Administration of preoperative medications

Transportation of patient to presurgical suite

II. Critical Analysis Questions

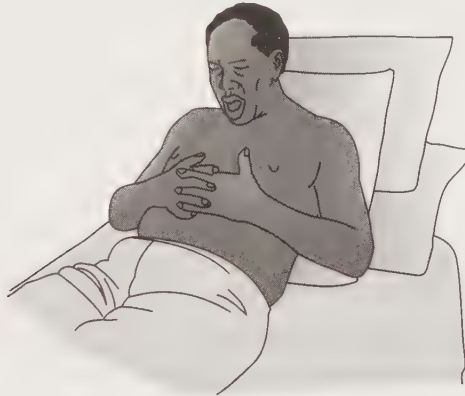
Recongnizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. The majority of surgical procedures performed today require overnight hospitalization because “high-tech” interventions require intense postoperative monitoring.
2. The intraoperative phase of perioperative nursing ends when surgery is completed.
3. Cosmetic surgery is a type of elective surgery.
4. Vitamin K is an essential viatmin requirement for surgery, because it is needed for collagen synthesis.
5. Corticosteroids should always be given up to the day before surgery so the imjune system can fight off postoperative infection.

Applying Concepts to Health Teaching

Look at the figure below. List the five preoperative teaching points you would mention to instruct a patient how to cough correctly.



1. _____
2. _____
3. _____
4. _____
5. _____

17

Intraoperative Nursing Management

Chapter Overview

Intraoperative nursing management includes nursing care that begins before induction of anesthesia and continues throughout the operative period. Major areas of nursing focus are maintaining aseptic techniques and assessing the needs of an unconscious patient. The nurse functions as a patient advocate and modifies protocols of care as necessary. Open communication with the surgical team is essential to individualize care and give the patient the best possible start in his or her recovery period.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The circulating nurse's responsibilities, in contrast to the scrub nurse's responsibilities, include:
 - a. assisting the surgeon.
 - b. monitoring aseptic practices.
 - c. setting up the sterile tables.
 - d. all of the above functions.
2. Preoperatively, an anesthesiologist is responsible for:
 - a. assessing pulmonary status.
 - b. inquiring about preexisting pulmonary infections.
 - c. knowing the patient's history of smoking.
 - d. all of the above.
3. The anesthesiologist classifies a person's physical status for anesthesia before surgery. A nurse should know that a preoperative classification of II refers to patients with:
 - a. mild systemic disease.
 - b. no systemic abnormality.
 - c. severe systemic disease.
 - d. an incapacitating systemic disease.
4. A nurse knows that perioperative risks increase with age because:
 - a. ciliary action decreases, reducing the cough reflex.
 - b. fatty tissue increases, prolonging the effects of anesthesia.
 - c. liver size decreases, reducing the metabolism of anesthetics.
 - d. all of the above biologic changes exist.
5. A general anesthetic can be administered:
 - a. by inhalation.
 - b. intravenously.
 - c. rectally.
 - d. by all of the above methods.
6. The nurse should know that, postoperatively, a general anesthetic is primarily eliminated by the:
 - a. kidneys.
 - b. lungs.
 - c. skin.
 - d. above routes.

7. An example of a stable and safe nondepolarizing muscle relaxant is:
 - a. Anectine (succinylcholine chloride).
 - b. Norcuron (vercuronium bromide).
 - c. Pavulon (pancuronium bromide).
 - d. Syncurine (decamethonium).
8. Postoperative nursing assessment for a patient who has received a depolarizing neuromuscular blocking agent includes careful monitoring of the:
 - a. cardiovascular system.
 - b. endocrine system.
 - c. gastrointestinal system.
 - d. genitourinary system.
9. A factor involved in post-spinal-anesthesia headaches is the:
 - a. degree of patient hydration.
 - b. leakage of spinal fluid from the subarchnoid space.
 - c. size of the spinal needle used.
 - d. combination of the above mechanisms.
10. Epinephrine is often used in combination with a local infiltration anesthetic, because it:
 - a. causes vasoconstriction.
 - b. prevents rapid absorption of the anesthetic drug.
 - c. prolongs the local action of the anesthetic agent.
 - d. does all of the above.
11. A local infiltration anesthetic can last for up to:
 - a. 1 hour.
 - b. 3 hours.
 - c. 5 hours.
 - d. 7 hours.
12. If an operating room nurse is to assist a patient to the Trendelenburg position, she would place him:
 - a. flat on his back with his arms next to his sides.
 - b. on his back with his head lowered so the plane of his body meets the horizontal on an angle.
 - c. on his back with his legs and thighs flexed at right angles.
 - d. on his side with his uppermost leg adducted and flexed at the knee.
13. Recent research has indicated that inadvertent hypothermia in gerontologic patients can be effectively and inexpensively prevented by:
 - a. placing the patient on a hyperthermia blanket.
 - b. maintaining environmental temperature at 37° C.
 - c. covering the top of the patient's head with an ordinary plastic shower cap during anesthesia.
 - d. frequent massage of the extremities with warmed skin lotion.
14. A nurse caring for a patient at risk for malignant hyperthermia subsequent to general anesthesia would assess for the most frequent earliest sign of:
 - a. hypertension.
 - b. muscle rigidity ("tetany-like" movements).
 - c. oliguria.
 - d. tachycardia.

Read each statement carefully. Write your response in the space provided.

1. Anesthesia dosage is reduced with age, because _____.
2. List four responsibilities of an RNFA: (1) _____, (2) _____, (3) _____, and (4) _____.
3. The anesthetic most commonly used for general anesthesia by intravenous injection is: _____, which can cause _____ as a serious, toxic side effect.
4. Spinal anesthesia is a conduction nerve block that occurs when a local anesthetic is injected into _____.
5. What nursing assessment indicates that a patient has recovered from the effects of spinal anesthesia?

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. A scrub nurse controls the environment, coordinates the activities of other personnel, and monitors the patient.
2. If there is any doubt about the sterility of an area, it is considered sterile.
3. A draped table is considered sterile from the top to the edge of the drapes.
4. Only the circulating nurse can extend an arm over the sterile area to deliver sterile supplies.
5. Older patients need more anesthetic agent to produce anesthesia because they eliminate anesthetic agents more quickly.

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: General Anesthesia

Anne, age 34, is in excellent health and is scheduled for an open reduction of a fractured femur. The general anesthetic drugs to be used include enflurane and nitrous oxide.

1. The nurse knows that the advantages of enflurane (Ethrane) include all of the following except:
 - a. fast recovery.
 - b. low incidence of respiratory depression.
 - c. potent analgesia.
 - d. rapid induction.
2. The major disadvantage of nitrous oxide is its ability to cause:
 - a. hypertension.
 - b. hypoxia.
 - c. liver damage.
 - d. nausea and vomiting.
3. The major postoperative nursing assessment after administration of Ethrane is observation for:
 - a. anuria.
 - b. laryngospasm.
 - c. respiratory depression.
 - d. tachycardia.

CASE STUDY: Intravenous Anesthesia

Brian is scheduled to have a wisdom tooth extracted. The anesthetic agent of choice is thiopental sodium (Pentothal).

1. The nurse anticipates that the route of administration will be:
 - a. by inhalation.
 - b. by mask.
 - c. intramuscular.
 - d. intravenous.
2. The nurse is aware that after anesthetic administration, Brian will be unconscious in:
 - a. 30 seconds.
 - b. 60 seconds.
 - c. 2 minutes.
 - d. 3 minutes.
3. The chief danger with thiopental sodium is its:
 - a. β -adrenergic blocking action.
 - b. depressant action on the respiratory system.
 - c. nephrotoxicity.
 - d. rapid onset and prolonged duration.

18

Postoperative Nursing Management

Chapter Overview

During the postoperative period, a nurse must be sufficiently skilled to “recover a patient.” This means monitoring physiologic changes and laboratory data that indicate any deviation from the normal. It also involves being able to communicate with a semiconscious patient and reassure concerned family members. The recovery period is regarded as a critical care period, in which intense patient assessment is coupled with the performance of complex nursing skills. The dangers associated with the surgical period do not end until the patient is completely recovered. The postoperative nurse becomes the most important member of the recovery room team.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The primary nursing goal in the immediate postoperative period is maintenance of pulmonary function and prevention of:
 - a. laryngospasm.
 - b. hyperventilation.
 - c. hypoxemia and hypercapnia.
 - d. pulmonary edema and embolism.
2. Unless contraindicated, any unconscious patient should be positioned:
 - a. flat on his or her back, without elevation of the head, to facilitate frequent turning and minimize pulmonary complications.
 - b. in semi-Fowler's position to promote respiratory function and reduce the incidence of orthostatic hypotension when the patient can eventually stand.
 - c. in Fowler's position, which most closely simulates a sitting position, thus facilitating respiratory as well as gastrointestinal functioning.
 - d. on his or her side with a pillow at the patient's back and his or her chin extended, to minimize the dangers of aspiration.
3. A major postoperative nursing responsibility is assessing for cardiovascular function by monitoring:
 - a. arterial blood gases.
 - b. central venous pressure.
 - c. vital signs.
 - d. all of the above.
4. In the immediate postoperative period, a nurse should immediately report:
 - a. a systolic blood pressure lower than 90 mm Hg.
 - b. a temperature reading between 97° F and 98° F
 - c. respirations between 20 and 25 per minute.
 - d. all of the above assessments..

5. Patients remain in the recovery room/postanesthesia care unit (PACU) until they are fully recovered from anesthesia. This is evidenced by a(n):
 - a. patient airway.
 - b. reasonable degree of consciousness.
 - c. stable blood pressure.
 - d. indication that all of the above have occurred.
6. When a PACU room scoring guide is used, a patient can be transferred out of the recovery room with a minimum score of:
 - a. 5.
 - b. 6.
 - c. 7.
 - d. 8.
7. With the PACU room scoring guide, a nurse would give a patient an admission cardiovascular score of 2 if systolic arterial pressure is ____% of the preanesthetic level.
 - a. 80
 - b. 75 to 60
 - c. 60 to 50
 - d. less than 50
8. When vomiting occurs postoperatively, the most important nursing intervention is to:
 - a. measure the amount of vomitus to estimate fluid loss, to accurately monitor fluid balance.
 - b. offer tepid water and juices to replace lost fluids and electrolytes.
 - c. support the wound area so that unnecessary strain will not disrupt the integrity of the incision.
 - d. turn the patient's head to prevent aspiration of vomitus into the lungs.
9. Postoperatively, the nurse monitors urinary function. An abnormal outcome that should be reported to the physician is a 2-hour output:
 - a. less than 30 ml.
 - b. between 75 and 100 ml.
 - c. between 100 and 200 ml.
 - d. greater than 200 ml.
10. Most surgical patients are encouraged to be out of bed:
 - a. within 6 to 8 hours after surgery.
 - b. between 10 and 12 hours after surgery.
 - c. as soon as it is indicated.
 - d. on the second postoperative day.
11. The most common postoperative respiratory complication in elderly patients is:
 - a. pleurisy.
 - b. pneumonia.
 - c. hypoxemia.
 - d. pulmonary edema.
12. One of the major dangers associated with deep venous thrombosis is:
 - a. pulmonary embolism.
 - b. immobility because of calf pain.
 - c. marked tenderness over the anteromedial surface of the thigh.
 - d. swelling of the entire leg owing to edema.
13. Nursing measures to prevent thrombophlebitis include:
 - a. assisting the patient with leg exercises.
 - b. encouraging early ambulation.
 - c. avoiding placement of pillows or blanket rolls under the knees.
 - d. all of the above.
14. The most common postoperative nosocomial infections occur in the incisional area in:
 - a. 5% to 15% of surgical patients.
 - b. 15% to 25% of surgical patients.
 - c. 25% to 50% of surgical patients.
 - d. approximately 65% of surgical patients.
15. One of the most effective nursing procedures for reducing nosocomial infections is:
 - a. administration of prophylactic antibiotics.
 - b. aseptic wound care.
 - c. control of upper respiratory tract infections.
 - d. proper handwashing techniques.
16. The nurse recognizes that a clean-contaminated wound has a relative probability of infection of:
 - a. 1% to 3%.
 - b. 7% to 16%.
 - c. 3% to 7%.
 - d. more than 16%.
17. The proliferative stage of wound healing is characterized by:
 - a. deposition of a fibrinoplatelet clot.
 - b. histamine release and increased capillary permeability.
 - c. fibroblast stimulation of collagen synthesis.
 - d. scar formation.

18. A nurse wants to document the presence of granulation tissue in a healing wound. She describes the tissue as:
 - a. necrotic and hard.
 - b. pale yet able to blanch with digital pressure.
 - c. pink to red and soft, and notes that it bleeds easily.
 - d. white with long, thin areas of scar tissue.
19. A physician's admitting note lists a wound as healing by second intention. The nurse expects to see a:
 - a. deep, open wound that was previously sutured.
 - b. sutured incision with a little tissue reaction.
 - c. wound with a deep, wide scar that had been previously resutured.
 - d. wound in which edges were not approximated.
20. A wound that has hemorrhaged has increased risk of infection, because:
 - a. reduced amounts of oxygen and nutrients are available.
 - b. the tissue becomes less resilient.
 - c. retrograde bacterial contamination may occur.
 - d. dead space and dead cells provide a culture medium.
21. A nursing measure for evisceration is to:
 - a. apply an abdominal binder snugly so that the intestines can be slowly pushed back into the abdomen.
 - b. approximate the wound edges with adhesive tape so that the intestines can be gently pushed back into the abdomen.
 - c. carefully push the exposed intestines back into the abdominal cavity.
 - d. cover the protruding coils of intestines with sterile dressings moistened with sterile saline solution.
22. The characteristic sign of a paralytic ileus is:
 - a. abdominal tightness.
 - b. abdominal distention.
 - c. absence of peristalsis.
 - d. increased abdominal girth.
23. Postoperative abdominal distention seems to be directly related to:
 - a. a temporary loss of peristalsis and gas accumulation in the intestines.
 - b. beginning food intake in the immediate postoperative period.
 - c. improper body positioning during the recovery period.
 - d. the type of anesthetic administered.

Read each statement carefully. Write your response in the space provided.

1. List five areas of concern for a recovery room PACU nurse who has just received a patient from the operating room.

(a) _____ (d) _____
 (b) _____ (e) _____
 (c) _____

2. The primary nursing priorities during immediate postoperative assessment are evaluation of:

3. Explain the differences among the three classifications of hemorrhage.

Primary:

Intermediary:

Secondary:

4. The most serious and most frequent postoperative complications involve the _____ system.
5. Several psychological factors that can influence a patient's pain experience are:

6. Explain patient-controlled analgesia (PCA).

7. Name three criteria that must be met before a postoperative patient can be given fluids:

(a) _____, (b) _____,

(c) _____.

8. Explain why the postoperative complications of atelectasis and hypostatic pneumonia are reduced as a result of early ambulation.

9. Describe the correct way to apply and remove adhesive tape during a surgical dressing change.

10. The return of peristalsis in the postoperative period can be determined by the presence of _____
_____ and _____, both of which are assessed by the nurse.

II. Critical Analysis Questions

Supporting Arguments

Read each situation. Offer logical supporting arguments for your response.

1. Mr. Flynn's pain medication was frequently delayed because his staff nurses were busy with other patients. As a nursing supervisor, you stressed the necessity of preventing or managing postoperative pain, knowing that there is a positive correlation between pain experience and the frequency of complications. Support your argument by filling in these blank spaces.

Pain stimulates _____ which increases _____

Noxious impulses stimulate _____
_____ which increases _____

and

Hypothalamic stress responses increase _____
which can lead to _____ and _____

and

Benedetti (1992) found that _____ can be _____
more frequent and _____ greater with inadequate
postoperative control.

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Hypopharyngeal Obstruction

Daena is unconscious when she is transferred to the recovery room. She has experienced prolonged anesthesia, and all her muscles are relaxed.

1. During the initial assessment, the nurse diagnosed hypopharyngeal obstruction. This difficulty is signaled by:
 - a. choking.
 - b. cyanosis.
 - c. irregular respirations.
 - d. all of the above.
2. To treat hypopharyngeal obstruction, the nurse would:
 - a. flex the neck and pull the lower jaw down toward the chest.
 - b. hyperextend the neck and push forward on the angle of the lower jaw.
 - c. raise the head and open the mouth as far as possible.
 - d. rotate the head to either side and unclench the teeth.
3. The nurse knows that the most accurate way to determine whether Daena is breathing is to:
 - a. auscultate for breath sounds.
 - b. inspect for diaphragmatic movement.
 - c. palpate for thoracic changes.
 - d. place her palm over Daena's nose and mouth.
4. The anesthesiologist chose to leave a plastic airway in Daena's mouth. The nurse knows that an airway should not be removed:
 - a. without a physician's order.
 - b. until the patient's secretions have been aspirated.
 - c. until signs indicate that reflexes are returning.
 - d. until arterial blood gas measurements indicate adequate PO_2 levels.

CASE STUDY: Wound Healing

Elizabeth is returned from the recovery room to a patient care area after a routine cholecystectomy.

1. The nurse expects that the inflammatory phase of wound healing should last for about:
 - a. 1 day.
 - b. 3 days.
 - c. 5 days.
 - d. 4 days.
2. When both sides of the wound approximate within 24 to 48 hours, the healing is said to be by ____ intention.
 - a. first
 - b. second
 - c. third
 - d. spontaneous
3. Those clinical manifestations associated with the inflammatory phase of wound healing that the nurse would expect to see postoperatively are:
 - a. pain.
 - b. redness.
 - c. warmth.
 - d. all of the above.
4. Nursing measures to promote adequate tissue oxygenation during the inflammatory phase of wound healing include:
 - a. applying warm compresses to the incision every 4 hours for 2 to 3 days to stimulate vasodilation.
 - b. encouraging coughing and deep breathing to enhance pulmonary and cardiovascular functions.
 - c. helping Elizabeth stay in bed for 4 to 6 days to prevent unnecessary strain on the suture line.
 - d. leaving soiled dressings in place to prevent airborne microorganisms from entering the wound and setting up a localized infection.

View Figure 18–6, page 361 and answer the following clinically focussed questions.

CLINICAL SITUATION: Phlebothrombosis

1. Look at (A), and explain what the nurse is doing:

2. Describe how the nurse would assess for a positive Homans' sign:

3. Describe what phlebothrombosis is:

4. Look at (B), and explain why a tape measure is around the calf muscle.

Learner's Self-Evaluation Tool for End of Unit 4 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

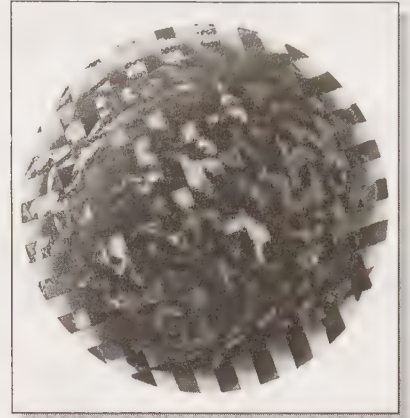
I will do this on _____ (date and time).

5. I believe my mastery of this unit to be:

- a. 100% Great job! Good Luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. < 80% Make an appointment with your instructor.

UNIT 5

Gas Exchange and Respiratory Function



19

Assessment of Respiratory
Function

20

Management of Patients with
Upper Respiratory Tract
Disorders

21

Management of Patients with
Chest and Lower Respiratory
Tract Disorders

22

Respiratory Care Modalities

19

Assessment of Respiratory Function

Chapter Overview

Illness may be accompanied by ventilatory–perfusion abnormalities. Therefore, nurses need a thorough knowledge of lung anatomy and physiology to assess pulmonary dysfunction. Nurses also need to be knowledgeable about various diagnostic studies and tests. In addition to assessment, nursing responsibilities include assisting patients with various procedures, implementing a plan of care to meet individual pulmonary needs, incorporating principles of respiratory rehabilitation into health-teaching programs, and evaluating each patient's response to therapy.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The exchange of oxygen and carbon dioxide from the alveoli into the blood occurs by:
 - a. active transport.
 - b. diffusion.
 - c. osmosis.
 - d. pinocytosis.
2. Gas exchange between the lungs and blood and between the blood and tissues is called:
 - a. active transport.
 - b. respiration.
 - c. ventilation.
 - d. cellular respiration.
3. The divisions of the lung lobe proceed in the following order, beginning at the main stem bronchi:
 - a. lobar bronchi, bronchioles, segmented bronchi, subsequent bronchi
 - b. segmented bronchi, subsegmented bronchi, lobar bronchi, bronchioles
 - c. lobar bronchi, segmented bronchi, subsegmented bronchi, bronchioles
 - d. subsegmented bronchi, lobar bronchi, bronchioles, segmented bronchi
4. The left lung, in contrast to the right lung, has:
 - a. one less lobe.
 - b. one more lobe.
 - c. the same number of lobes.
 - d. two more lobes.
5. The lungs are enclosed in a serous membrane called the:
 - a. diaphragm.
 - b. mediastinum.
 - c. pleura.
 - d. xiphoid process.
6. The purpose of the cilia is to:
 - a. produce mucus.
 - b. phagocytize bacteria.
 - c. contract smooth muscle.
 - d. move the mucous blanket to the larynx.

7. Choose the part of the respiratory tract that is not considered part of the gas-exchange airways.
 - a. Bronchioles
 - b. Respiratory bronchioles
 - c. Alveolar duct
 - d. Alveolar sacs
8. Choose the alveolar cell(s) that secrete surfactant.
 - a. Type I cell
 - b. Type II cell
 - c. Type III cell
 - d. Type I and type II cells
9. Airflow into the lungs during inspiration depends on all of the following *except*:
 - a. contraction of the muscles of respiration.
 - b. enlargement of the thoracic cavity.
 - c. lowered intrathoracic pressure.
 - d. relaxation of the diaphragm.
10. The pulmonary circulation is considered a:
 - a. high-pressure, high-resistance system.
 - b. low-pressure, low-resistance system.
 - c. high-pressure, low-resistance system.
 - d. low-pressure, high-resistance system.
11. Uneven perfusion of the lung is primarily due to:
 - a. pulmonary artery pressure.
 - b. gravity.
 - c. alveolar pressure.
 - d. all of the above.
12. A nurse caring for a patient with a pulmonary embolism understands that a high ventilation-perfusion ratio may exist. This means that:
 - a. perfusion exceeds ventilation.
 - b. there is an absence of perfusion and ventilation.
 - c. ventilation exceeds perfusion.
 - d. ventilation matches perfusion.
13. A nurse understands that a safe but low level of oxygen saturation provides for adequate tissue saturation but allows no reserve for situations that threaten ventilation. A safe but low oxygen saturation level is:
 - a. 60 mm Hg.
 - b. 75 mm Hg.
 - c. 80 mm Hg.
 - d. 95 mm Hg.
14. Tidal volume, which may not significantly change with disease, has a normal value of approximately:
 - a. 300 mL.
 - b. 500 mL.
 - c. 800 mL.
 - d. 1,000 mL.
15. When taking a respiratory history, the nurse should assess:
 - a. previous history of lung disease in the patient or family.
 - b. occupational and environmental influences.
 - c. smoking and exposure to allergies.
 - d. all of the above.
16. Bacterial pneumonia can be indicated by the presence of:
 - a. green, purulent sputum.
 - b. thick, yellow sputum.
 - c. thin, mucoid sputum.
 - d. rusty sputum.
17. Nursing assessment for a patient with chest pain includes:
 - a. determining if there is a relationship between pain and the patient's posture.
 - b. evaluating the effect of the phases of respiration on pain.
 - c. looking for factors that precipitate the pain.
 - d. all of the above.
18. Chest pain described as knifelike on inspiration would most likely be diagnostic of:
 - a. bacterial pneumonia.
 - b. bronchogenic carcinoma.
 - c. lung infarction.
 - d. pleurisy.
19. Hemoptysis, a symptom of cardiopulmonary disorders, is characterized by all of the following *except*:
 - a. a coffeeground appearance.
 - b. an alkaline pH.
 - c. a sudden onset.
 - d. bright red bleeding mixed with sputum.
20. A patient exhibits cyanosis when _____ g/dl of hemoglobin is unoxygenated.
 - a. 0.77
 - b. 2.3
 - c. 15.0
 - d. 5.0

21. The nurse inspects the thorax of a patient with advanced emphysema. The nurse expects chest configuration change consistent with a deformity known as:
 - a. barrel chest.
 - b. funnel chest.
 - c. kyphoscoliosis.
 - d. pigeon chest.
22. Breath sounds that originate in the smaller bronchi and bronchioles that are high-pitched, sibilant, and musical are called:
 - a. wheezes.
 - b. rhonchi.
 - c. rales.
 - d. crackles.
23. The arterial blood gas measurement that best reflects the adequacy of alveolar ventilation is the:
 - a. PaO₂.
 - b. PaCO₂.
 - c. pH.
 - d. SaO₂.
24. Nursing directions to a patient from whom a sputum specimen is to be obtained should include all of the following *except* directing the patient to:
 - a. initially clear his or her nose and throat.
 - b. spit surface mucus and saliva into a sterile specimen container.
 - c. take a few deep breaths before coughing.
 - d. use diaphragmatic contractions to aid in the expulsion of sputum.
25. A physician wants a study of diaphragmatic motion because of suspected pathology. The physician would most likely order a:
 - a. barium swallow.
 - b. bronchogram.
 - c. fluoroscopy.
 - d. tomogram.
26. Nursing instructions for a patient who is scheduled for a perfusion lung scan should include informing the patient that:
 - a. a mask will be placed over his or her nose and mouth during the test.
 - b. he or she will be expected to lie under the camera.
 - c. the imaging time will amount to 20 to 40 minutes.
 - d. all of the above will occur.
27. The nurse should advise the prebronchoscope patient that he or she will:
 - a. have his or her nose sprayed with a topical anesthetic.
 - b. have to fast before the procedure.
 - c. receive preoperative medication.
 - d. experience all of the above.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Bronchoscopy

Mr. Kecklin is scheduled for a bronchoscopy for the diagnostic purpose of locating a pathologic process.

1. Because a bronchoscopy was ordered, the nurse knows that the suspected lesion was *not* in the:
 - a. bronchus.
 - b. larynx.
 - c. pharynx.
 - d. trachea.
2. Nursing measures before the bronchoscopy include:
 - a. obtaining an informed consent.
 - b. supplying information about the procedure.
 - c. withholding food and fluids for 6 hours before the test.
 - d. all of the above.
3. The nurse is aware that possible complications of bronchoscopy include all of the following *except*:
 - a. aspiration.
 - b. gastric perforation.
 - c. infection.
 - d. pneumothorax.

4. After the bronchoscopy, Mr. Kecklin must be observed for:
 - a. dyspnea.
 - b. hemoptysis.
 - c. tachycardia.
 - d. all of the above.
5. After the bronchoscopy, Mr. Kecklin:
 - a. can be given ice chips and fluids after he demonstrates that he can perform the gag reflex.
 - b. should immediately be given a house diet to alleviate his hunger resulting from the required fast.
 - c. should initially be given iced ginger ale to prevent vomiting and possible aspiration of stomach contents.
 - d. will need to remain NPO for 6 hours to prevent pharyngeal irritation.

CASE STUDY: Thoracentesis

Mrs. Lomar is admitted to the clinical area for a thoracentesis. The physician wants to remove excess air from the pleural cavity.

1. Nursing responsibilities before the thoracentesis should include:
 - a. informing Mrs. Lomar about pressure sensations that will be experienced during the procedure.
 - b. making sure that chest roentgenograms ordered in advance have been completed.
 - c. seeing that the consent form has been explained and signed.
 - d. all of the above.
2. For the thoracentesis, the patient is assisted to any of the following positions *except*:
 - a. lying on the unaffected side with the bed elevated 30 to 40 degrees.
 - b. lying prone with the head of the bed lowered 15 to 30 degrees.
 - c. sitting on the edge of the bed with her feet supported and her arms and head on a padded overbed table.
 - d. straddling a chair with her arms and head resting on the back of the chair.
3. Nursing intervention includes exposing the entire chest even though the thoracentesis site is normally in the midclavicular line between the:
 - a. first and second intercostal spaces.
 - b. second and third intercostal spaces.
 - c. third and fourth intercostal spaces.
 - d. fourth and fifth intercostal spaces.
4. Nursing observations after the thoracentesis include assessment for:
 - a. blood-tinged mucus.
 - b. signs of hypoxemia.
 - c. tachycardia.
 - d. all of the above.
5. A chest x-ray film is usually ordered after the thoracentesis to rule out:
 - a. pleurisy.
 - b. pneumonia.
 - c. pneumothorax.
 - d. pulmonary edema.

Interpreting Data

Review Chart 19-4 on the following page and explain in your own words what the oxygen-hemoglobin curve depicts. Also explain expected changes with clinical conditions (reference pages 379-381).

The oxyhemoglobin dissociation curve is marked to show three oxygen levels:

1. Normal levels— PaO_2 above 70 mm Hg
2. Relatively safe levels— PaO_2 45 to 70 mm Hg
3. Dangerous levels— PaO_2 below 40 mm Hg

The normal (middle) curve shows that 75% saturation occurs at a PaO_2 of 40 mm Hg. If the curve shifts to the right, the same saturation (75%) occurs at the higher PaO_2 of 57 mm Hg. If the curve shifts to the left, 75% saturation occurs at a PaO_2 of 25 mm Hg.

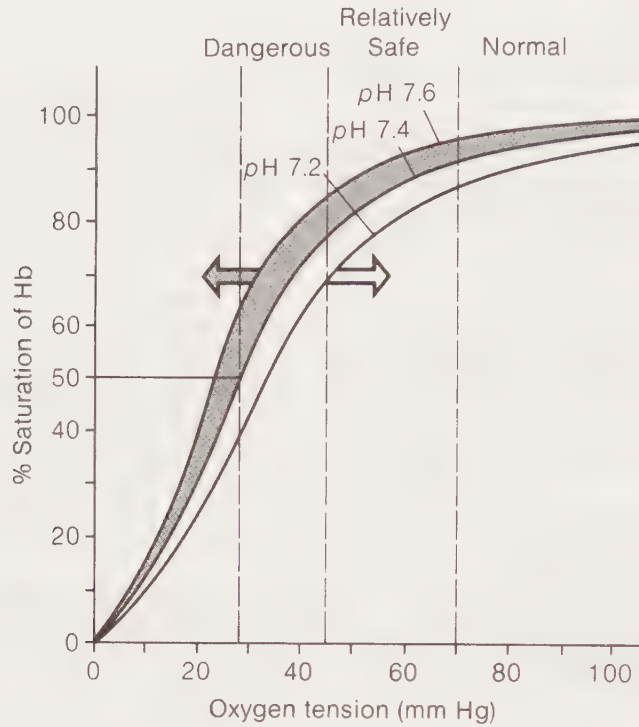


CHART 19-4 Oxyhemoglobin Dissociation Curve

Explain the concepts supporting the basis for the oxygen-hemoglobin dissociation curve in your own words. Interpret the relevance of the data depicted in the figure above.

20

Management of Patients With Conditions of the Upper Respiratory Tract

Chapter Overview

Each of us has, at some time, experienced upper airway discomforts, either from the common cold or from severe respiratory tract infections. When we cannot breathe or swallow without congestion or pain, our whole body reacts. The nurse needs to be sensitive to systemic as well as localized responses when developing a plan of care so that the patient's total needs can be met. The need for physical rest must be considered equally as important as the need for pain relief, hydration, and ventilation. The focus of nursing implementation, therefore, must be the total patient, even though the alteration is localized in the upper respiratory airway.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Nursing measures associated with the uncomplicated common cold include all of the following *except*:
 - a. administering prescribed antibiotics to decrease the severity of the viral infection.
 - b. informing the patient about the symptoms of secondary infection, the major complication of a cold.
 - c. suggesting adequate fluid intake and rest.
 - d. teaching people that the virus is contagious for 2 days before symptoms appear and during the first part of the symptomatic phase.
2. Acyclovir, an antiviral agent, is recommended for:
 - a. herpes simplex infection.
 - b. rhinitis.
 - c. sinusitis.
 - d. bronchitis.
3. The herpes virus, which remains latent in cells of the lips or nose, usually subsides spontaneously in:
 - a. 5 days.
 - b. 1 week.
 - c. 10 to 14 days.
 - d. 3 to 4 weeks.
4. Nursing suggestions for a patient with acute or chronic sinusitis include:
 - a. adequate fluid intake.
 - b. increased humidity.
 - c. local heat applications to promote drainage.
 - d. all of the above.
5. About 60% of cases of acute sinusitis are caused by bacterial organisms. The antibiotic of choice is:
 - a. amoxicillin-clavulanate (Augmentin)
 - b. acyclovir.
 - c. erythromycin.
 - d. cefotetan.

6. Health teaching for viral rhinitis includes advising the patient to:
- blow his or her nose gently to prevent spread of the infection.
 - blow through both nostrils to equalize the pressure.
 - rest, to promote overall comfort.
 - do all of the above.
7. Acute pharyngitis of a bacterial nature is most commonly caused by:
- group A *Streptococcus*.
 - gram-negative *Klebsiella*.
 - Pseudomonas*.
 - Staphylococcus aureus*.
8. A complication(s) of acute pharyngitis is(are):
- mastoiditis.
 - nephritis.
 - rheumatic fever.
 - all of the above.
9. Nursing management for a patient with acute pharyngitis includes:
- applying an ice collar for symptomatic relief of a severe sore throat.
 - encouraging bed rest during the febrile stage of the illness.
 - suggesting a liquid or soft diet during the acute stage of the disease.
 - all of the above measures.
10. The most common organism associated with tonsillitis and adenoiditis is:
- group A *Streptococcus*.
 - gram-negative *Klebsiella*.
 - Pseudomonas*.
 - Staphylococcus aureus*.
11. Potential complications of enlarged adenoids include all of the following *except*:
- bronchitis.
 - nasal obstruction.
 - allergies.
 - acute otitis media.
12. To assess for an upper respiratory tract infection, the nurse should *palpate*:
- the frontal and maxillary sinuses.
 - the trachea.
 - the neck lymph nodes.
 - all of the above areas.
13. To assess for an upper respiratory tract infection, the nurse should *inspect*:
- the nasal mucosa.
 - the frontal sinuses.
 - the tracheal mucosa.
 - all of the above.
14. Airway clearance in a patient with an upper airway infection is facilitated by all of the following *except*:
- decreasing systemic hydration.
 - humidifying inspired room air.
 - positional drainage of the affected area.
 - administering prescribed vasoconstrictive medications.
15. Nursing intervention for a patient with a fractured nose includes all of the following *except*:
- applying cold compresses to decrease swelling and control bleeding.
 - assessing respirations to detect any interference with breathing.
 - observing for any clear fluid drainage from either nostril.
 - packing each nostril with a cotton pledget to minimize bleeding and help maintain the shape of the nose during fracture setting.
16. Surgical reduction of nasal fractures is usually performed ____ after the fracture.
- within 24 hours
 - 7 to 10 days
 - 2 to 3 weeks
 - 2 months
17. The glottis is also known as the:
- larynx.
 - cricoid cartilage.
 - "Adam's apple."
 - opening between the vocal chords.
18. To correctly perform the Heimlich maneuver, a person should forcefully apply pressure against the victim's:
- abdomen.
 - diaphragm.
 - lungs.
 - trachea.

19. An early sign of cancer of the larynx in the glottic area (66% of cases) is:
 - a. affected voice sounds.
 - b. burning of the throat when hot liquids are ingested.
 - c. enlarged cervical nodes.
 - d. dysphagia.
20. Assessment of a patient admitted for laryngeal carcinoma includes:
 - a. palpation of the frontal and maxillary sinuses to detect infection or inflammation.
 - b. palpation of the neck for swelling.
 - c. inspection of the nasal mucosa for polyps.
 - d. all of the above techniques.
21. A patient with a total laryngectomy would no longer have:
 - a. natural vocalization.
 - b. protection of the lower airway from foreign particles.
 - c. a normal effective cough.
 - d. all of the above mechanisms.
22. Patient education for a laryngectomy includes:
 - a. advising that large amounts of mucus can be coughed up through the stoma.
 - b. cautioning about preventing water from entering the stoma.
 - c. telling the patient to expect a diminished sense of taste and smell.
 - d. doing all of the above.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Fill in the blanks or circle the correct answer.

CASE STUDY: Epistaxis

Gilberta, a 14-year-old high school student, is sent with her mother to the emergency department of a local hospital for uncontrolled epistaxis.

1. Describe what the school nurse should tell Gilberta to manage the bleeding site while being transported to the hospital.

2. Initial nursing measures in the emergency room that can be used to stop the nasal bleeding include:
 - a. compressing the soft outer portion of the nose against the midline septum continuously for 5 to 10 minutes.
 - b. keeping Gilberta in the upright position with her head tilted forward to prevent swallowing and aspiration of blood.
 - c. telling her to breathe through her mouth and to refrain from talking.
 - d. all of the above.
3. The nurse expects that emergency medical treatment may include insertion of a cotton pledget moistened with:
 - a. an adrenergic blocking agent.
 - b. aqueous epinephrine.
 - c. protamine sulfate.
 - d. vitamin K.
4. The nurse is aware that nasal packing used to control bleeding can be left in place:
 - a. no longer than 2 hours.
 - b. an average of 12 hours.
 - c. an average of 24 hours.
 - d. anywhere from 2 to 6 days.

CASE STUDY: Tonsillectomy and Adenoidectomy

Isabel, a 14-year-old, just had a tonsillectomy and adenoidectomy. The staff nurse assists her with her transport from the recovery area to her room.

1. Based on her knowledge about tonsillar disease, the nurse knows that Isabel must have experienced symptoms that required surgical intervention. Clinical manifestations may have included:
 - a. hypertrophy of the tonsils.
 - b. repeated attacks of otitis media.
 - c. suspected hearing loss secondary to otitis media.
 - d. all of the above.
2. The nurse assesses Isabel's postoperative vital signs and checks for the most significant postoperative complication of:
 - a. epiglottitis.
 - b. eustachian tube perforation.
 - c. hemorrhage.
 - d. oropharyngeal edema.
3. The nurse maintains Isabel in the recommended postoperative position of:
 - a. prone with her head on a pillow and turned to the side.
 - b. reverse Trendelenburg with the neck extended.
 - c. semi-Fowler's with the neck flexed.
 - d. supine with her neck hyperextended and supported with a pillow.
4. Isabel is to be discharged the same day of her tonsillectomy. The nurse makes sure that her family knows to:
 - a. encourage her to eat a house diet to build up her resistance to infection.
 - b. offer her only clear liquids for 3 days, to prevent pharyngeal irritation.
 - c. offer her soft foods for several days to minimize local discomfort and supply her with necessary nutrients.
 - d. supplement her diet with orange and lemon juices because of the need for vitamin C to heal tissues.

CASE STUDY: Laryngectomy

Jerome, a 52-year-old widower, is admitted for a laryngectomy owing to a malignant tumor.

1. Before developing a care plan, the nurse needs to know if Jerome's voice will be preserved. The surgical procedure that would not damage the voice box is a:
 - a. partial laryngectomy.
 - b. supraglottic laryngectomy.
 - c. thyrotomy.
 - d. total laryngectomy.
2. Jerome is scheduled for a total laryngectomy. Preoperative education includes:
 - a. informing him that there are ways he will be able to carry on a conversation without his voice.
 - b. making sure that he knows he will require a permanent tracheal stoma.
 - c. reminding him that he will not be able to sing, whistle, or laugh.
 - d. all of the above.
3. Postoperative nutrition is usually maintained by way of a nasogastric catheter. The nurse needs to tell Jerome that oral feedings usually begin after:
 - a. 24 hours.
 - b. 2 to 3 days.
 - c. 5 to 6 days.
 - d. 1 week.
4. Postoperative nursing measures to promote respiratory effectiveness include:
 - a. assisting with turning and early ambulation.
 - b. positioning Jerome in semi-to high Fowler's position.
 - c. reminding him to cough and take frequent deep breaths.
 - d. all of the above.
5. Jerome needs to know that the laryngectomy tube will be removed when:
 - a. esophageal speech has been perfected.
 - b. he requests that it be removed.
 - c. oral feedings are initiated.
 - d. the stoma is well healed.

21

Management of Patients With Chest and Lower Respiratory Tract Disorders

Chapter Overview

Pulmonary infections, whether minor or life-threatening, result in systemic as well as localized responses to the causative agent. Nursing interventions address individual needs based on each patient's prior state of health, current defense mechanisms, and recommended goals of treatment. Infectious agents are especially virulent to patients with chronic pulmonary disorders. Chronic lung disease requires a multidisciplinary approach to patient care.

The nurse of today needs to be cognizant of respiratory pathophysiology and chest conditions in order to develop and implement a plan of care for acutely ill and chronically debilitated patients (e.g., those with infections or chest trauma).

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Nursing management for a person diagnosed as having tracheobronchitis includes:
 - a. applying moist heat to the chest to relieve soreness and pain.
 - b. encouraging the patient to remain in bed.
 - c. using cool-vapor therapy to relieve laryngeal and tracheal irritation.
 - d. all of the above.
2. In the United States, the most common cause of death from infectious diseases is:
 - a. atelectasis.
 - b. pulmonary embolus.
 - c. pneumonia.
 - d. tracheobronchitis.
3. The most common type of atypical pneumonia caused by *Mycoplasma pneumoniae* is classified as:
 - a. hospital-acquired.
 - b. immunocompromised.
 - c. aspiration specific.
 - d. community-acquired.
4. Characteristics of the *Mycobacterium tuberculosis* include all of the following *except* that it:
 - a. can be transmitted only by droplet nuclei.
 - b. is able to lie dormant within the body for years.
 - c. is acid-fast.
 - d. survives in anaerobic conditions.
5. For the tubercle bacillus to multiply and initiate a tissue reaction in the lungs, it must be deposited in:
 - a. the alveoli.
 - b. the bronchi.
 - c. the trachea.
 - d. all of the above tissues.

6. Diagnostic confirmation of a lung abscess is made by:
 - a. chest x-ray.
 - b. bronchoscopy.
 - c. sputum culture.
 - d. evaluating all of the above studies.
7. The most diagnostic clinical symptom(s) of pleurisy is(are):
 - a. dullness or flatness on percussion over areas of collected fluid.
 - b. dyspnea and coughing.
 - c. fever and chills.
 - d. stabbing pain during respiratory movement.
8. A pleural effusion results in fluid accumulation in the pleural space that is greater than:
 - a. 5 ml.
 - b. 10 ml.
 - c. 15 ml.
 - d. 20 ml.
9. The underlying pathophysiology of chronic obstructive pulmonary disease (COPD) is:
 - a. inflamed airways that obstruct airflow.
 - b. mucus secretions that block airways.
 - c. overinflated alveoli that impair gas exchange.
 - d. characterized by variations of all of the above.
10. Two diseases specific to the etiology of COPD are:
 - a. asthma and atelectasis.
 - b. bronchitis and emphysema.
 - c. pneumonia and pleurisy.
 - d. tuberculosis and pleural effusions.
11. Nursing assessment of a patient with bronchospasm associated with COPD would include assessment for:
 - a. compromised gas exchange.
 - b. decreased airflow.
 - c. wheezes.
 - d. all of the above.
12. For a patient with chronic bronchitis, the nurse expects to see the major clinical symptom(s) of:
 - a. chest pain during respiration.
 - b. dyspnea and a productive cough.
 - c. fever, chills, and diaphoresis.
 - d. tachypnea and tachycardia.
13. The nurse should be alert for a complication of bronchiectasis that results from a combination of retained secretions and obstruction. This complication is known as:
 - a. atelectasis.
 - b. emphysema.
 - c. pleurisy.
 - d. pneumonia.
14. The major cause of emphysema is:
 - a. air pollution.
 - b. allergens.
 - c. infectious agents.
 - d. smoking.
15. The pathophysiology of emphysema is directly related to airway obstruction. The end result of deterioration is:
 - a. diminished alveolar surface area.
 - b. hypercapnia resulting from decreased carbon dioxide elimination.
 - c. hypoxemia secondary to impaired oxygen diffusion.
 - d. respiratory acidosis due to airway obstruction.
16. The primary presenting symptom of emphysema is:
 - a. chronic cough.
 - b. dyspnea.
 - c. tachypnea.
 - d. wheezing.
17. Bronchodilators are prescribed in emphysema primarily because they:
 - a. improve gas exchange.
 - b. interfere with mucosal edema.
 - c. improve airflow.
 - d. reverse bronchospasm.
18. Obstruction of the airway in the patient with asthma is caused by all of the following *except*:
 - a. thick mucus.
 - b. swelling of bronchial membranes.
 - c. destruction of the alveolar wall.
 - d. contraction of muscles surrounding the bronchi.
19. The major symptom(s) of asthma is(are):
 - a. cough.
 - b. dyspnea.
 - c. wheezing.
 - d. all of the above.

20. The nurse understands that a patient with status asthmaticus will likely initially evidence symptoms of:
- metabolic acidosis.
 - metabolic alkalosis.
 - respiratory acidosis.
 - respiratory alkalosis.
21. Acute respiratory failure (ARF) occurs when oxygen tension (PaO_2) falls below ____ mm Hg (hypoxemia) and carbon dioxide tension (PaCO_2) rises to greater than ____ mm Hg (hypercapnia).
- 50
 - 60
 - 75
 - 80
22. The pathophysiology of ARF is directly related to:
- decreased respiratory drive.
 - chest wall abnormalities.
 - dysfunction of lung parenchyma.
 - all of the above mechanisms.
23. Neuromuscular blockers are given to patients who are on ventilators in ARF to accomplish all of the following *except*:
- maintain positive end-expiratory pressure (PEEP).
 - maintain better ventilation.
 - increase the respiratory rate.
 - keep the patient from fighting the ventilator.
24. Clinical manifestations directly related to cor pulmonale include all of the following *except*:
- dyspnea and cough.
 - diminished peripheral pulses.
 - distended neck veins.
 - edema of the feet and legs.
25. Nursing measures to assist in the prevention of pulmonary embolism in a hospitalized patient include all of the following *except*:
- a liberal fluid intake.
 - assisting the patient to do leg elevations above the level of the heart.
 - encouraging the patient to dangle his or her legs over the side of the bed for 30 minutes, four times a day.
 - the use of elastic stockings, especially when decreased mobility would promote venous stasis.
26. Anticoagulation with heparin attempts to maintain the partial thromboplastin time (PTT) at ____ times normal.
- 0.5–1.0
 - 1.5–2.5
 - 2.5–3.0
 - >3.0
27. To assess for a positive Homans' sign, the nurse should:
- dorsiflex the foot while the leg is elevated to check for calf pain.
 - elevate the patient's legs for 20 minutes and then lower them slowly while checking for areas of inadequate blood return.
 - extend the leg, plantar flex the foot, and check for the patency of the dorsalis pedis pulse.
 - lower the patient's legs and massage the calf muscles to note any areas of tenderness.
28. As a cause of death among men in the United States, lung cancer ranks:
- first.
 - second.
 - third.
 - fourth.
29. The most prevalent epidermoid lung carcinoma that is centrally located and infrequently metastasizes is:
- adenocarcinoma.
 - bronchoalveolar.
 - large cell.
 - squamous cell.
30. The most frequent symptom of lung cancer is:
- copious sputum production.
 - cough.
 - dyspnea.
 - severe pain.
31. Paradoxical chest movement is associated with the following chest disorder:
- pneumothorax.
 - flail chest.
 - adult respiratory distress syndrome (ARDS).
 - tension pneumothorax.

32. An initial characteristic symptom of a simple pneumothorax is:
- a. acute respiratory distress syndrome.
 - b. severe respiratory distress.
 - c. sudden onset of chest pain.
 - d. tachypnea and hypoxemia.

Complete the following questions related to the condition of atelectasis, a pulmonary disorder that can lead to life-threatening acute respiratory failure.

Atelectasis, which refers to closure or collapse of alveoli, may be chronic or acute in nature.

1. List ten possible causes of atelectasis

1. _____	6. _____
2. _____	7. _____
3. _____	8. _____
4. _____	9. _____
5. _____	10. _____

2. List ten pathogenic mechanisms associated with atelectasis:

1. _____	6. _____
2. _____	7. _____
3. _____	8. _____
4. _____	9. _____
5. _____	10. _____

3. Describe why the alveoli shrinks in size because of reduced alveolar ventilation.

4. Name eight possible clinical manifestations of atelectasis.

1. _____	5. _____
2. _____	6. _____
3. _____	7. _____
4. _____	8. _____

5. Identify eight nursing measures that can be used to prevent atelectasis.

1. _____	5. _____
2. _____	6. _____
3. _____	7. _____
4. _____	8. _____

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Bacterial Pneumonia

Theresa, a 20-year-old college student, lives in a small dormitory with 30 other students. Four weeks into the Spring semester, she was diagnosed as having bacterial pneumonia and was admitted to the hospital.

- The nurse is informed that Theresa has the most frequent strain of bacterial pneumonia found in community-acquired pneumonia. The nurse suspects that the infecting agent is:
 - Haemophilus influenzae*.
 - Klebsiella*.
 - Pseudomonas aeruginosa*.
 - Streptococcus pneumoniae*.
- All of the following are manifestations of bacterial pneumonia *except*:
 - fever.
 - bradycardia.
 - stabbing or pleuritic chest pain.
 - tachypnea.
- The nurse expects that Theresa will be medicated with the usual antibiotic of choice, which is:
 - cephalosporin.
 - clindamycin.
 - erythromycin.
 - penicillin G.
- The nurse is aware that Theresa may develop arterial hypoxemia because:
 - bronchospasm causes alveolar collapse, which decreases the surface area necessary for perfusion.
 - mucosal edema occludes the alveoli, thereby producing a drop in alveolar oxygen.
 - venous blood is shunted from the right to the left side of the heart.
 - all of the above are true.
- Theresa is expected to respond to antibiotic therapy:
 - within 6 hours.
 - between 1 and 2 days.
 - by the fourth day.
 - after 7 days.
- Nursing management includes assessment for complications such as:
 - atelectasis.
 - hypotension and shock.
 - pleural effusion.
 - all of the above.

CASE STUDY: Emphysema

Lois, who has had emphysema for 25 years, is admitted to the hospital with a diagnosis of bronchitis.

- During assessment the nurse notes the presence of a "barrel chest," which she knows is due to a:
 - compensatory expansion of the bronchial airway.
 - decrease in intrapleural pressure.
 - "air trapping" in the lungs.
 - progressive increase in vital capacity.
- The nurse recognizes the need to be alert for the major presenting symptom of emphysema, which is:
 - bradypnea.
 - dyspnea.
 - expiratory wheezing.
 - fatigue.
- Arterial blood gas measurements that are consistent with a diagnosis of emphysema are:
 - pH, 7.32; PaO₂, 70 mm Hg; PaCO₂, 50 mm Hg.
 - pH, 7.37; PaO₂, 90 mm Hg; PaCO₂, 42 mm Hg.
 - pH, 7.39; PaO₂, 80 mm Hg; PaCO₂, 35 mm Hg.
 - pH, 7.40; PaO₂, 85 mm Hg; PaCO₂, 42 mm Hg.
- Lois is being medicated with a bronchodilator to reduce airway obstruction. Nursing actions include observing for the side effect(s) of:
 - dysrhythmias.
 - central nervous system excitement.
 - tachycardia.
 - all of the above.

5. Diaphragmatic breathing is recommended for Lois because it does all of the following *except*:
 - a. decrease respiratory rate.
 - b. decrease tidal volume.
 - c. increase alveolar ventilation.
 - d. reduce functional residual capacity.
6. Oxygen is prescribed for Lois. The nurse knows that the most effective delivery system is:
 - a. a rebreathing bag that delivers an oxygen concentration above 60%.
 - b. an oxygen mask set at 8 L/min.
 - c. a nasal cannula set at 6 L/min.
 - d. a Venturi mask that delivers a predictable oxygen flow at about 24%.

CASE STUDY: Acute Respiratory Distress Syndrome (ARDS)

Anne, age 71 and single, is admitted to the unit with a diagnosis of acute respiratory distress syndrome (ARDS). She has been receiving treatment at home for viral pneumonia and appeared to be improving until yesterday.

1. During assessment the nurse notes symptoms positively correlated with ARDS that include:
 - a. dysrhythmias and hypotension.
 - b. contraction of the accessory muscles of respiration.
 - c. tachypnea and tachycardia.
 - d. all of the above.
2. The nurse also observes symptoms of cerebral hypoxia that include:
 - a. drowsiness.
 - b. confusion.
 - c. irritability.
 - d. all of the above.
3. The nurse observes that Anne is receiving oxygen by way of a nasal cannula at 6 L/min. The nurse knows that Anne's FI_{O_2} is:
 - a. 24%.
 - b. 34%.
 - c. 44%.
 - d. 54%.
4. Indications for ventilator support for ARDS include all of the following *except*:
 - a. O_2 saturation greater than 90%
 - b. PaO_2 greater than 60 mm Hg.
 - c. respiratory rate greater than 35 beats per minute.
 - d. vital capacity equal to 60 ml/kg of body weight.
5. It is decided that Anne needs a ventilator to help her breathe. Her physician prescribes positive end-expiratory pressure (PEEP). When PEEP is used, all of the following occur *except*:
 - a. improved arterial oxygenation.
 - b. improved ventilation-perfusion.
 - c. increased alveolar dilation.
 - d. increased functional residual capacity.

CASE STUDY: Pulmonary Embolism

Sandy, a 37-year-old who was recovering from multiple fractures sustained in a car accident, was admitted to the intensive care unit for treatment of a pulmonary embolism. Before admission she was short of breath after walking up a flight of stairs.

1. On the basis of Sandy's medical history, the nurse suspects that a predisposing condition may have been:
 - a. hypercoagulability.
 - b. postoperative immobility.
 - c. venous stasis.
 - d. all of the above factors.
2. As part of her assessment information, the nurse knows that the majority of pulmonary emboli originate in the:
 - a. deep leg veins.
 - b. lung tissue.
 - c. pelvic area.
 - d. right atrium of the heart.
3. The most common symptom of pulmonary embolism is:
 - a. chest pain.
 - b. dyspnea.
 - c. fever.
 - d. hemoptysis.
4. Based on Sandy's diagnosis, the nurse knows to look for a decrease in:
 - a. alveolar dead space.
 - b. cardiac output.
 - c. pulmonary arterial pressure.
 - d. right ventricular work load of the heart.

5. A primary nursing problem for Sandy would be:
- a. atelectasis.
 - b. bradycardia.
 - c. dyspnea.
 - d. hypertension.
6. The nurse knows that Sandy's diagnosis was probably confirmed by a(n):
- a. bronchogram.
 - b. chest roentgenogram.
 - c. electrocardiogram.
 - d. lung scan.

22

Respiratory Care Modalities

Chapter Overview

Respiratory therapy measures are vital adjuncts to the medical management of patients with pulmonary disorders. Nurses have to be alert to patient symptoms that indicate a need for pulmonary support measures. They also need to be knowledgeable about the physics of selected delivery systems, as well as the scientific rationale supporting various practices. Evaluating the effectiveness of therapy is also a vital nursing role.

Patients undergoing thoracic surgery present a unique challenge to nursing. Preoperatively, alveolar ventilation should be improved and respiratory secretions decreased as much as possible. Patients need to practice the technique of deep breathing, coughing, and splinting of the future incision site. Postoperatively, the patient needs vigilant cardiopulmonary assessment and monitoring. Adequate ventilation, pain control, positioning, ambulation, hydration, and management of chest drainage will all be part of the total nursing care.

1. Comprehension and Interpretation

Read each question carefully. Circle your answer.

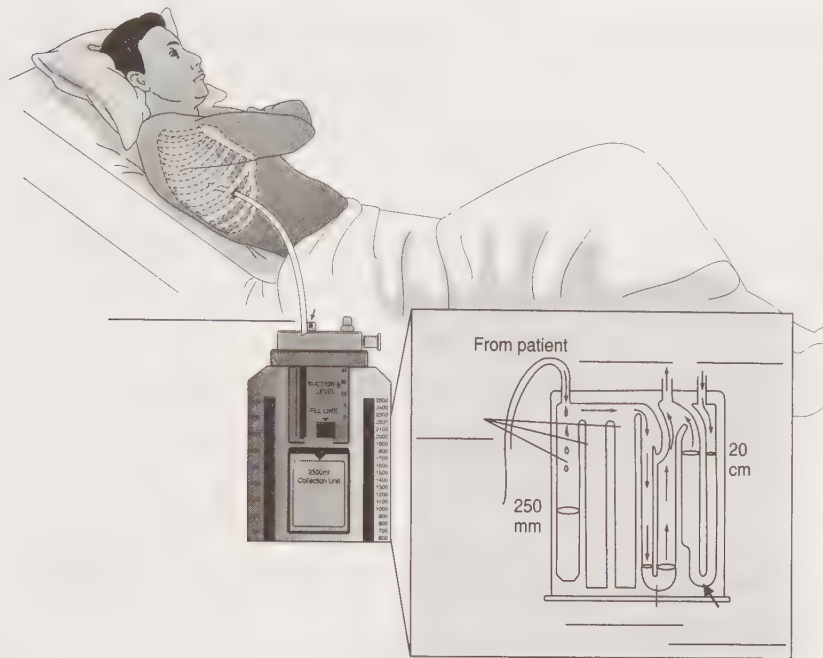
- Hypoxemia can be detected by noting a decrease in:
 - PaO_2 .
 - PAO_2 .
 - pH.
 - PCO_2 .
- A patient with bradycardia and hypotension would most likely exhibit:
 - anemic hypoxia.
 - circulatory hypoxia.
 - histotoxic hypoxia.
 - hypoxic hypoxia.
- Carbon monoxide poisoning results in:
 - anemic hypoxia.
 - histoxic hypoxia.
 - hypoxic hypoxia.
 - stagnant hypoxia.
- Decreased gas exchange at the cellular level resulting from a toxic substance is classified as:
 - circulatory
 - histotoxic.
 - hypoxemic.
 - hypoxic.
- Oxygen therapy administered to a pulmonary patient who retains carbon dioxide:
 - can cause a dangerous rise in PaCO_2 levels.
 - can suppress ventilation.
 - should bring the patient's PO_2 level to 60 to 70 mm Hg.
 - is able to accomplish all of the above mechanisms.

6. When oxygen therapy is being used, "no smoking" signs are posted because oxygen:
 - a. is combustible.
 - b. is explosive.
 - c. prevents the dispersion of smoke particles.
 - d. supports combustion.
7. A patient has been receiving 100% oxygen therapy by way of a nonrebreather mask for several days. He complains of tingling in his fingers and shortness of breath. He is extremely restless and states that he has pain beneath his breastbone. The nurse should suspect:
 - a. oxygen-induced hypoventilation.
 - b. oxygen toxicity.
 - c. oxygen-induced atelectasis.
 - d. all of the above.
8. Oxygen concentrations of 70% can usually be delivered with the use of a(n):
 - a. nasal cannula.
 - b. oropharyngeal catheter.
 - c. partial rebreathing mask.
 - d. Venturi mask.
9. The method of oxygen administration primarily used for patients with chronic obstructive pulmonary disease is a(n):
 - a. nasal cannula.
 - b. oropharyngeal catheter.
 - c. nonrebreathing mask.
 - d. Venturi mask.
10. Intermittent positive-pressure breathing differs from incentive spirometry in all the following ways *except* that it:
 - a. is a mechanical aid to lung expansion.
 - b. is used to encourage hyperinflation.
 - c. produces a forced flow of air into the lungs during inhalation.
 - d. provides for the breathing of air or oxygen.
11. To help a patient use a mini-nebulizer, the nurse should do all of the following *except* encourage the patient to:
 - a. hold his or her breath at end inspiration for a few seconds.
 - b. cough frequently.
 - c. take rapid, deep breaths.
 - d. frequently evaluate his or her progress.
12. To assist a patient with the use of an incentive spirometer, the nurse should:
 - a. make sure the patient is in a flat, supine position.
 - b. tell the patient to try not to cough during and after each session because it will cause pain.
 - c. set an unrealistic goal so that the patient will try to maximize effort.
 - d. encourage the patient to take approximately 10 breaths per hour between treatments, while awake.
13. Nursing actions associated with postural drainage include:
 - a. encouraging the patient to cough after the procedure.
 - b. auscultating the lungs before and after the procedure.
 - c. encouraging the patient to exhale through pursed lips.
 - d. all of the above.
14. When using percussion to aid in secretion removal, the nurse should avoid the:
 - a. sternum and spine.
 - b. liver and kidneys.
 - c. spleen and female breast area.
 - d. areas identified as a, b, and c.
15. Percussion is accomplished by continuing the process for:
 - a. 3 to 5 minutes while the patient uses diaphragmatic breathing.
 - b. 10 to 15 minutes while the patient uses diaphragmatic breathing.
 - c. 3 to 5 minutes while the patient breathes normally.
 - d. 10 to 15 minutes while the patient breathes normally.
16. When vibrating the patient's chest, the nurse vibrates:
 - a. during inhalation.
 - b. during inhalation and exhalation.
 - c. while the patient is exhaling.
 - d. while the patient is holding his or her breath.
17. The purpose of pursed lips during exhalation is to:
 - a. prolong exhalation.
 - b. slow down the respiratory rate to allow for maximum lung expansion during inspiration.
 - c. widen the airways.
 - d. do all of the above.

18. Signs of an upper airway obstruction include:
- drawing in of the upper chest, sternum, and intercostal spaces.
 - prolonged contraction of the abdominal muscles.
 - tracheal tug.
 - all of the above.
19. The suggested sequence of nursing actions for management of an upper airway obstruction are:
- clear airway, extend head, lift chin, use cross-finger technique, and perform a Heimlich maneuver.
 - extend head, lift chin, clear airway, and perform a Heimlich maneuver.
 - extend head, clear airway, lift chin, and insert airway.
 - lift chin, clear airway, and perform a Heimlich maneuver.
20. Nursing management of a patient with an endotracheal tube includes:
- ensuring oxygen administration with high humidity.
 - repositioning the patient every 2 hours.
 - suctioning the oropharynx as needed.
 - all of the above.
21. When suctioning secretions from a tracheostomy tube, it is helpful to first instill:
- less than 1 ml of sterile normal saline solution.
 - 1 to 2 ml of sterile normal saline solution.
 - 3 to 5 ml of sterile normal saline solution.
 - 6 to 8 ml of sterile normal saline solution.
22. When suctioning a tracheostomy tube, the nurse needs to remember that each aspiration should not exceed:
- 15 seconds.
 - 30 seconds.
 - 45 seconds.
 - 60 seconds.
23. Choose the blood gas sequence that indicates a need for mechanical ventilation.
- Decreasing PO_2 , decreasing PCO_2 , normal pH
 - Increasing PO_2 , decreasing PCO_2 , increasing pH
 - Decreasing PO_2 , increasing PCO_2 , decreasing pH
 - Increasing PO_2 , decreasing PCO_2 , decreasing pH
24. The most commonly used ventilator currently is the:
- chest cuirass.
 - time-cycled ventilator.
 - pressure-cycled ventilator.
 - volume-cycled ventilator.
25. With positive-pressure ventilation, positive intrathoracic pressure:
- increases venous return and decreases cardiac output.
 - decreases venous return and increases cardiac output.
 - decreases venous return and decreases cardiac output.
 - increases venous return and increases cardiac output.
26. The term used to describe thoracic surgery in which an entire lung is removed is:
- lobectomy.
 - pneumonectomy.
 - segmentectomy.
 - wedge resection.
27. Preoperatively, the patient who is scheduled for thoracic surgery needs to know that postoperatively:
- chest tubes and drainage bottles may be necessary.
 - he or she will be turned frequently and will be asked to cough and breathe deeply.
 - oxygen will be administered to facilitate breathing if the need arises.
 - all of the above treatments will be incorporated into a plan of care.
28. The water seal used in a disposable chest drainage system is effective if the water seal chamber is filled to the level of:
- 0.5 cmH_2O .
 - 1.0 cmH_2O .
 - 1.5 cmH_2O .
 - 2.0 cmH_2O .

Complete the Chart

Look at the following figure of a disposable chest drainage system, and label the figure using the terms provided.



List of Terms

Suction control
Water seal
Vent
Drainage collection chambers
Suction source
Ventilation source

FIGURE 22-6 Example of a disposable chest drainage system.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Pneumonectomy: Preoperative Concerns

Mrs. Miley, a 66-year-old widow, is admitted to the clinical area as a preoperative patient scheduled for a pneumonectomy for lung cancer.

1. Nursing assessment during the admission history and physical examination includes obtaining data about the patient's:
 - a. breathing patterns during exertion.
 - b. cardiac status during exercise.
 - c. smoking history.
 - d. history relevant to all of the above.
2. The nurse knows that medical clearance for surgery is based primarily on evaluation of the:
 - a. cardiopulmonary system.
 - b. endocrine system.
 - c. neurologic system.
 - d. renal—urinary system.
3. A battery of preoperative tests are ordered. The nurse evaluates the serum creatinine level because it reflects:
 - a. cardiac status.
 - b. endocrine status.
 - c. pulmonary function.
 - d. renal function.
4. The nurse knows that Mrs. Miley's functional lung capacity can be assessed by evaluating:
 - a. arterial blood gases.
 - b. blood urea nitrogen levels.
 - c. chest x-rays.
 - d. serum protein levels.

CASE STUDY: Pneumonectomy: Postoperative Concerns

Mrs. Miley was returned to the clinical area after being in the intensive care unit. She is recovering from a right pneumonectomy.

1. The major postoperative nursing objective is to:
 - a. maintain a patent airway.
 - b. provide for maximum remaining lung expansion.
 - c. provide rehabilitative measures.
 - d. recognize early indicators of complications.
2. Mrs. Miley had a central venous pressure line in place. Readings were to be taken to detect:
 - a. hypothermia.
 - b. hypovolemia.
 - c. hypoxemia.
 - d. hypoxia.
3. Pulmonary edema is a potential danger owing to the possible rapid infusion of intravenous fluids and a reduced vascular bed. Early symptoms of pulmonary edema include:
 - a. dyspnea.
 - b. frothy sputum.
 - c. crackles (rales).
 - d. all of the above.
4. The nurse should always be alert for signs of impending respiratory insufficiency, which would include all of the following *except*:
 - a. bradycardia.
 - b. dyspnea.
 - c. hypertension.
 - d. tachypnea.

CASE STUDY: Ventilator Patient

Mr. Brown, a 25-year-old man with a drug overdose, has been maintained on a volume-cycled ventilator for 3 weeks.

1. A major nursing assessment for Mr. Brown would be:
 - a. breath sounds.
 - b. nutritional needs.
 - c. psychological status.
 - d. spontaneous ventilatory efforts.
2. Positive-pressure ventilation can alter cardiac function. The nurse assesses for indicators of hypoxia and hypoxemia, which would include all of the following *except*:
 - a. bradycardia and bradypnea.
 - b. diaphoresis and oliguria.
 - c. restlessness and confusion.
 - d. transient hypertension.
3. A primary nursing intervention for Mr. Brown is maintaining optimal gas exchange. This can be accomplished by:
 - a. conservative use of analgesics so that pain is relieved, yet the respiratory drive is not decreased.
 - b. daily monitoring of fluid balance to prevent fluid overload.
 - c. frequent repositioning to diminish the pulmonary effects of immobility.
 - d. all of the above measures.
4. The nurse wants to determine early if Mr. Brown is "bucking" his ventilator (breathing out during the ventilator's mechanical inspiratory phase) so that he or she can initiate preventive measures if necessary. The nurse should assess for signs and symptoms related to:
 - a. hypercarbia.
 - b. hypoxia.
 - c. inadequate minute volume.
 - d. all of the above.

CASE STUDY: Weaning from Ventilator

Mr. O'Day, a 71-year-old trauma victim, is to be weaned from his ventilator.

1. Before weaning, Mr. O'Day's ventilatory capacity should be such that he:
 - a. can maintain an inspiratory force of at least -20 cmH₂O pressure.
 - b. has a PaO₂ > 60% and an FiO₂ < 40%.
 - c. is able to generate a minimum vital capacity of 10 to 15 ml/kg of body weight.
 - d. is capable of all of the above.
2. Criteria to determine if Mr. O'Day's endotracheal tube could be removed include:
 - a. active pharyngeal and laryngeal gag reflexes.
 - b. adequate spontaneous ventilation.
 - c. voluntary cough mechanisms.
 - d. all of the above.

3. Mr. O'Day will be weaned from oxygen when he can breathe room air and maintain a PaO_2 in the range of:
- a. 40 to 50 mm Hg.
 - b. 50 to 60 mm Hg.
 - c. 60 to 70 mm Hg.
 - d. 70 to 100 mm Hg.

Learner's Self-Evaluation Tool for End of Unit 5 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

I will do this on _____ (date and time).

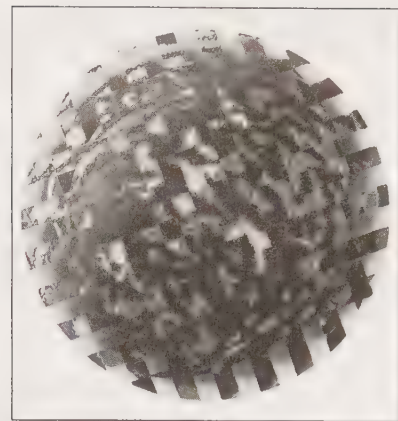
5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.



UNIT 6

Cardiovascular, Circulatory, and Hematologic Function



23
Assessment of
Cardiovascular Function

24
Management of Patients
With Dysrhythmias and
Conduction Problems

25
Management of Patients With
Coronary Vascular Disorders

26
Management of Patients
With Structural, Infectious,
or Inflammatory Cardiac
Disorders

27
Management of Patients
With Complications from
Heart Disease

28
Assessment and Management
of Patients With Vascular
Disorders and Problems
of Peripheral Circulation

29
Assessment and Management
of Patients With Hypertension

30
Assessment and Management
of Patients With Hematologic
Disorders

23

Assessment of Cardiovascular Function

Chapter Overview

Heart disease is currently the primary cause of death in the United States. Even with increased emphasis on consumer education about modifiable risk factors, compliance with an altered lifestyle has not been seen as positively correlated with a person's level of knowledge. As future nurses, your major impact will be in the areas of assessment, diagnosis, and health teaching.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The coronary arteries arise from the:
 - aorta near the origin of the left ventricle.
 - pulmonary artery at the apex of the right ventricle.
 - pulmonary vein near the left atrium.
 - superior vena cava at the origin of the right atrium.
- The pacemaker for the entire myocardium is the:
 - atrioventricular junction.
 - bundle of His.
 - Purkinje fibers.
 - sinoatrial node.
- The intrinsic pacemaker rate of ventricular myocardial cells is:
 - more than 80 beats per minute.
 - 60 to 80 beats per minute.
 - 40 to 60 beats per minute.
 - fewer than 40 beats per minute.
- So that blood may flow from the right ventricle to the pulmonary artery, all of the following conditions must be met *except* that:
 - the atrioventricular valves must be closed.
 - the pulmonic valve must be open.
 - right ventricular pressure must be less than pulmonary arterial pressure.
 - right ventricular pressure must rise with systole.
- Heart rate is stimulated by all of the following *except*:
 - excess thyroid hormone.
 - increased levels of circulating catecholamines.
 - the sympathetic nervous system.
 - the vagus nerve.
- Stroke volume of the heart is determined by:
 - the degree of cardiac muscle strength (precontraction).
 - the intrinsic contractility of the cardiac muscle.
 - the pressure gradient against which the muscle ejects blood during contraction.
 - all of the above factors.

7. A nonmodifiable risk factor for atherosclerosis is:
 - a. stress.
 - b. obesity.
 - c. positive family history.
 - d. hyperlipidemia.
8. The difference between the systolic and the diastolic pressure is called the:
 - a. pulse pressure.
 - b. auscultatory gap.
 - c. pulse deficit.
 - d. Korotkoff sound.
9. If the sphygmomanometer cuff is too small for the patient, the blood pressure reading will probably be:
 - a. falsely elevated.
 - b. falsely decreased.
 - c. an accurate reading.
 - d. significantly different with each reading.
10. The first heart sound is generated by:
 - a. closure of the aortic valve.
 - b. closure of the atrioventricular valves.
 - c. opening of the atrioventricular valves.
 - d. opening of the pulmonic valve.
11. Exercise stress testing is a noninvasive procedure that can be used to assess certain aspects of cardiac function. After the test, the patient is instructed to:
 - a. rest for a time.
 - b. avoid stimulants.
 - c. avoid extreme temperature changes.
 - d. do all of the above.
12. Postcatheterization nursing measures for a patient who has had a cardiac catheterization include:
 - a. assessing the peripheral pulses in the affected extremity.
 - b. checking the insertion site for hematoma formation.
 - c. evaluating temperature and color in the affected extremity.
 - d. all of the above.

Read each statement carefully. Write your response in the space provided.

1. Distinguish between the function of the atrioventricular and the semilunar valves.

2. Briefly explain depolarization as it relates to cardiac physiology.

3. Estimate cardiac output for an adult heart rate of 76 beats per minute and an average stroke volume of 70 ml per beat.

4. Describe Starling's law of the heart.

5. List several physiologic effects on the cardiovascular system that are associated with the aging process.

6. Two specific enzymes traditionally used to analyze an acute myocardial infarction (MI) are _____ and _____. The newest enzyme is _____, found to have several benefits over the others.

7. List several purposes of cardiac catheterization.

8. Describe selective angiography.

9. Discuss the implications of a low central venous pressure reading.

10. Identify possible complications of pulmonary artery monitoring.

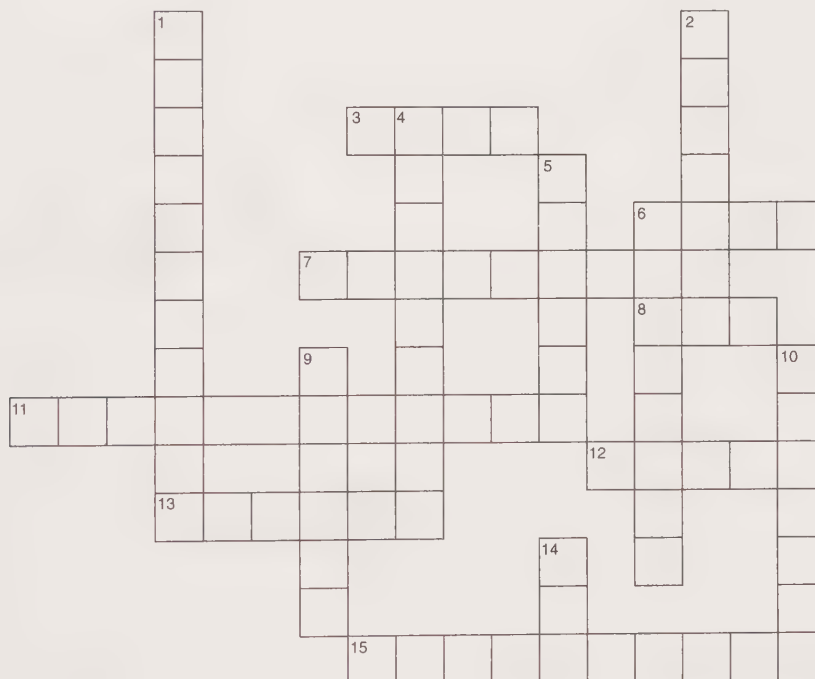
Complete the following crossword puzzle using terminology associated with coronary atherosclerosis.

Down

1. A principal blood lipid
2. A risk factor that causes pulmonary damage
4. The functional lesion of atherosclerosis
5. Biochemical substances, soluble in fat, that accumulate within a blood vessel
6. A risk factor that is endocrine in origin
9. A risk factor associated with a type A personality
10. A risk factor related to weight gain
14. A recommended dietary restriction

Across

3. For persons of this sex, the incidence of coronary heart disease increases steadily with age
6. Influences amount of fat ingested
7. A symptom of myocardial ischemia
8. An unmodifiable risk factor
11. Myocardial manifestation of coronary artery disease
12. A risk factor related to patterns of daily activity
13. A part of blood vessels
15. A lifestyle habit that is considered a modifiable risk factor for heart disease



II. Critical Analysis Questions

Analyzing Comparisons

Read each analogy. Fill in the space provided with the best response.

1. The pulmonary artery : lungs :: aorta : _____
2. Epicardium : outer layer of cells lining the heart :: _____ : the heart muscle itself.
3. Apical area of the heart : fifth intercostal space :: Erb's point:

4. The first heart sound : closure of the mitral and tricuspid valves :: the second heart sound : closure of

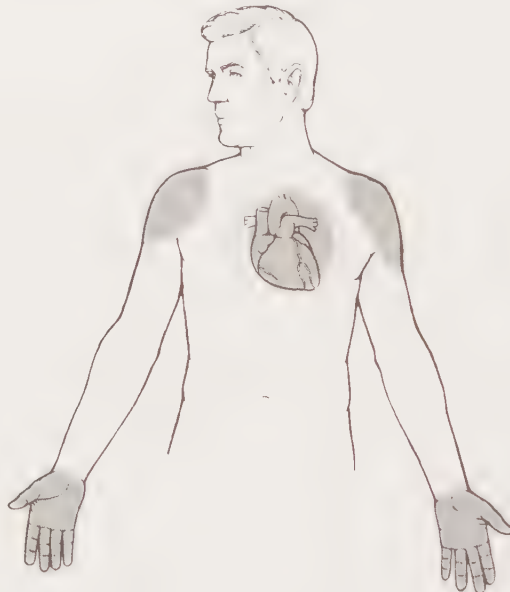
5. Murmurs : malfunctioning valves :: friction rubs : _____

Generating Solutions: Clinical Problem Solving

Refer to the illustration in Table 23–2, page 540, depicting the pain pathway of myocardial infarction and angina pectoris. Answer the associated questions.

Myocardial Infarction

Angina Pectoris



Name nursing assessment data that are relevant to record/report about the pain location, character, radiation, and duration.

Describe relevant precipitating events that would help with collaborative diagnosis.

Describe relevant nursing interventions based on pain assessment.

24

Management of Patients With Dysrhythmias and Conduction Problems

Chapter Overview

Complications related to cardiac disorders indicate that heart function is inadequate. Dysrhythmias, pulmonary edema, cardiac failure, cardiogenic shock, and thromboembolic episodes are responsible for many of the deaths from heart disease. Increasingly, management of cardiac patients requires expertise in cardiovascular theory, knowledge about new drug regimens, competency in complex nursing skills, an ability to deal with seriously ill patients, and the empathy needed to support concerned loved ones.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The heart is under the control of the autonomic nervous system. Stimulation of the parasympathetic system results in:
 - a. slowed heart rate.
 - b. lowered blood pressure.
 - c. reduction in the force of contraction.
 - d. all of the above.
2. Characteristics of sinus bradycardia include all of the following, *except* that:
 - a. a P wave precedes every QRS complex.
 - b. every QRS complex is normal.
 - c. the rate is 40 to 60 beats per minute.
 - d. the rhythm is altered.
3. Paroxysmal atrial tachycardia is characterized by a heart rate:
 - a. of 100 beats per minute.
 - b. between 100 and 150 beats per minute.
 - c. between 150 and 250 beats per minute.
 - d. more than 250 beats per minute.
4. Atrial fibrillation is associated with a heart rate up to:
 - a. 300 beats per minute.
 - b. 400 beats per minute.
 - c. 500 beats per minute.
 - d. 600 beats per minute.
5. Ventricular bigeminy refers to a conduction defect in which:
 - a. conduction is primarily from the trioventricular (AV) node.
 - b. every other beat is premature.
 - c. rhythm is regular but fast.
 - d. the rate is between 150 and 250 beats per minute.

6. With ventricular tachycardia:
 - a. conduction originates in the ventricle.
 - b. electrical defibrillation is used immediately.
 - c. the P wave usually is normal.
 - d. the ventricular rate is twice the normal atrial rate.
7. Ventricular fibrillation is associated with an absence of:
 - a. heartbeat.
 - b. palpable pulse.
 - c. respirations.
 - d. all of the above.
8. First-degree AV block is characterized by:
 - a. a variable heart rate, usually fewer than 60 beats per minute.
 - b. an irregular rhythm.
 - c. delayed conduction, producing a prolonged PR interval.
 - d. P waves hidden with the QRS complex.
9. Cardioversion is used to terminate dysrhythmias. With cardioversion the:
 - a. amount of voltage used should exceed 400 watt-seconds.
 - b. electrical impulse can be discharged during the T wave.
 - c. machine should be set to deliver a shock during the QRS complex.
 - d. above statements are all true.
10. When electrical defibrillation is used:
 - a. between 20 and 25 lbs of pressure should be exerted on each paddle in order to ensure good skin contact.
 - b. the defibrillator should discharge at 100 W-sec/k of body weight.
 - c. the discharge shock needs to be timed to the T wave.
 - d. all of the above are necessary.
11. When assessing vital signs in a patient with a permanent pacemaker, the nurse needs to know the:
 - a. date and time of insertion.
 - b. location of the generator.
 - c. model number.
 - d. pacemaker rate.
12. Candidates for implantable cardioverter defibrillation (ICD) are patients at high risk who have:
 - a. experienced syncope secondary to ventricular tachycardia.
 - b. survived sudden cardiac death.
 - c. sustained ventricular tachycardia.
 - d. experienced one or more of the above.
13. The nurse needs to teach the patient with an automatic implantable cardioverter defibrillator that he or she must:
 - a. avoid magnetic fields such as metal detection booths.
 - b. call for emergency assistance if he or she feels dizzy.
 - c. record events that trigger a shock sensation.
 - d. be compliant with all of the above.

Read each statement carefully. Write your response in the space provided.

1. Describe normal electrical conduction through the heart.

2. Name several causes of sinus tachycardia.

3. Describe the placement on a person's chest of the electrode paddles used for defibrillation.

4. Describe the difference between demand and fixed pacemakers.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Graph Analysis

Analyze the following ECG graph and answer the questions below.

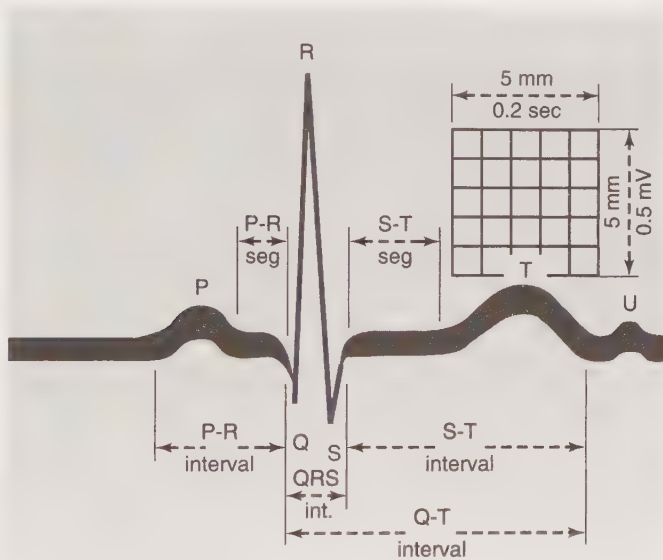
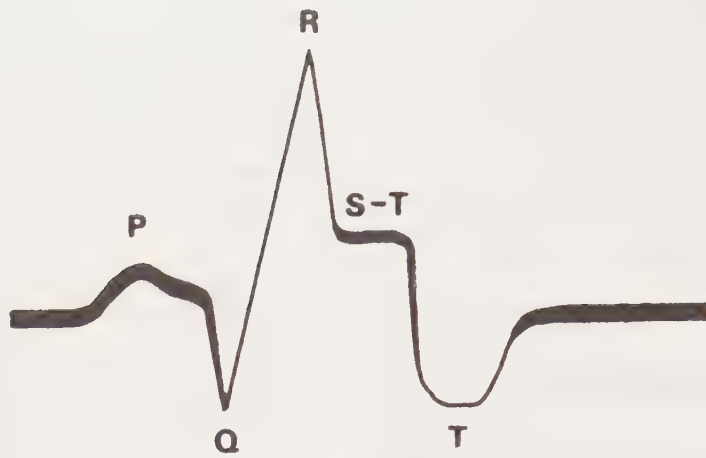


FIGURE 24-3 ECG graph and commonly measured complex components. Each small box represents 0.04 seconds on the horizontal axis and 1 mm or 0.1 millivolt on the vertical axis. The PR interval is measured from the beginning of the P wave to the beginning of the QRS complex; the QRS complex is measured from the beginning of the Q wave to the end of the S wave; the QT interval is measured from the beginning of the Q wave to the end of the T wave.

1. Look at the above graphic recording of cardiac electrical activity. For each action below, choose a wave deflection that corresponds to it, and write the appropriate letter(s) on the line provided.
 - a. ____ ventricular muscle repolarization
 - b. ____ time required for impulse to travel through the atria and the conduction system to the Purkinje fibers
 - c. ____ atrial muscle depolarization
 - d. ____ ventricular muscle depolarization
 - e. ____ early ventricular repolarization of the ventricles



2. Consider the above graphic recording, and identify three alterations that are consistent with the myocardial ischemia and infarction, hours to days after the attack.

- a. _____
- b. _____
- c. _____

Analyze the graphic recording for each of the following dysrhythmias and describe the altered deflection.

1. Figure 24-9.

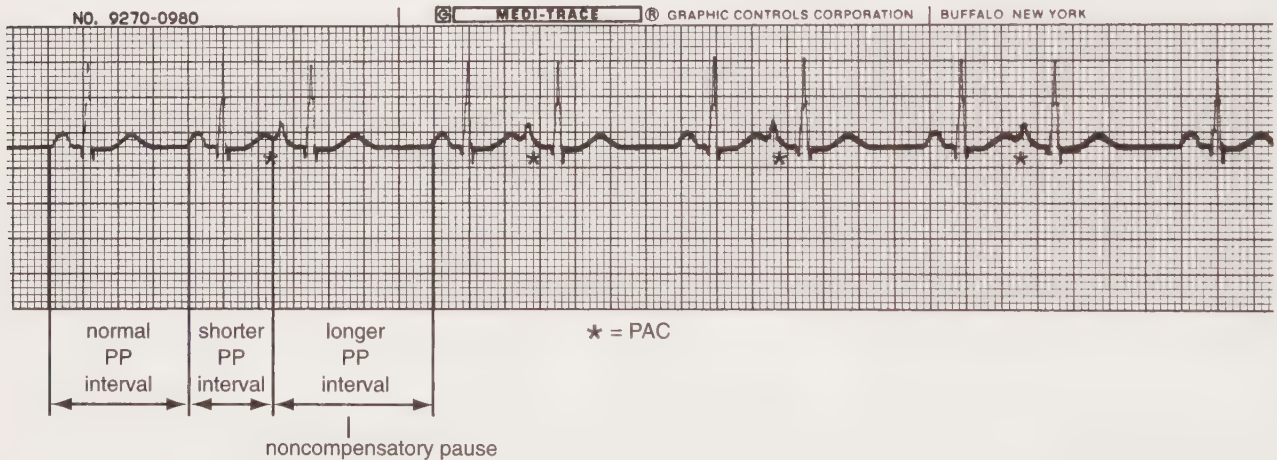


FIGURE 24-9 Premature atrial complexes (PACs)

2. Figure 24-15.

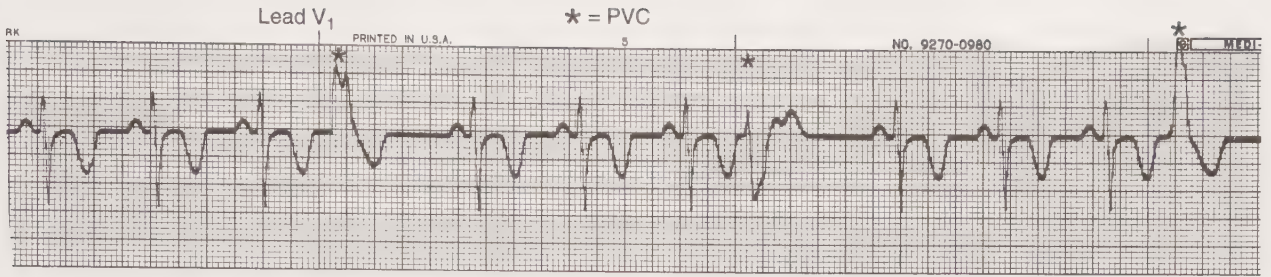


FIGURE 24-15 Multifocal PVCs in quadrigemeng

3. Figure 24-16.

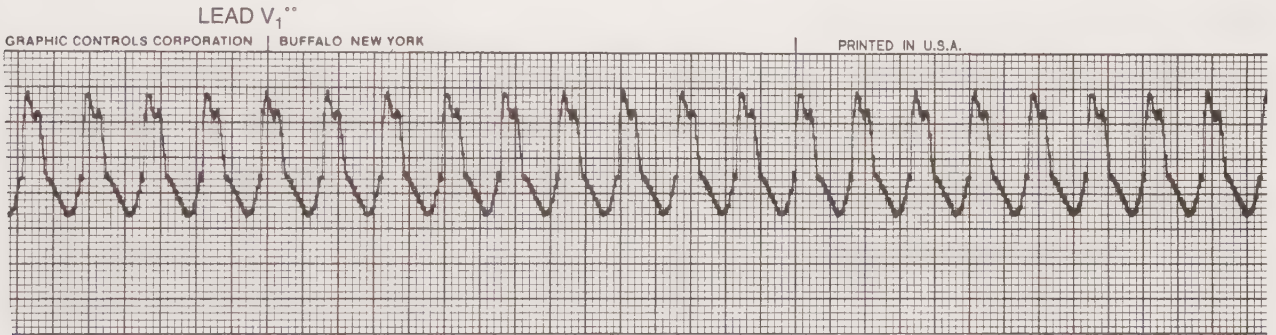


FIGURE 24-16 Ventricular tachycardia

25

Management of Patients With Coronary Vascular Disorders

Chapter Overview

Heart disease is a major cause of morbidity and mortality in the United States today. Coronary artery disease continues to be a major threat to health, even in younger and middle-aged adults whose lifestyles and dietary habits lead to major cardiac problems. Cardiac disease requires a multisystem approach to management (medical, nursing, nutritional, and pharmacologic). The patient becomes the recipient and co-manager of his or her care, who can, by compliance, minimize the symptoms and tremendously improve the quality of life. To do this, it is necessary to accept limitations and modify a lifestyle. Nurses need to be familiar with the symptoms and treatment modalities to help prevent, treat, and manage patient care problems.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The most common heart disease in the United States is:
 - a. angina pectoris.
 - b. coronary atherosclerosis.
 - c. myocardial infarction.
 - d. valvular heart disease.
2. Lumen narrowing with atherosclerosis is caused by:
 - a. atheroma formation on the intima.
 - b. scarred endothelium.
 - c. thrombus formation.
 - d. all of the above.
3. Hypertension is repeated blood pressure measurements exceeding:
 - a. 110/80.
 - b. 120/80.
 - c. 130/90.
 - d. 140/90.
4. The pain of angina pectoris is primarily produced by:
 - a. coronary vasoconstriction.
 - b. movement of thromboemboli.
 - c. myocardial ischemia.
 - d. the presence of atheromas.
5. A common side effect of nitroglycerin is:
 - a. musculoskeletal weakness.
 - b. hypertension.
 - c. bradycardia.
 - d. headache.

6. Patient education includes telling someone who takes nitroglycerin sublingually that he or she should go quickly to the nearest emergency room if the person has taken _____ tablet(s) at 5-minute intervals, without relief.
- more than 1
 - 2 or more
 - 3 or more
 - greater than 4
7. The scientific rationale supporting the administration of β -adrenergic blockers is the drug's ability to:
- block sympathetic impulses to the heart.
 - elevate blood pressure.
 - increase myocardial contractility.
 - induce bradycardia.
8. An antidote for propranolol hydrochloride (a β -adrenergic blocker) for bradycardia is:
- digoxin.
 - atropine.
 - protamine sulfate.
 - sodium nitroprusside.
9. The need for surgical intervention of coronary artery disease is determined by the:
- amount of stenosis in the coronary arteries.
 - myocardial area served by the stenotic artery.
 - occurrence of previous infarction related to the affected artery.
 - all of the above.
10. A candidate for percutaneous transluminal coronary angioplasty (PTCA) is a patient with coronary artery disease who has:
- compromised left ventricular function.
 - had angina longer than 3 years.
 - at least 70% occlusion of a major coronary artery.
 - questionable left ventricular function.
11. A goal of dilation in PTCA is an increase in the artery's lumen size by at least:
- 20%.
 - 35%.
 - 60%.
 - 85%.
12. The nurse expects a postoperative PTCA patient to be discharged:
- the same day as surgery.
 - within 24 hours of the procedure.
 - 3 days later.
 - after 1 week.
13. Possible postoperative PTCA complications that a nurse needs to be alert to assess for clinical symptoms include:
- abrupt closure of the artery.
 - arterial dissection.
 - coronary artery spasm.
 - all of the above.
14. One of the most important and immediate postoperative PTCA complications for which the nurse needs to assess is:
- bleeding.
 - depression.
 - hypertension.
 - hypoventilation.
15. A candidate for coronary artery bypass grafting must meet the following criteria:
- blockage that cannot be treated by PTCA.
 - >60% blockage in the left coronary artery.
 - unstable angina.
 - all of the above.
16. According to the critical care pathway outlined for CABP, the nurse knows that postoperative teaching must occur before discharge around the _____ day.
- second
 - fourth
 - seventh
 - tenth
17. The most common nursing diagnosis for patients awaiting cardiac surgery is:
- activity intolerance.
 - anxiety.
 - decreased cardiac output.
 - knowledge deficit.
18. The signs of extremity paresthesia, dysrhythmias (peaked T waves), and mental confusion are post-cardiac signs of electrolyte imbalance related to:
- calcium.
 - magnesium.
 - potassium.
 - sodium.

19. A post-cardiac surgical complication associated with an alteration in preload is:
 - a. cardiac tamponade.
 - b. elevated central venous pressure.
 - c. hypertension.
 - d. hypothermia.
20. The most common dysrhythmia seen post-cardiac surgery include:
 - a. bradycardia.
 - b. ectopic beats.
 - c. tachycardia.
 - d. all of the above.
21. The most common site of myocardial infarction is the:
 - a. left atrium.
 - b. left ventricle.
 - c. right atrium.
 - d. right ventricle.
22. Choose an *incorrect* statement about myocardial infarction pain. It is:
 - a. relieved by rest and inactivity.
 - b. substernal in location.
 - c. sudden in onset and prolonged in duration.
 - d. viselike and radiates to the shoulders and arms.
23. Myocardial cell damage can be reflected by high levels of cardiac enzymes. The most sensitive and reliable indicator of all cardiac enzymes is:
 - a. alkaline phosphatase.
 - b. creatine kinase.
 - c. lactic dehydrogenase.
 - d. serum aspartate transaminase (glutamic oxaloacetic transaminase).
24. The cardiac enzyme that occurs, peaks, and takes the longest to return to normal, thus not being a reliable indicator of acute myocardial damage, is:
 - a. creatine kinase.
 - b. alkaline phosphatase.
 - c. creatine kinase isoenzyme.
 - d. lactic dehydrogenase.
25. The most common vasodilator used to treat myocardial pain is:
 - a. amyl nitrite.
 - b. Inderal.
 - c. nitroglycerine.
 - d. Pavabid HCL.
26. Tissue plasminogen activator is a thrombolytic agent that:
 - a. must be administered by the intracoronary route.
 - b. entails the serious risk of allergic reactions.
 - c. has a serious potential to cause systemic bleeding.
 - d. is a naturally occurring enzyme.
27. An intravenous analgesic frequently administered to relieve chest pain associated with myocardial infarction is:
 - a. meperidine hydrochloride.
 - b. hydromorphone hydrochloride.
 - c. morphine sulfate.
 - d. codeine sulfate.

Read each statement carefully. Write your response in the space provided.

1. The leading cause of death in the United States for men and women of all ethnic and racial groups is _____.
2. The most frequently occurring sign of myocardial ischemia is _____.
3. More than 50% of people with coronary artery disease have the risk factor of _____.
4. List four modifiable risk factors that are considered major causes of coronary artery disease (CAD).
 1. _____
 2. _____
 3. _____
 4. _____
5. Management of coronary heart disease requires a therapeutic range of cholesterol and lipoproteins. An acceptable blood level of cholesterol is _____ with a low density lipoprotein (LDL) to high density lipoprotein (HDL) ratio of _____. The desired level of LDL should be _____ mg/dL; the HDL level should be greater than _____ mg/dL.

6. The American Heart Association recommends that an average American diet contain about _____% fat.
7. *Intractable angina* is chest pain described as _____.
8. Patients with severe cardiac ischemia who are not candidates for CABG may benefit from a new and experimental procedure called _____ where channels are created in the heart muscle.
9. Symptoms commonly seen with postcardiotomy psychosis are: _____, _____, _____, and _____.
10. Postpericardiotomy syndrome can be diagnosed by assessment of the following five symptoms:
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____

II. Critical Analysis Questions

Identifying Patterns

Review Figure 25-1 below and answer the following questions.

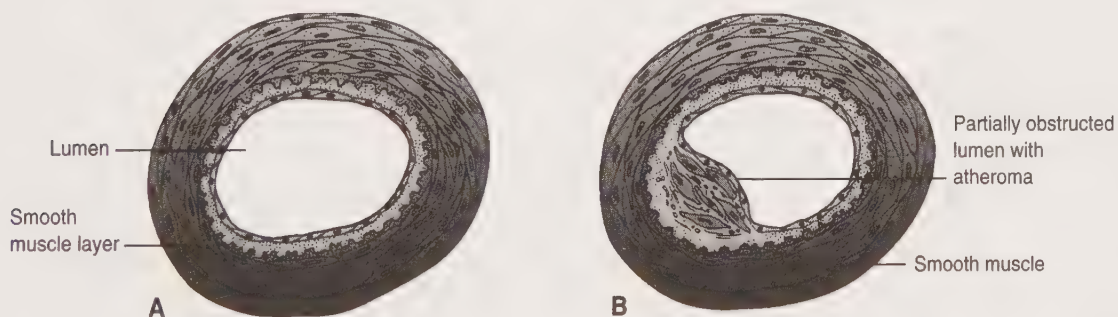


FIGURE 25-1 Cross section of a normal and an atherosclerotic artery. (A) Cross-section of normal artery in which the lumen is fully patent, or open. (B) Cross-section of artery with diminished patency resulting from atheroma.

1. Describe the underlying pathophysiology that causes a normal artery (A) to narrow because of atheroma deposits.

2. An *atheroma* is described as:

3. A possible complication of rupture or hemorrhage of the lipid core into the plaque is _____

4. A thrombus is a dangerous complication of atherosclerosis because it can lead to: _____ and _____

Supporting Arguments

Offer a supporting rationale for your response.

1. Explain, supported with a scientific base to your rationale, why cigarette smoking contributes to the severity of coronary heart disease for each of these three factors:

Factor

Scientific Rationale

a. increased CO levels

a. _____

b. increased catecholamines

b. _____

c. increased platelet adhesion

c. _____

2. Argue in support of using calcium channel blockers for treatment of angina. _____

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Angina Pectoris

Ermelina, a 64-year-old retired secretary, is admitted to the medical-surgical area for management of chest pain caused by angina pectoris.

1. The nurse knows that the basic cause of angina pectoris is believed to be:
 - a. dysrhythmias triggered by stress.
 - b. insufficient coronary blood flow.
 - c. minute emboli discharged through the narrowed lumen of the coronary vessels.
 - d. spasms of the vessel walls owing to excessive secretion of epinephrine (adrenaline).
2. The medical record lists a probable diagnosis of chronic, stable angina. The nurse knows that Ermelina's pain:
 - a. has increased progressively in frequency and duration.
 - b. is incapacitating.
 - c. is relieved by rest and is predictable.
 - d. usually occurs at night and may be relieved by sitting upright.
3. Ermelina has nitroglycerin at her bedside to take prn. The nurse knows that nitroglycerin acts in all of the following ways *except* by:
 - a. causing venous pooling throughout the body.
 - b. constricting arterioles to lessen peripheral blood flow.
 - c. dilating the coronary arteries to increase oxygen supply.
 - d. lowering systemic blood pressure.
4. Ermelina took a nitroglycerin tablet at 10:00 AM, after her morning care. It did not relieve her pain, so she repeated the dose. Ten minutes later and still in pain, she calls the nurse, who:
 - a. administers a prn dose of diazepam (Valium), tries to calm her, and recommends that she rest in a chair with her legs dependent to encourage venous pooling.
 - b. assists her to the supine position, gives her oxygen at 6 L/min, and advises her to rest in bed.
 - c. helps her to a comfortable position, gives her oxygen at 2 L/min, and calls her physician.
 - d. suggests that she double her previous dose in 5 minutes and try to sleep to decrease her body's need for oxygen.

CASE STUDY: Decreased Myocardial Tissue Perfusion

Mr. Lillis, a 46-year-old bricklayer, is brought to the emergency department by ambulance with a suspected diagnosis of myocardial infarction. He appears ashen, is diaphoretic and tachycardiac, and has severe chest pain. The nursing diagnosis is decreased cardiac output, related to decreased myocardial tissue perfusion.

1. The nurse knows that the most critical time period for his diagnosis is:
 - a. the first hour after symptoms begin.
 - b. within 24 hours of the onset of symptoms.
 - c. within the first 48 hours after the attack.
 - d. between the third and fifth day after the attack.
2. The nurse needs to look for symptoms associated with one of the major causes of sudden death during the first 48 hours, which is:
 - a. cardiogenic shock.
 - b. pulmonary edema.
 - c. pulmonary embolism.
 - d. ventricular rupture.
3. Mr. Lillis is transferred to a telemetry unit after 6 days in the cardiac care unit, where he was treated for an anterior wall myocardial infarction. The nurse expects Mr. Lillis to be able to do all of the following *except*:
 - a. isometric exercises.
 - b. participate in self-care activities.
 - c. sit in a chair several times a day.
 - d. walk within his room.
4. The nurse is aware that ischemic tissue remains sensitive to oxygen demands because scar formation is not seen until the:
 - a. second week.
 - b. third week.
 - c. sixth week.
 - d. eighth week.
5. Mr. Lillis needs to be advised that myocardial healing will not be complete for about:
 - a. 2 months.
 - b. 4 months.
 - c. 6 months.
 - d. 8 months.
6. For discharge planning, Mr. Lillis is advised to:
 - a. avoid large meals.
 - b. exercise daily.
 - c. restrict caffeine-containing beverages.
 - d. do all of the above.

26

Management of Patients With Structural, Infectious, or Inflammatory Cardiac Disorders

Chapter Overview

Preoperatively and postoperatively, the cardiovascular surgical patient needs intense cardiopulmonary management, since the organs vital to survival have been compromised. Cardiopulmonary assessment needs to be all-inclusive, and any indicator of a potential complication needs to be evaluated. Frequently the management of such patients requires the combined efforts of an interdisciplinary team consisting of a physician, a nurse, a respiratory therapist, an occupational therapist, a psychologist, a social worker, and a nutritionist.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Incomplete closure of the tricuspid valve results in a backward flow of blood from the:
 - aorta to the left ventricle.
 - left atrium to the left ventricle.
 - right atrium to the right ventricle.
 - right ventricle to the right atrium.
- The pathophysiology of mitral stenosis is consistent with:
 - aortic stenosis.
 - left ventricular failure.
 - right atrial hypertrophy.
 - all of the above.
- Severe aortic stenotic disease is consistent with all of the following *except*:
 - increased cardiac output.
 - left ventricular hypertrophy.
 - pulmonary edema.
 - right-sided heart failure.
- The presence of a water-hammer pulse (quick, sharp strokes that suddenly collapse) is diagnostic for:
 - aortic insufficiency.
 - mitral insufficiency.
 - tricuspid insufficiency.
 - tricuspid stenosis.
- The most common valvuloplasty procedure is the:
 - balloon valvuloplasty.
 - annuloplasty.
 - chordoplasty.
 - commissurotomy.

6. Xenographs, used for valve replacement, have a viability of about:
 - a. 2 years.
 - b. 4 years.
 - c. 8 years.
 - d. 12 years.
7. The most commonly occurring cardiomyopathy is:
 - a. congestive or dilated.
 - b. hypertrophic.
 - c. idiopathic.
 - d. restrictive.
8. Probably the most helpful diagnostic test to identify cardiomyopathy is:
 - a. serial enzyme studies.
 - b. cardiac catheterization.
 - c. echocardiogram.
 - d. phonocardiogram.
9. Rheumatic endocarditis is an inflammatory reaction to:
 - a. group A streptococcus.
 - b. *Pseudomonas aeruginosa*.
 - c. *Serratia marcescens*.
 - d. *Staphylococcus aureus*.
10. The causative microorganism for rheumatic endocarditis can only accurately be identified by:
 - a. a throat culture.
 - b. an echocardiogram.
 - c. roentgenography.
 - d. serum analysis.
11. Clinical manifestations of infective endocarditis may include:
 - a. embolization.
 - b. focal neurologic lesions.
 - c. heart murmurs.
 - d. all of the above.
12. The characteristic sign of pericarditis is:
 - a. a friction rub.
 - b. dyspnea.
 - c. fever.
 - d. hypoxia.
13. A serious consequence of pericarditis is:
 - a. cardiac tamponade.
 - b. decreased venous pressure.
 - c. hypertension.
 - d. left ventricular hypertrophy.

Read each statement carefully. Write your response in the space provided.

1. Describe mitral valve prolapse syndrome.

2. Explain how left ventricular hypertrophy develops from mitral insufficiency.

3. Briefly describe the pathophysiology of endocarditis, beginning with the formation of a vegetation.

4. Briefly describe the pathophysiology of myocarditis.

5. Describe the anatomic landmark for auscultation of a pericardial friction rub.

6. The five most common indications for heart transplantation are:

1. _____
2. _____
3. _____
4. _____
5. _____

7. Most heart transplant candidates have a life expectancy of _____ without a transplant and a 5-year survival rate of approximately _____% after the transplant.

Match the pathophysiology listed in Column II with the valvular disorder listed in Column I.

Column I

1. _____ mitral valve prolapse
2. _____ mitral stenosis
3. _____ mitral regurgitation
4. _____ aortic valve stenosis
5. _____ aortic regurgitation

Column II

- a. leaflet malformation prevents complete closure
- b. can be caused by rheumatic endocarditis
- c. characterized by “water-hammer” pulse
- d. blood seeps backward into left atrium
- e. thickening and contracture of mitral valve cusps

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks below or circle the correct answer.

CASE STUDY: Infective Endocarditis

Mr. Fontana, a 60-year-old executive, is admitted to the hospital with a diagnosis of infective endocarditis. Pertinent history includes a previous diagnosis of mitral valve prolapse. A physical examination at his physician's office before admission reveals complaints of anorexia, joint pain, intermittent fever, and a 10-lb weight loss in the past 2 months.

1. The nurse knows, prior to assessment, that Mr. Fontana's vague clinical symptoms are characteristic of an insidious disease onset that develops from one of three conditions: (a) _____, (b) _____, or (c) _____.
2. While examining Mr. Fontana's eyes single during the admission assessment, the nurse notes conjunctival hemorrhages with pale centers caused by emboli in the nerve fiber of the eye. These are known as:
 - a. Roth's spots.
 - b. Osler's nodes.
 - c. Janeway's lesions.
 - d. Heberden's nodes.
3. The nurse also assesses for central nervous system manifestations of the infectious disease. She looks for symptoms such as: (a) _____, (b) _____, (c) _____, and (d) _____.
4. The primary objective of medical management is:

5. Serial blood cultures identified *Streptococcus viridans* as the causative organism, and parenteral antibiotic treatment was initiated. The nurse expects that Mr. Fontana will probably remain on the antibiotic intravenous infusion for:
- a. 7 days.
 - b. 2 weeks.
 - c. 4 to 6 weeks.
 - d. 8 to 12 weeks.
6. Even with successful treatment, organ damage can occur. Cardiac complications may include:
- (a) _____, (b) _____, (c) _____, and
(d) _____.
7. Mr. Fontana needs to be advised that prophylactic antibiotic therapy is also recommended for:
- a. tooth extraction.
 - b. bronchoscopy.
 - c. cystoscopy.
 - d. all of the above.

27

Management of Patients With Complications from Heart Disease

Chapter Overview

Pulmonary edema, usually caused by a cardiac disorder, is the accumulation of fluid in the lungs that can result in death. Its onset can be insidious, its management challenging, and its consequences disastrous. Prevention begins with decreasing cardiac disease, especially coronary atherosclerosis, a progressive disorder intensified by lack of exercise and a high-fat diet. As with many cardiopulmonary disorders, prevention is the key to reducing the frequency and severity of risk factors.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The primary underlying disorder of pulmonary edema is:
 - a. decreased left ventricular pumping.
 - b. decreased right ventricular elasticity.
 - c. increased left atrial contractility.
 - d. increased right atrial resistance.
2. Pulmonary edema is characterized by:
 - a. elevated left ventricular end-diastolic pressure.
 - b. a rise in pulmonary venous pressure.
 - c. increased hydrostatic pressure.
 - d. all of the above alterations.
3. With pulmonary edema, there is usually an alteration in:
 - a. afterload.
 - b. contractility.
 - c. preload.
 - d. all of the above.
4. The multilumen pulmonary artery catheter allows the nurse to measure hemodynamic pressures at different points in the heart. When the tip enters the small branches of the pulmonary artery, the nurse can assess all of the following measurements *except*:
 - a. central venous pressure (CVP).
 - b. pulmonary artery capillary pressure (PACP).
 - c. pulmonary artery obstructive pressure (PAOP).
 - d. pulmonary artery wedge pressure (PAWP).
5. Hemodynamic monitoring by means of a multilumen pulmonary artery catheter can provide detailed information about:
 - a. preload.
 - b. afterload.
 - c. cardiac output.
 - d. all of the above.

6. Nursing measures in hemodynamic monitoring include assessing for localized ischemia owing to inadequate arterial flow. The nurse should:
 - a. assess the involved extremity for color and temperature.
 - b. check for capillary filling.
 - c. evaluate pulse rate.
 - d. do all of the above.
7. Morphine is given in acute pulmonary edema to redistribute the pulmonary circulation to the periphery by decreasing:
 - a. peripheral resistance.
 - b. pulmonary capillary pressure.
 - c. transudation of fluid.
 - d. all of the above.
8. A recommended position for a patient in acute pulmonary edema is:
 - a. prone, to encourage maximum rest, thus decreasing respiratory and cardiac rates.
 - b. semi-Fowler's, to facilitate breathing and promote pooling of blood in the sacral area.
 - c. Trendelenburg, to drain the upper airways of congestion.
 - d. upright with the legs down, to decrease venous return.
9. The most frequent cause for hospitalization for people over age 65 is:
 - a. angina pectoris.
 - b. congestive heart failure.
 - c. hypertension.
 - d. pulmonary edema.
10. The *primary* cause of heart failure is:
 - a. arterial hypertension.
 - b. coronary atherosclerosis.
 - c. myocardial dysfunction.
 - d. valvular dysfunction.
11. The *dominant* function in cardiac failure is:
 - a. ascites.
 - b. hepatomegaly.
 - c. inadequate tissue perfusion.
 - d. nocturia.
12. The treatment for cardiac failure is directed at:
 - a. decreasing oxygen needs of the heart.
 - b. increasing the cardiac output by strengthening muscle contraction or decreasing peripheral resistance.
 - c. reducing the amount of circulating blood volume.
 - d. all of the above.
13. An example of a potassium-sparing diuretic that might be prescribed for a person with congestive heart failure is:
 - a. Aldactone.
 - b. Diuril.
 - c. Esidrix.
 - d. Lasix.
14. Digitalis toxicity can occur when serum digitalis levels are in the range of:
 - a. 0.25 to 0.50 mg/dl.
 - b. 0.50 to 1.0 mg/dl.
 - c. 1.0 to 2.0 mg/dl.
 - d. 2.5 to 3.5 mg/dl.
15. Cardiogenic shock is pump failure that primarily occurs as the result of:
 - a. coronary artery stenosis.
 - b. left ventricular damage.
 - c. myocardial ischemia.
 - d. right atrial flutter.
16. Classic signs of cardiogenic shock include all of the following except:
 - a. bradycardia.
 - b. cerebral hypoxia.
 - c. hypotension.
 - d. oliguria.
17. A clinical manifestation of pericardial infusion is:
 - a. widening pulse pressure.
 - b. a decrease in venous pressure.
 - c. shortness of breath.
 - d. an increase in blood pressure.
18. The most reliable sign of cardiac arrest is:
 - a. absence of carotid pulsation.
 - b. cessation of respirations.
 - c. dilation of the pupils.
 - d. inaudible heart sounds.

19. Brain damage occurs with cessation of circulation after an approximate interval of:
- 2 minutes.
 - 4 minutes.
 - 6 minutes.
 - 8 minutes.
20. The drug of choice during cardiopulmonary resuscitation to suppress ventricular dysrhythmias is:
- atropine.
 - epinephrine.
 - lidocaine.
 - morphine.

Match the type of congestive failure listed in Column II with its associated pathophysiology in Column I.

Column I

- _____ fatigability
- _____ dependent edema
- _____ pulmonary congestion predominates
- _____ distended neck veins
- _____ ascites
- _____ dyspnea from fluid in alveoli
- _____ orthopnea
- _____ hepatomegaly
- _____ cough which may be blood-tinged
- _____ nocturia

Column II

- left-sided cardiac failure
- right-sided cardiac failure

Read each statement carefully. Write your response in the space provided.

1. Explain the difference between the terms *preload* and *afterload*.

Preload: _____

Afterload: _____

2. Explain the meaning of $CO = HR \times SV$. _____

3. List at least ten symptoms seen in patients with pulmonary edema.

1. _____ 6. _____

2. _____ 7. _____

3. _____ 8. _____

4. _____ 9. _____

5. _____ 10. _____

4. The three major goals for the clinical management of pulmonary edema are:

_____, _____,

and _____.

5. Left-sided cardiac failure results in _____, whereas right-sided cardiac failure results in _____.

6. Name three primary objectives in treating patients with congestive heart failure:

_____, _____,

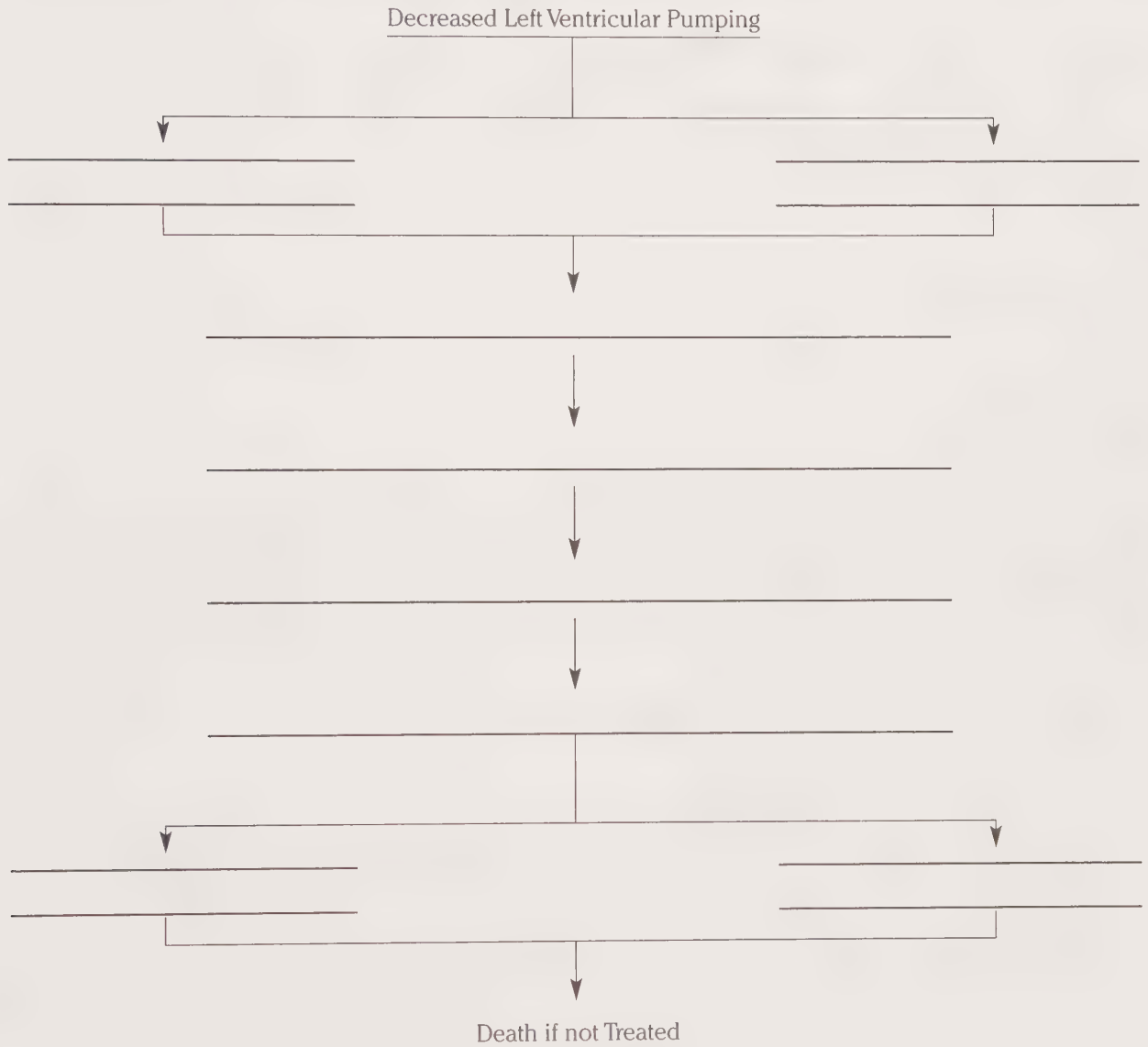
and _____.

II. Critical Analysis Questions

Identifying Patterns

Complete the following outline that depicts the pathophysiology of pulmonary edema, beginning with decreased left ventricular pumping ability and ending with hypoxemia and death if not treated.

Pathophysiology of Pulmonary Edema



28

Assessment and Management of Patients With Vascular Disorders and Problems of Peripheral Circulation

Chapter Overview

Circulatory disorders are frequently a person's first indication that cardiovascular disease is present. Pain and disability are usually associated with alterations in circulation. A patient's lifestyle will probably change, and he or she will have to adapt to the reality of a life-threatening condition or a chronic, progressively deteriorating disorder. Nursing interventions will have to meet the challenge of treating active symptoms, along with helping the patient cope with self-image changes. Many patients will have to adapt to nutritional modifications or prolonged pharmacologic therapy.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The most important factor in regulating the caliber of blood vessels, which determines resistance to flow, is:
 - a. hormonal secretion.
 - b. independent arterial wall activity.
 - c. the influence of circulating chemicals.
 - d. the sympathetic nervous system.
2. Clinical manifestations of acute venous insufficiency include all of the following *except*:
 - a. cool and cyanotic skin.
 - b. initial absence of edema.
 - c. sharp pain that may be relieved by the elevation of the extremity.
 - d. full superficial veins.
3. With peripheral arterial insufficiency, leg pain during rest can be reduced by:
 - a. elevating the limb above heart level.
 - b. lowering the limb so that it is dependent.
 - c. massaging the limb after application of cold compresses.
 - d. placing the limb in a plane horizontal to the body.
4. Saturated fats are strongly implicated in the causation of atherosclerosis. Saturated fats include all of the following *except*:
 - a. corn oil.
 - b. eggs and milk.
 - c. meat and butter.
 - d. solid vegetable oil.

5. The American diet is known to be high in fat. The amount of calories typically supplied by fat in most diets is:
 - a. 20% of the total caloric intake.
 - b. 40% of the total caloric intake.
 - c. 60% of the total caloric intake.
 - d. 80% of the total caloric intake.
6. Buerger's disease is characterized by all of the following *except*:
 - a. arterial thrombus formation and occlusion.
 - b. lipid deposits in the arteries.
 - c. redness or cyanosis in the limb when it is dependent.
 - d. venous inflammation and occlusion.
7. The most outstanding symptom of Buerger's disease is:
 - a. a burning sensation.
 - b. cramping in the feet.
 - c. pain.
 - d. paresthesia.
8. The most common cause of all thoracic aortic aneurysms is:
 - a. a congenital defect in the vessel wall.
 - b. atherosclerosis.
 - c. infection.
 - d. trauma.
9. Diagnosis of a thoracic aortic aneurysm is done primarily by:
 - a. computed tomography.
 - b. sonography.
 - c. x-ray.
 - d. all of the above.
10. A nurse who suspects the presence of an abdominal aortic aneurysm should look for the presence of:
 - a. a pulsatile abdominal mass.
 - b. low back pain.
 - c. lower abdominal pain.
 - d. all of the above.
11. To save a limb affected by occlusion of a major artery, surgery must be initiated before necrosis develops, which is usually:
 - a. within the first 4 hours.
 - b. between 6 and 10 hours.
 - c. between 12 and 24 hours.
 - d. within 1 to 2 days.
12. Raynaud's disease is a form of:
 - a. arterial vessel occlusion caused by multiple emboli that develop in the heart and are transported through the systemic circulation.
 - b. arteriolar vasoconstriction, usually on the fingertips, that results in coldness, pain, and pallor.
 - c. peripheral venospasm in the lower extremities owing to valve damage resulting from prolonged venous stasis.
 - d. phlebothrombosis related to prolonged vasoconstriction resulting from overexposure to the cold.
13. A significant cause of venous thrombosis is:
 - a. altered blood coagulation.
 - b. stasis of blood.
 - c. vessel wall injury.
 - d. all of the above.
14. Clinical manifestations of deep vein obstruction include:
 - a. edema and pain.
 - b. pigmentation changes.
 - c. ulcerations.
 - d. all of the above.
15. When administering anticoagulant therapy, the nurse needs to monitor the clotting time to make certain that it is within the therapeutic range of:
 - a. one to two times the normal control.
 - b. two to three times the normal control.
 - c. 3.5 times the normal control.
 - d. 4.5 times the normal control.
16. When caring for a patient who has started anticoagulant therapy with warfarin (Coumadin), the nurse knows not to expect therapeutic benefits for:
 - a. at least 12 hours.
 - b. the first 24 hours.
 - c. 2 to 3 days.
 - d. 1 week.
17. A nurse should teach a patient with chronic venous insufficiency to do all of the following *except*:
 - a. avoid constricting garments.
 - b. elevate the legs above the heart level for 30 minutes every 2 hours.
 - c. sit as much as possible to rest the valves in the legs.
 - d. sleep with the foot of the bed elevated about 6 inches.

18. Nursing measures to promote a clean leg ulcer include:
- applying wet-to-dry saline solution dressings, which would remove necrotic debris when changed.
 - flushing out necrotic material with hydrogen peroxide.
 - using an ointment that would treat the ulcer by enzymatic débridement.
 - all of the above.
19. A varicose vein is caused by:
- phlebothrombosis.
 - an incompetent venous valve.
 - venospasm.
 - venous occlusion.
20. Postoperative nursing management for vein ligation and stripping include all of the following *except*:
- dangling the legs over the side of the bed for 10 minutes every 4 hours for the first 24 hours.
 - elevating the foot of the bed to promote venous blood return.
 - maintaining elastic compression of the leg continuously for about 1 week.
 - starting the patient ambulating 24 to 48 hours after surgery.

Match the type of vessel insufficiency listed in Column II with its associated symptoms listed in Column I.

Column I

- _____ intermittent claudication
- _____ paresthesia
- _____ dependent rubor
- _____ cold, pale extremity
- _____ ulcers of lower legs and ankles
- _____ muscle fatigue and cramping
- _____ diminished or absent pulses
- _____ reddish blue discoloration with dependency

Column II

- arterial insufficiency
- venous insufficiency

II. Critical Analysis Questions

Analyzing Comparisons

Analyze the two formulas below, and explain the hemodynamics represented by each.

- Flow = P/R (blood flow):

- $R = 8 \text{ nL} / \pi r^4$ (resistance):

Read each analogy. Fill in the space provided with the best response.

- Norepinephrine : vasoconstriction :: _____ : vasodilation.
- Left-sided heart failure :: blood accumulation in the lungs :: right-sided heart failure : _____
- Arteriosclerosis: "hardening of the arteries" :: atherosclerosis : _____

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

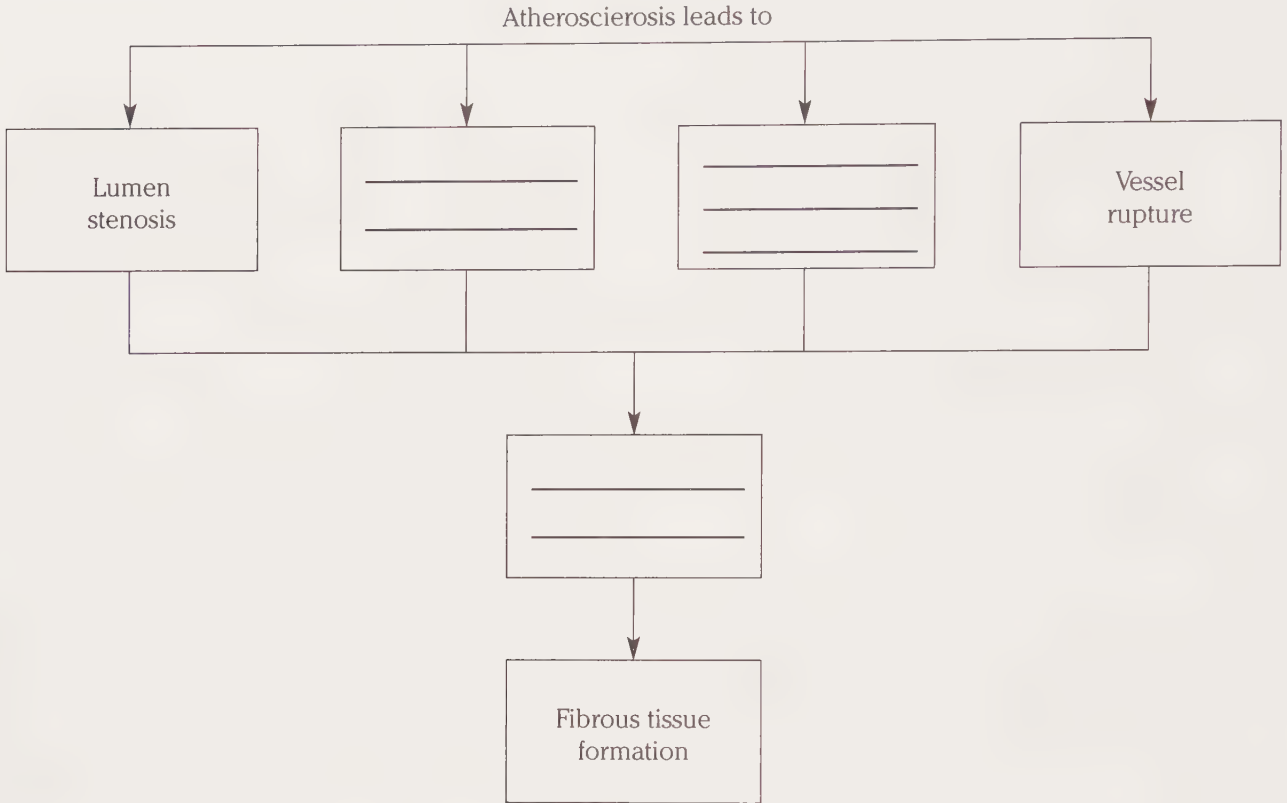
CASE STUDY: Peripheral Arterial Occlusive Disease

Fred, a 43-year-old construction worker, has a history of hypertension. He smokes two packs of cigarettes a day, is nervous about the possibility of being unemployed, and has difficulty coping with stress. His current concern is calf pain during minimal exercise that decreases with rest.

1. The nurse assesses Fred's symptoms as being associated with peripheral arterial occlusive disease. The nursing diagnosis is probably:
 - a. alteration in tissue perfusion related to compromised circulation.
 - b. dysfunctional use of extremities related to muscle spasms.
 - c. impaired mobility related to stress associated with pain.
 - d. impairment in muscle use associated with pain on exertion.
2. The nurse knows that the specific symptom of peripheral arterial occlusion disease is:
 - a. intermittent claudication.
 - b. phlebothrombosis.
 - c. postphlebitis syndrome.
 - d. thrombophlebitis.
3. Additional symptoms to support the nurse's diagnosis include all of the following *except*:
 - a. blanched skin appearance when the limb is elevated.
 - b. diminished distal pulsations.
 - c. reddish blue discoloration of the limb when it is dependent.
 - d. warm and rosy coloration of the extremity after exercise.
4. The nurse knows that in health teaching she should suggest methods to increase arterial blood supply, which include:
 - a. a planned program involving systematic lowering of the extremity below heart level.
 - b. Buerger-Allen exercises.
 - c. graded extremity exercises.
 - d. all of the above.

Complete the outline below, which depicts the pathophysiology of atherosclerosis, beginning with the direct results of atherosclerosis in the arteries and ending with fibrotic tissue formation.

Pathophysiology of Atherosclerosis



29

Assessment and Management of Patients With Hypertension

Chapter Overview

Hypertension, a common condition identified as a blood pressure reading greater than 140/90 mm Hg, affects about 25% of the adult population in the United States. Morbidity and mortality are directly correlated to elevated levels. Treatment is dependent on compliance with a medical regimen of management that includes pharmacological therapy and significant lifestyle changes.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Hypertension is defined as persistent blood pressure levels in which the systolic pressure is above ____ and the diastolic is above ____.
 - 110/60
 - 120/70
 - 130/80
 - 140/90
- The percentage of adults in the United States who have hypertension is approximately:
 - 10%.
 - 15%.
 - 25%.
 - 40%.
- The incidence of hypertension is highest in the ____ section of the United States.
 - northeastern
 - southeastern
 - northwestern
 - southwestern
- The desired systolic reading for hypertensive treatment for a person with diabetes mellitus is:
 - 120 mm Hg.
 - 130 mm Hg.
 - 140 mm Hg.
 - 150 mm Hg.
- Pharmacologic therapy for patients with uncomplicated hypertension would include the administration of:
 - ACE inhibitors.
 - alpha-blockers.
 - beta-blockers.
 - calcium antagonists.

6. A characteristic symptom of damage to the vital organs as a result of hypertension is:
 - a. angina.
 - b. dyspnea.
 - c. epistaxis.
 - d. all of the above.
7. An expected nursing diagnosis for a patient with hypertension is:
 - a. heart failure.
 - b. knowledge deficit.
 - c. myocardial infarction.
 - d. renal insufficiency.
8. The percentage of patients with hypertension who discontinue their drug therapy within 1 year of its initiation is estimated to be:
 - a. 15%.
 - b. 30%.
 - c. 50%.
 - d. 75%.
9. One of the most significant concerns for medical and nursing management of hypertension is:
 - a. complications from medications.
 - b. insufficient information.
 - c. noncompliance with recommended therapy.
 - d. uncontrolled dietary management.
10. Blood pressure control is initially achieved by approximately ____ of patients when they actively participate in their care.
 - a. 10%
 - b. 25%
 - c. 45%
 - d. 70%

Read each statement carefully. Write your response in the space provided.

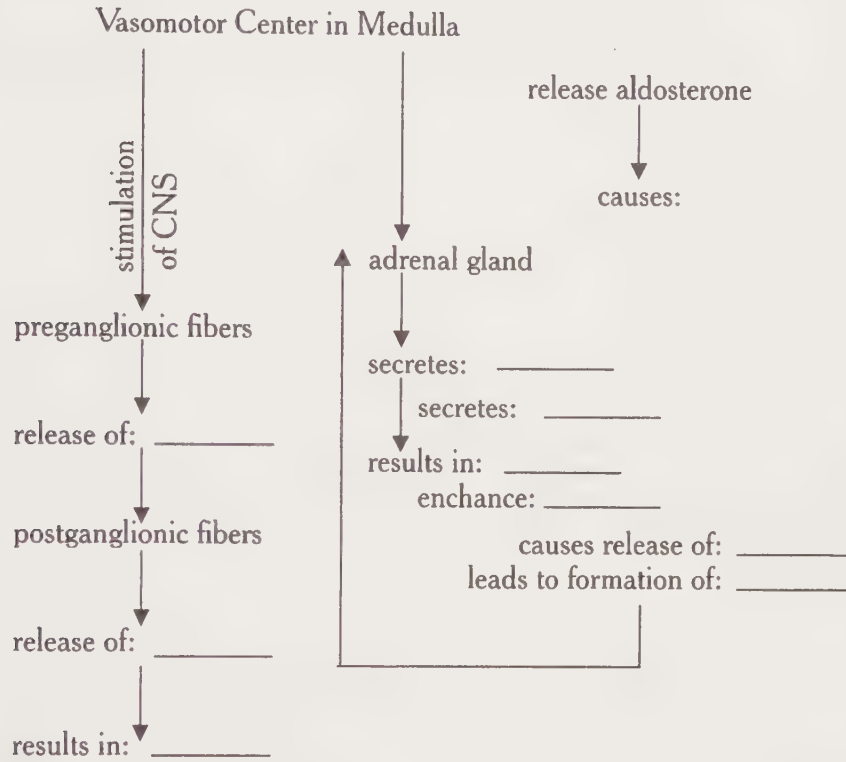
1. Blood pressure is the product of _____ multiplied by _____.
2. Cardiac output is the product of _____ multiplied by _____.
3. Approximately _____% of the population has *primary hypertension*, a class of hypertension with an unidentified cause.
4. Prolonged hypertension can cause significant damage to blood vessels in four "target organs":
 1. _____
 2. _____
 3. _____
 4. _____
5. List six consequences of prolonged, uncontrolled hypertension on the body and its systems.
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____
6. Hypertension increases with age because of the following structural and functional changes in the heart and blood vessels: _____, _____, _____, and _____.

II. Critical Thinking Activities

Identifying Patterns

Complete the following schematic: "Pathophysiology of Hypertension Secondary to Renal Dysfunction"

Pathophysiology of Essential Hypertension



Generating Solutions: Clinical Problem Solving

CASE STUDY: Secondary Hypertension

Georgia, 30 years old, is diagnosed as having secondary hypertension when serial blood pressure recordings showed her average reading to be 170/100 mm Hg. Her hypertension was the result of renal dysfunction.

- The kidneys help maintain the hypertensive state in essential hypertension by:
 - increasing their elimination of sodium in response to aldosterone secretion.
 - releasing renin in response to decreased renal perfusion.
 - secreting acetylcholine, which stimulates the sympathetic nervous system to constrict major vessels.
 - doing all of the above.
- Renal pathology associated with essential hypertension can be identified by:
 - a urine output greater than 2,000 ml/24 hours.
 - a urine specific gravity of 1.005.
 - hyponatremia and decreased urine osmolality.
 - increased blood urea nitrogen and creatinine levels.

3. Georgia is prescribed spironolactone (Aldactone), 50 mg once every day. The nurse knows that spironolactone:
- a. blocks the reabsorption of sodium, thereby increasing urinary output.
 - b. inhibits renal vasoconstriction, which prevents the release of renin.
 - c. interferes with fluid retention by inhibiting aldosterone.
 - d. prevents the secretion of epinephrine from the adrenal medulla.
4. Health education for Georgia includes advising her to:
- a. adhere to her dietary regimen.
 - b. become involved in a regular program of exercise.
 - c. take her medication as prescribed.
 - d. do all of the above.

30

Assessment and Management of Patients With Hematologic Disorders

Chapter Overview

Hematologic disorders can be temporary or chronic, and acute, benign, or malignant. Because blood is vital to every cell, any abnormality results in a localized or systemic response. Symptoms may range from nondescriptive fatigue in hemolytic anemia to semiconsciousness in Hodgkin's disease. Accurate assessment and diagnosis are necessary to develop individual nursing care plans, because many manifestations of hematologic disorders are insidious.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A nurse who cares for a patient who has experienced bone marrow aspiration or biopsy should be aware of the most serious hazard of:
 - a. hemorrhage.
 - b. infection.
 - c. shock.
 - d. splintering of bone fragments.
2. A person can usually tolerate a gradual reduction in hemoglobin until the level reaches:
 - a. 5.0 to 5.5 g/dl.
 - b. 4.0 to 4.5 g/dl.
 - c. 3.0 to 3.5 g/dl.
 - d. 2.0 to 2.5 g/dl.
3. A nurse should know that a diagnosis of hemolytic anemia is associated with all of the following *except* a(n):
 - a. abnormality in the circulation of plasma.
 - b. decrease in the reticulocyte count.
 - c. defect in the erythrocyte.
 - d. elevated indirect bilirubin.
4. The cause of aplastic anemia may:
 - a. be related to drugs, chemicals, or radiation damage.
 - b. be idiopathic.
 - c. result from certain infections.
 - d. be related to all of the above.
5. A clinical manifestation of aplastic anemia is:
 - a. adenopathy.
 - b. hepatosplenomegaly.
 - c. normocytic red blood cells.
 - d. thrombocytopenia owing to bleeding.

6. For a patient diagnosed as having an iron-deficiency anemia, the nurse should recommend an increased intake of:
- fresh citrus fruits.
 - milk and cheese.
 - organ meats.
 - whole-grain breads.
7. The recommended parenteral route for administering iron preparations for anemia is by:
- deep gluteal intramuscular injection, using a Z-track method.
 - intermittent infusion.
 - intramuscular injection in the deltoid so that muscle contraction can help dissipate the medication.
 - subcutaneous injection with weekly site rotation.
8. Absence of intrinsic factor is associated with a vitamin B₁₂ deficiency, because the vitamin cannot bind to be transported for absorption in the:
- duodenum.
 - ileum.
 - jejunum.
 - stomach.
9. A diagnostic sign of pernicious anemia is:
- a smooth, sore, red tongue.
 - exertional dyspnea.
 - pale mucous membranes.
 - weakness.
10. The Schilling test is used to diagnose:
- aplastic anemia.
 - iron-deficiency anemia.
 - megaloblastic anemia.
 - pernicious anemia.
11. A nurse expects an adult patient with sickle cell anemia to have a hemoglobin value of:
- near 3 g/dl.
 - near 5 g/dl.
 - between 5 and 7 g/dl.
 - between 7 and 10 g/dl.
12. Sickle-shaped erythrocytes cause:
- cellular blockage in small vessels.
 - decreased organ perfusion.
 - tissue ischemia and infarction.
 - all of the above.
13. A person with sickle cell trait would:
- be advised to avoid fluid loss and dehydration.
 - be protected from crisis under ordinary circumstances.
 - experience hemolytic jaundice.
 - have chronic anemia.
14. Polycythemia vera is characterized by bone marrow overactivity, resulting in the clinical manifestation(s) of:
- angina.
 - claudication.
 - thrombophlebitis.
 - all of the above.
15. The common feature of the leukemias is:
- a compensatory polycythemia stimulated by thrombocytopenia.
 - an unregulated accumulation of white cells in the bone marrow, which replace normal marrow elements.
 - increased blood viscosity, resulting from an overproduction of white cells.
 - reduced plasma volume in response to a reduced production of cellular elements.
16. Nursing assessment for a patient with leukemia should include observation for:
- fever and infection.
 - dehydration.
 - petechiae and ecchymoses.
 - all of the above.
17. The major cause of death in patients with leukemia is believed to be:
- anemia.
 - dehydration.
 - embolis.
 - infection.
18. Multiple myeloma:
- can be diagnosed by roentgenograms that show bone lesion destruction.
 - is a malignant disease of plasma cells that affects bone and soft tissue.
 - is suspected in any person who evidences albuminuria.
 - is associated with all of the above.

19. In the normal blood-clotting cycle, the final formation of a clot will occur:
- during the platelet phase.
 - during the vascular phase.
 - when fibrin reinforces the platelet plug.
 - when the plasmin system produces fibrinolysis.
20. Bleeding and petechiae do not usually occur with thrombocytopenia until the platelet count falls below 50,000/mm³. The normal value for blood platelets is:
- between 50,000 and 100,000/mm³.
 - between 100,000 and 150,000/mm³.
 - between 150,000 and 350,000/mm³.
 - greater than 350,000/mm³.
21. Hemophilia is a hereditary bleeding disorder that:
- has a higher incidence among males.
 - is associated with joint bleeding, swelling, and damage.
 - is related to a genetic deficiency of a specific blood-clotting factor.
 - is associated with all of the above.
22. Hypoprothrombinemia, in the absence of gastrointestinal or biliary dysfunction, may be caused by a deficiency in vitamin:
- A.
 - B₁₂.
 - C.
 - K.
23. A potential blood donor would be rejected if he or she had:
- a history of infectious disease exposure within the past 2 to 4 months.
 - close contact with a hemodialysis patient within the past 6 months.
 - donated blood within the past 3 to 6 months.
 - received a blood transfusion 9 to 12 months before the blood donation time.
24. The recommended minimum hemoglobin level for a woman to donate blood is:
- 8.0 g/dl.
 - 10.5 g/dl.
 - 12.5 g/dl.
 - 14 g/dl.

Read each statement carefully. Write your response in the space provided.

- The volume of blood in humans is about _____ L.
- Blood is produced in the: _____, and _____.
- Red bone marrow, the site of active blood cell production, is confined in adults to the _____, _____, and _____.
- The principal function of the erythrocyte is to: _____.
- Each 100 ml of blood should normally contain _____ g of hemoglobin.
- The average life span of a circulating red blood cell is _____ days.
- The major function of leukocytes is to _____.
- Plasma proteins consist primarily of _____ and _____.
- The two most common areas used for bone marrow aspirations for an adult are _____ and _____.
- Distinguish between primary and secondary polycythemia.

Complete the following scramblegram by circling the word(s) that answer each statement below.

F	I	B	R	I	N	O	G	E	N	A	N	O	E	L
B	D	H	E	M	O	S	T	A	S	I	S	P	R	M
F	R	S	S	C	M	P	R	H	S	G	T	H	Y	I
I	E	W	C	V	R	T	C	E	L	L	S	A	T	P
B	E	A	B	B	T	L	D	E	F	I	J	G	H	R
R	S	W	A	O	H	O	A	S	V	T	S	O	R	K
I	F	T	P	N	R	K	L	B	J	N	M	C	O	L
N	E	U	T	R	O	P	H	I	L	S	K	Y	C	B
F	W	O	D	C	M	F	N	K	G	H	A	T	Y	O
A	H	B	E	R	B	S	J	C	T	C	B	O	T	N
H	E	M	A	T	O	P	O	I	E	S	I	S	E	E
E	M	N	E	E	C	F	M	F	G	P	S	I	S	M
M	O	N	O	C	Y	T	E	S	P	L	A	S	M	A
O	S	C	G	D	T	K	L	A	I	E	L	K	A	R
G	T	O	A	H	E	E	I	J	B	E	B	A	J	R
L	A	G	P	E	S	F	R	M	C	N	U	L	B	O
O	S	G	T	I	J	D	S	A	N	M	M	S	L	W
B	I	H	E	O	A	G	H	H	D	O	I	I	T	L
I	S	D	A	U	O	U	L	M	E	S	N	P	U	M
N	A	S	E	L	Y	M	P	H	O	C	Y	T	E	S

Definition of Terms

1. The fluid portion of blood
2. Another term for platelets
3. The mature form of white blood cells
4. The process of continually replacing blood cells
5. The site of blood cell formation
6. Makes up 95% of the mass of the red blood cell
7. The ingestion and digestion of bacteria by neutrophils
8. The largest classification of leukocytes
9. A clotting factor present in plasma
10. A plasma protein primarily responsible for the maintenance of fluid balance
11. The site of activity for most macrophages
12. The process of stopping bleeding from a severed blood vessel

13. A protein that forms the basis of blood clotting
14. Integral component of the immune system
15. The term for red blood cell
16. The letters used for the term *reticuloendothelial system*
17. The balance between clot formation and clot dissolution
18. A term used to describe T lymphocytes

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Hodgkin's Disease

Ian, a 24-year-old graduate student, was recently diagnosed as having Hodgkin's disease. He sought medical attention because of an annoying pruritus and a small enlargement on the right side of his neck.

1. Ian's disease is classified as Hodgkin's paragranuloma. The nurse knows that this classification is associated with:

a. a minimal degree of cellular differentiation in the affected node(s).	c. nodular sclerosis, which reflects advanced malignancy.
b. an excessive production of the Reed-Sternberg cell, the diagnostic atypical cell of Hodgkin's disease.	d. replacement of the involved lymph nodes by tumor cells.
2. A positive diagnosis of Hodgkin's disease depends on:

a. enlarged, firm, and painful lymph nodes.	c. progressive anemia.
b. histologic analysis of an enlarged lymph node.	d. the presence of generalized pruritus.
3. Ian's diagnosis of stage I Hodgkin's disease implies that the disease:

a. has disseminated diffusely to one or more extrahepatic sites.	c. is limited to a single node or a single intralymphatic organ or site.
b. involves multiple nodes and is confined to one side of the diaphragm.	d. is present above and below the diaphragm and may include spleen involvement.
4. The nurse expects that Ian's course of treatment will involve:

a. a combination of chemotherapy and radiation.	c. chemotherapy with vincristine alone.
b. a drug regimen of nitrogen mustard, vincristine, and a steroid.	d. radiotherapy to the specific node over a space of 4 weeks.

CASE STUDY: Transfusion

Jerry is to receive one unit of packed red cells because he has a hemoglobin level of 8 g/dl and a diagnosis of gastrointestinal bleeding.

1. Before initiating the transfusion the nurse needs to check:

a. for the abnormal presence of gas bubbles and cloudiness in the blood bag.	c. that the recipient's blood numbers match the donor's blood numbers.
b. that the blood has been typed and cross-matched.	d. all of the above.

2. Administration technique should include all of the following *except*:
 - a. adding 50 to 100 ml of 0.9% NaCl to the packed cells to dilute the solution and speed up delivery of the transfusion.
 - b. administering the unit in combination with dextrose in water if the patient needs additional carbohydrates.
 - c. administering the unit of blood over 1 to 2 hours.
 - d. squeezing the bag of blood every 20 to 30 minutes during administration to mix the cell.

3. The nurse is aware that a transfusion reaction, if it occurs, will probably occur:
 - a. 1 to 2 minutes after the infusion begins.
 - b. during the first 15 to 30 minutes of the transfusion.
 - c. after half the solution has been infused.
 - d. several hours after the infusion, when the body has assimilated the new blood components into the general circulation.

4. If a transfusion reaction occurs, the nurse should:
 - a. call the physician and wait for directions based on the specific type of reaction.
 - b. stop the transfusion immediately and keep the vein patent with a saline or dextrose solution.
 - c. slow the infusion rate and observe for an increase in the severity of the reaction.
 - d. slow the infusion and request a venipuncture for retyping to start a second transfusion.

Learner's Self-Evaluation Tool for End of Unit 6 Review

1. The most important concepts or facts I have learned from this unit are:
 1. _____
 2. _____
 3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

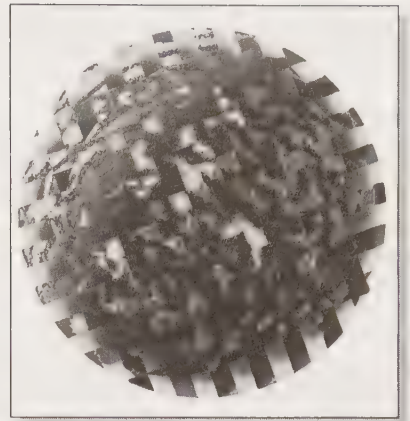
4. I will get the answer(s) to my questions by:

- I will do this on _____ (date and time).

5. I believe my mastery of this unit will be:
 - a. 100% Great job! Good luck!
 - b. 90% 2 hours of review recommended.
 - c. 80% 4 hours of review recommended.
 - d. <80% Make an appointment with your instructor.

UNIT 7

Digestive and Gastrointestinal Function



31
Assessment of Digestive
and Gastrointestinal Function

32
Management of Patients
with Oral and Esophageal
Disorders

33
Gastrointestinal Intubation
and Special Nutritional
Modalities

34
Management of Patients
With Gastric and Duodenal
Disorders

35
Management of Patients
With Intestinal and Rectal
Disorders

31

Assessment of Digestive and Gastrointestinal Function

Chapter Overview

A sense of health or wellness implies that our bodies are maintaining internal stability in relation to intrinsic and extrinsic stimuli. All systems combine in this effort to establish a sense of balance. Of all the major body systems, the digestive and gastrointestinal systems seem to be most subject to autonomous control. People can directly influence their functioning because they can choose what they eat and drink. They can also control the elimination process by self-medication with over-the-counter drugs. They can treat their indigestion, constipation, and diarrhea.

When caring for patients with digestive or gastrointestinal dysfunction, it is vital to give them the information they need to make knowledgeable decisions about symptoms and to instruct them in how to manage self-care and when to seek professional help.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Reflux of food into the esophagus from the stomach is prevented by contraction of the:
 - a. ampulla of Vater.
 - b. cardiac sphincter.
 - c. ileocecal valve.
 - d. pyloric sphincter.
2. The digestion of starches begins in the mouth with the secretion of:
 - a. lipase.
 - b. pepsin.
 - c. ptyalin.
 - d. trypsin.
3. The stomach is acidic at a pH of approximately:
 - a. 1.0.
 - b. 3.5.
 - c. 5.0.
 - d. 7.5.
4. Intrinsic factor is a gastric secretion necessary for the intestinal absorption of vitamin:
 - a. B₁.
 - b. B₁₂.
 - c. C.
 - d. K.

5. Pancreatic secretions into the duodenum:
 - a. are stimulated by hormones released in the presence of chyme as it passes through the duodenum.
 - b. have an alkaline effect on intestinal contents.
 - c. increase the pH of the food contents.
 - d. do all of the above.
6. Bile, which emulsifies fat, enters the duodenum through the:
 - a. cystic duct.
 - b. common bile duct.
 - c. common hepatic duct.
 - d. pancreatic duct.
7. Secretin is a gastrointestinal hormone that:
 - a. causes the gallbladder to contract.
 - b. influences contraction of the esophageal and pyloric sphincters.
 - c. regulates the secretion of gastric acid.
 - d. stimulates the secretion of bicarbonate in pancreatic juice.
8. Tissue cells use carbohydrates in the form of:
 - a. fructose.
 - b. galactose.
 - c. glucose.
 - d. sucrose.
9. The time it usually takes for food to enter the colon is:
 - a. 2 or 3 hours after a meal is eaten.
 - b. 4 or 5 hours after a meal is eaten.
 - c. 6 or 7 hours after a meal is eaten.
 - d. 8 or 9 hours after a meal is eaten.
10. Obstruction of the gastrointestinal tract leads to:
 - a. increased force of intestinal contraction.
 - b. distention above the point of obstruction.
 - c. pain and a sense of bloating.
 - d. all of the above.
11. A nurse who is investigating a patient's statement about duodenal pain should assess the:
 - a. epigastric area and consider possible radiation of pain to the right subscapular region.
 - b. hypogastrium in the right or left lower quadrant.
 - c. left lower quadrant.
 - d. periumbilical area, followed by the right lower quadrant.
12. Abdominal pain associated with indigestion is usually:
 - a. described as crampy or burning.
 - b. in the left lower quadrant.
 - c. less severe after an intake of fatty foods.
 - d. relieved by the intake of coarse vegetables, which stimulate peristalsis.
13. Consequences of diarrhea include all of the following *except*:
 - a. acidosis.
 - b. decreased bicarbonate.
 - c. electrolyte imbalance.
 - d. hyperkalemia.
14. A gastric analysis with stimulation that results in an excess of gastric acid being secreted could be diagnostic of:
 - a. chronic atrophic gastritis.
 - b. a duodenal ulcer.
 - c. gastric carcinoma.
 - d. pernicious anemia.
15. Before a gastroscopy, the nurse should inform the patient that:
 - a. he or she must fast for 6 to 12 hours before the examination.
 - b. his or her throat will be sprayed with a local anesthetic.
 - c. after gastroscopy, he or she cannot eat or drink until the gag reflex returns (1–2 hours).
 - d. all of the above will be necessary.
16. A flexible sigmoidoscope permits examination of the lower bowel for:
 - a. 5 to 10 inches.
 - b. 10 to 15 inches.
 - c. 16 to 20 inches.
 - d. 25 to 35 inches.
17. A fiberoptic colonoscopy is most frequently used for a diagnosis of:
 - a. bowel disease of unknown origin.
 - b. cancer.
 - c. inflammatory bowel disease.
 - d. occult bleeding.

18. Magnetic resonance imaging (MRI) is contraindicated for patients who have:
- pacemakers.
 - artificial heart valves.
 - implanted insulin pumps.
 - all of the above.
19. Patient preparation for esophageal manometry requires the withholding of specific medication such as:
- anticholinergics.
 - calcium channel blockers.
 - sedatives.
 - all of the above.
20. Choose the diagnostic test for gastrointestinal cancer that is recommended before age 50.
- Colonoscopy
 - Digital rectal examination
 - Proctosigmoidoscopy
 - Stool for occult blood

Match the major digestive enzyme in Column II with its associated digestive action listed in Column I.

Column I

- _____ helps convert protein into amino acids
- _____ facilitates the production of dextrins and maltose
- _____ digests protein and helps form polypeptides
- _____ digests carbohydrates and helps form fructose
- _____ glucose is a product of this enzyme's action
- _____ helps form galactose

Column II

- amylase
- maltase
- sucrase
- lactase
- pepsin
- trypsin

Complete the Following

Next to each diagnostic test, list one or more patient-preparation activities that the nurse must monitor and/or document.

Diagnostic Test

- Barium Enema

Patient Preparation

- _____
 - _____
 - _____
 - _____
 - _____
- _____
 - _____
 - _____

- Gastric Analysis

3. Upper GI Fiberscope

a. _____

b. _____

c. _____

4. Fiberoptic Colonoscopy

a. _____

b. _____

c. _____

d. _____

**5. Abdominal Ultrasound Computed Tomography
Magnetic Resonance Imaging**

a. _____

32

Management of Patients With Oral and Esophageal Disorders

Chapter Overview

Because food has many psychosocial as well as physiologic connotations, any condition that interferes with ingestion or digestion can negatively influence a person's self-perception and overall sense of well-being. Nursing care plans must be holistic in their development and implementation. Outcome criteria should reflect the numerous variables that influence individual food preferences, the frequency of meals, and the quality of food consumed daily.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Actinic cheilitis is a lip lesion that results from sun exposure and can lead to squamous cell carcinoma. It is evidenced by:
 - a. erythema.
 - b. fissuring.
 - c. white hyperkeratosis.
 - d. all of the above.
2. A common disease of oral tissue characterized by painful, inflamed and swollen gums is:
 - a. candidiasis.
 - b. gingivitis.
 - c. herpes simplex.
 - d. periodontitis.
3. A common lesion of the mouth that is also referred to as a canker sore is:
 - a. aphthous stomatitis.
 - b. candidiasis.
 - c. leukoplakia buccalis.
 - d. lichen planus.
4. The incidence of most dental caries is directly related to an increase in the dietary intake of:
 - a. fat.
 - b. protein.
 - c. salt.
 - d. sugar.
5. The ingestion of fluoridated water effectively prevents and reduces the incidence of dental caries. Fluoridation decreases dental caries by:
 - a. 15%.
 - b. 30%.
 - c. 45%.
 - d. 60%.

6. Preventive orthodontics for malocclusion is usually started at age:
- 3.
 - 5.
 - 7.
 - 9.
7. Postoperative nursing care for drainage of a dentoalveolar or periapical abscess includes all of the following *except*:
- soft diet after 24 hours.
 - fluid restriction for the first 48 hours because the gums are swollen and painful.
 - external heat by pad or compress to hasten the resolution of the inflammatory swelling.
 - warm saline mouthwashes every 2 hours while awake.
8. The most commonly inflamed salivary gland is the:
- buccal.
 - parotid.
 - sublingual.
 - submaxillary.
9. Neoplasms of the salivary glands:
- are normally malignant and are treated by surgical excision.
 - commonly recur, and recurrences are more malignant than the original tumor.
 - are usually always treated with radiation.
 - are characterized by all of the above.
10. The most common site for cancer of the oral cavity is the:
- lip.
 - mouth.
 - pharynx.
 - tongue.
11. The typical lesion in oral cancer can be described as a(n):
- indurated ulcer.
 - warty growth.
 - white or red plaque.
 - painful sore.
12. Usually the first symptom associated with esophageal disease is:
- dysphagia.
 - malnutrition.
 - pain.
 - regurgitation of food.
13. The nurse suspects that a patient who presents with the symptom of food "sticking" in the lower portion of the esophagus may have the motility disorder known as:
- achalasia.
 - diffuse spasm.
 - gastroesophageal reflex.
 - hiatal hernia.
14. A hiatal hernia involves a(n):
- extension of the esophagus through the diaphragm.
 - involution of the esophagus, which causes a severe stricture.
 - protrusion of the upper stomach into the lower portion of the thorax.
 - twisting of the duodenum through an opening in the diaphragm.
15. Intervention for a person who has swallowed strong acid includes all of the following *except*:
- administering an irritant that will stimulate vomiting.
 - aspirating secretions from the pharynx if respirations are affected.
 - neutralizing the chemical.
 - washing the esophagus with large volumes of water.
16. Cancer of the esophagus occurs primarily in:
- black men over 50 years of age.
 - black women after menopause.
 - white men 30 to 40 years old.
 - white women over 60 years of age.
17. A common postoperative complication of esophageal surgery for cancer is:
- aspiration pneumonia.
 - hemorrhage.
 - incompetence of the suture line, resulting in fluid seepage.
 - the dumping syndrome.

Match the abnormality listed in Column II with its associated symptomatology of the lip, mouth, or gums listed in Column I.

Column I

1. _____ ulcerated and painful, white papules
2. _____ reddened area or rash associated with itching
3. _____ painful, inflamed, swollen gums
4. _____ white overgrowth of horny layer of epidermis
5. _____ shallow ulcer with a red border and white or gray center
6. _____ hyperkeratotic white patches usually in buccal mucosa
7. _____ reddened circumscribed lesion that ulcerates and becomes encrusted
8. _____ white patches with rough, hairlike projections

Column II

- a. actinic cheilitis
- b. leukoplakia
- c. chancre
- d. canker sore
- e. gingivitis
- f. lichen planus
- g. contact dermatitis
- h. hairy leukoplakia

II. Critical Analysis Questions

Applying Concepts

Refer to Figure 32–4 below, and answer the following questions related to a neck-dissection procedure. Read each question carefully. Either circle the answer or write the best response in the space provided.

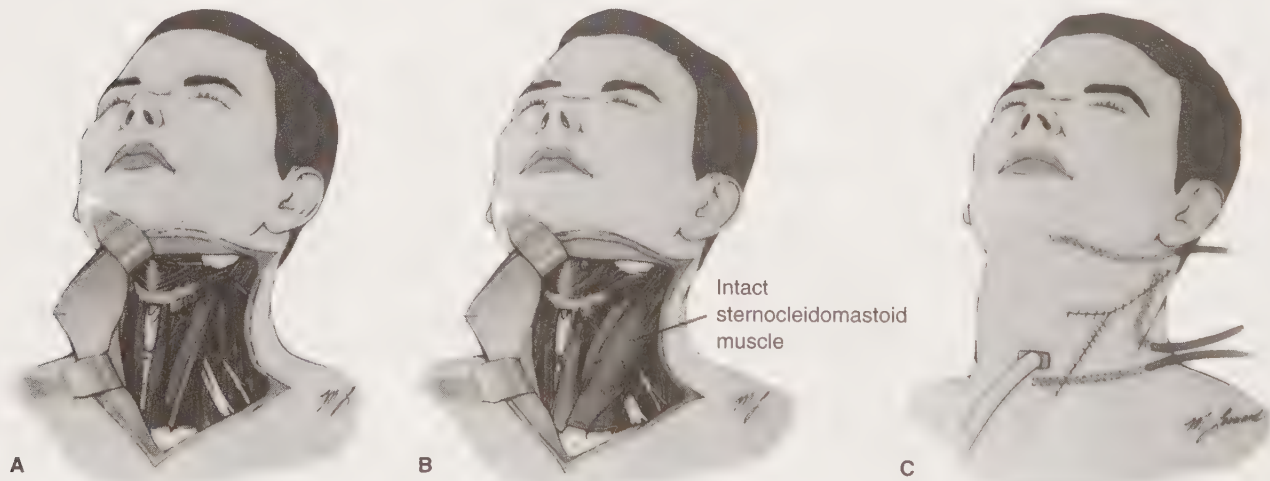


FIGURE 32-4 (A) A classic radical neck dissection in which the sternocleidomastoid and smaller muscles are removed. All tissue is removed, from the ramus of the jaw to the clavicle. The jugular vein has also been removed. The functional neck dissection (B) is similar but preserves the sternocleidomastoid muscle, internal jugular vein, and the spinal accessory nerve. The wound is closed (C), and portable suction drainage tubes are in place.

1. A radical neck dissection (see A) is often performed to help prevent _____, the primary reason for death from neck malignancies.
2. Two common morbidities associated with a radical neck dissection are _____ and _____.
3. Reconstructive techniques involve grafts that normally use the _____ muscle.
4. Look at figures A and B. List three postoperative complications expected when someone has surgery to the neck area: _____, _____, and _____.
5. Two collaborative, postoperative nursing problems may be: _____ and _____.
6. After a radical neck dissection, a patient is placed in Fowler's position to:
 - a. decrease venous pressure on the skin flaps.
 - b. facilitate swallowing.
 - c. increase lymphatic drainage.
 - d. accomplish all of the above.
7. Postoperatively, a finding that should be immediately reported is:
 - a. temperature of 99° F
 - b. pain.
 - c. stridor.
 - d. localized wound tenderness.
8. A nurse who is caring for a patient who has had radical neck surgery notices an abnormal amount of serosanguineous secretions in the wound suction unit during the first postoperative day. An expected normal amount of drainage is:
 - a. between 40 and 80 ml.
 - b. approximately 80 to 120 ml.
 - c. between 120 and 160 ml.
 - d. greater than 160 ml.
9. A major potential complication is hemorrhage from the:
 - a. brachial artery.
 - b. carotid artery.
 - c. innominate artery.
 - d. vertebral artery.
10. Postoperatively, the nurse observes excessive drooling. She assesses for damage to the:
 - a. facial nerve.
 - b. hypoglossal nerve.
 - c. spinal accessory nerve.
 - d. auditory nerve.

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: Mandibular Fracture

William, a 17-year-old student, suffered a mandibular fracture while playing football. He is scheduled for jaw repositioning surgery.

1. Preoperatively, the nurse assures William that the surgical procedure for treatment of a mandibular fracture has improved greatly over the last few years. Describe the difference in the procedure that you would explain preoperatively to William.

2. Postoperatively, the nurse should immediately position William:
 - a. flat on his back to facilitate lung expansion during inspiration.
 - b. on his side with his head slightly elevated to prevent aspiration.
 - c. supine with his head to the side to promote the drainage of secretions.
 - d. with his head lower than his trunk to prevent aspiration of fluids.
3. Postoperatively, the nurse's primary goal is to maintain:
 - a. adequate nutrition.
 - b. an open airway.
 - c. jaw immobilization.
 - d. oral hygiene.

4. What would you tell the patient to explain why nasogastric suctioning is needed?

5. For emergency use, which of the following should be available at the head of the bed?

- a. A nasogastric suction tube
- b. A nasopharyngeal suction catheter
- c. A wire cutter or scissors
- d. An oxygen cannula

6. A recommended initial postoperative diet for William would be:

- a. bland pureed.
- b. clear liquid.
- c. full liquid.
- d. semisoft.

7. William must be instructed not to chew food until the ____ postoperative week.

- a. third
- b. fourth
- c. fifth
- d. eighth

8. What essential item must be sent home with William when he is discharged?

33

Gastrointestinal Intubation and Special Nutritional Modalities

Chapter Overview

Occasionally gastrointestinal intubation is necessary to help meet a patient's nutritional needs. A nurse who is caring for a patient who is intubated needs to be familiar with the mechanics of tube maintenance as well as with the caloric distribution of various supplemental feedings. Since the socialization surrounding eating influences everyone, a patient's psychosocial needs must be part of any care plan.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The Levin tube, a commonly used nasogastric tube, has circular markings at specific points. The tube should be inserted to:
 - a length of 50 cm (20 in.).
 - a point that equals the distance from the nose to the xiphoid process.
 - the midpoint between a 50-cm marking and the distance measured from the tip of the nose to the xiphoid process.
 - the distance determined by measuring from the tragus of the ear to the xiphoid process.
- When continuous or intermittent suction is used with a nasogastric tube, the goal is to have the amount of suction in the gastric mucosa reduced to:
 - 25 mm Hg.
 - 50 mm Hg.
 - 80 mm Hg.
 - 120 mm Hg.
- It is essential for the nurse who is managing a gastric sump tube to:
 - maintain intermittent or continuous suction at a rate >120 mm Hg.
 - keep the vent lumen above the patient's midline to prevent gastric content reflux.
 - irrigate only through the vent lumen.
 - do all of the above activities.
- A nasoenteric tube used for decompression is a:
 - Cantor tube.
 - Moss tube.
 - Gastric-Sump Salem.
 - Sengstaken-Blakemore.

5. Nasoenteric tubes usually remain in place until:
 - a. bowel sounds are present.
 - b. flatus is passed.
 - c. peristalsis is resumed.
 - d. all of the above mechanisms occur.
6. A commonly used double-lumen decompression tube is the:
 - a. Cantor tube.
 - b. Harris tube.
 - c. Levin tube.
 - d. Miller–Abbott tube.
7. A nurse prepares a patient for insertion of a nasoenteric tube. The nurse positions the patient:
 - a. in high Fowler's position.
 - b. flat in bed.
 - c. on his or her right side.
 - d. in semi-Fowler's with his or her head turned to the left.
8. A nasoenteric-decompression tube can be safely advanced 2 to 3 in. every:
 - a. hour.
 - b. 2 hours.
 - c. 4 hours.
 - d. 8 hours.
9. Symptoms of oliguria, lethargy, and hypothermia in a patient would indicate to the nurse that the patient may be experiencing the initial common potential complication of nasoenteric intubation, which is:
 - a. a cardiac dysrhythmias.
 - b. fluid volume deficit.
 - c. mucous membrane irritation.
 - d. pulmonary complications.
10. Osmosis is the process whereby:
 - a. particles disperse throughout a liquid medium to achieve an equal concentration throughout.
 - b. particles move from an area of greater concentration to an area of lesser concentration to establish equilibrium.
 - c. water moves through a membrane from a dilute solution to a more concentrated solution to achieve equal osmolality.
 - d. water moves through a membrane from an area of higher osmolality to an area of lesser osmolality to establish equilibrium.
11. Residual content is checked before each tube feeding. A feeding would be delayed and the patient reassessed if the residual were:
 - a. about 50 ml.
 - b. between 50 and 80 ml.
 - c. about 100 ml.
 - d. greater than 150 ml.
12. The dumping syndrome occurs when high-carbohydrate foods are administered over a period of less than 20 minutes. A nursing measure to prevent or minimize the dumping syndrome is to administer the feeding:
 - a. at a warm temperature to decrease peristalsis.
 - b. by bolus to prevent continuous intestinal distention.
 - c. with about 100 ml of fluid to dilute the high carbohydrate concentration.
 - d. with the patient in semi-Fowler's position to decrease transit time influenced by gravity.
13. Gastrostomy feedings are preferred to nasogastric feedings in the comatose patient, because the:
 - a. gastroesophageal sphincter is intact, lessening the possibility of regurgitation.
 - b. digestive process occurs more rapidly as a result of the feeding's not having to pass through the esophagus.
 - c. feedings can be administered in the recumbent position.
 - d. patient cannot experience the deprivational stress of not swallowing.
14. Initial fluid nourishment after a gastrostomy usually consists of:
 - a. distilled water.
 - b. 10% glucose and tap water.
 - c. milk.
 - d. high-calorie liquids.
15. When administering a bolus gastrostomy feeding, the receptacle should be held no higher than ____ in. above the abdominal wall.
 - a. 9
 - b. 18
 - c. 27
 - d. 36
16. The basic hyperalimentation solution consists of:
 - a. 10% glucose.
 - b. 25% glucose.
 - c. 35% glucose.
 - d. 50% glucose.

17. The preferred route for infusion of total parenteral nutrition solution is the:
- brachial vein.
 - jugular vein.
 - subclavian vein.
 - superior vena cava.
18. Patients who are receiving total parenteral nutrition should be observed for signs of hyperglycemia, which would include:
- confusion.
 - lethargy.
 - stupor.
 - all of the above.

Match the description of the type of nasogastric, nasoenteric, and regular feeding tube in Column II with its appropriate name listed in Column I.

Column I

- _____ Harris
- _____ Sengstaken–Blakemore
- _____ Miller–Abbott
- _____ Levin
- _____ Cantor
- _____ Gastric-Sump Salem
- _____ Moss
- _____ Dubhoff or Keofeed II

Column II

- double-lumen, rubber decompression tube about 10 feet in length
- triple-lumen nasogastric tube that also has a duodenal lumen for postoperative feedings
- nasoenteric feeding tube about 6 feet in length
- single-lumen, rubber, nasoenteric decompression tube that contains a mercury-weighted bag
- single-lumen, plastic or rubber nasogastric tube about 4 feet in length
- double-lumen, plastic nasogastric tube about 120 cm in length
- mercury-weighted, single-lumen nasoenteric tube about 180 cm in length
- triple-lumen, rubber nasogastric tube (two lumens are used to inflate the gastric and esophageal balloons)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Fill in the blanks or circle the correct answer.

CASE STUDY: Cantor Tube

Martin, a 69-year-old widower who lives alone, has been diagnosed as having an obstruction of the small intestine. The physician has requested nursing assistance for insertion of a Cantor tube.

- Before insertion of the Cantor tube, the nurse should:
 - assist Martin to high Fowler's position and help him hyperextend his neck.
 - explain the purpose of the tube.
 - screen Martin to ensure privacy.
 - do all of the above.

2. Martin needs to be informed that the procedure may involve:
 - a. having him hold ice chips in his mouth for a few minutes.
 - b. mouth breathing or panting during passage of the tube.
 - c. the spraying of his oropharynx with tetracaine (Pontocaine) to dull the nasal passages and gag reflex.
 - d. all of the above.
3. After the tube has passed the pyloric sphincter, nursing responsibilities include advancing the tube:
 - a. 1 in. every hour.
 - b. 1 in. every 4 hours.
 - c. 2 to 3 in. every hour.
 - d. 2 to 3 in. every 4 hours.
4. The nurse knows that tube placement can be verified by checking the pH of aspirated secretions. If the tube were in the intestines, the pH reading would be approximately:
 - a. 5.4.
 - b. 6.8.
 - c. 7.0.
 - d. 8.2.
5. Fluid volume deficit is a potential problem with nasogastric intubation. Indicators of fluid volume deficit include all of the following *except*:
 - a. the body temperature of 102 °F
 - b. dry mucous membranes.
 - c. lethargy and exhaustion.
 - d. oliguria.

CASE STUDY: The Dumping Syndrome

Nancy is 37 years old, 5 ft. 7 in. tall, and weighs 140 lb. She receives 250 ml of Osmolite (liquid nutrition) over a 15-minute period every 4 hours through a nasogastric tube. Nancy has had esophageal surgery for carcinoma.

1. Nancy tells the nurse that she has diarrhea. The nurse suspects she is experiencing the dumping syndrome. The nurse also knows that she needs to eliminate other possible causes such as:
 - a. _____
 - b. _____
 - c. _____
 - d. _____
2. The nurse reviews Nancy's chart to see what medications she is receiving, because she knows that certain drugs increase the frequency of the syndrome in some patients. List several of these medications.
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____
3. Because of the dumping syndrome, the physician reduces Nancy's current rate of infusion by 50%. The nurse should adjust the rate of the gastrostomy feeding to:
 - a. 8 ml/min.
 - b. 10 ml/min.
 - c. 12 ml/min.
 - d. 16 ml/min.
4. The nurse notes a residual gastric content of 50 ml. She should:
 - a. delay the feeding for 2 hours and reassess.
 - b. discard the 50 ml and administer the next feeding.
 - c. notify the physician.
 - d. return the solution through the tube and administer the next feeding.

Applying Concepts

Refer to Figure 33-7 and answer the following questions.

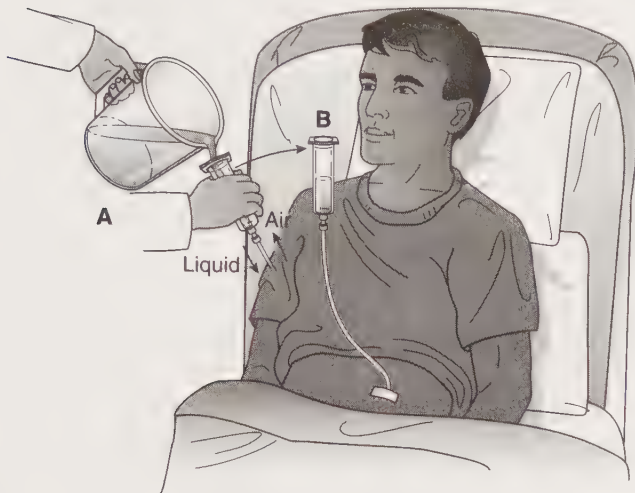


FIGURE 33-7 Gastrostomy feeding by gravity. (A) Feeding is instilled at an angle so that air does not enter the stomach. (B) Syringe is raised perpendicular to the stomach so that feeding can enter by gravity.

- List three nursing diagnoses for a postoperative patient that addresses nursing care for a gastrostomy tube.
 - _____
 - _____
 - _____
- List three possible collaborative problems for a patient with a gastrostomy tube.
 - _____
 - _____
 - _____
- When giving an initial tube feeding, the nurse would be looking for _____ around the tube site on the abdomen.
- A dressing over the tube outlet and the gastrostomy tube protects the skin around the incision from _____ and _____.
- The syringe, filled with feeding solution, is raised perpendicular to the abdomen so the solution can enter by gravity. How long should it take for 100 ml to instill? _____
- If the solution fails to instill, the nurse could _____.
- The syringe should not be elevated higher than 18 in. above the abdominal wall, because _____.
- Explain why the patient in the figure is sitting single upright. _____

34

Management of Patients With Gastric and Duodenal Disorders

Chapter Overview

Frequently gastric and duodenal disorders necessitate surgical intervention, which may result in removal of a significant segment of the stomach or duodenum. Because clinical manifestations can be diagnostic, the nurse assesses a patient's symptoms carefully. Again, assessment must include psychosocial aspects, because several psychosomatic disorders are manifested by pathophysiologic changes in the gastrointestinal tract.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Acute gastritis is often caused by:
 - ingestion of strong acids.
 - irritating foods.
 - overuse of aspirin.
 - all of the above.
- The most common site for peptic ulcer formation is the:
 - duodenum.
 - esophagus.
 - pylorus.
 - stomach.
- A symptom that distinguishes a chronic gastric ulcer from a chronic duodenal ulcer is the:
 - absence of any correlation between the presence of the ulcer and a malignancy.
 - normal to below-normal secretion of acid.
 - relief of pain after food ingestion.
 - uncommon incidence of vomiting.
- The blood group that seems most susceptible to peptic ulcer disease is group:
 - A
 - B.
 - AB.
 - O.
- H. pylori* bacteria is present in ____% of those with duodenal ulcers.
 - 25%
 - 50%
 - 75%
 - 95%
- Peptic ulcers occur with the most frequency in those between the ages of:
 - 15–25.
 - 20–30.
 - 40–60.
 - 60–80.

7. A diagnostic clinical manifestation of Zollinger-Ellison syndrome is:
- diarrhea.
 - hypercalcemia.
 - steatorrhea.
 - tetany.
8. A characteristic associated with peptic ulcer pain is a:
- burning sensation localized in the back or midepigastrium.
 - feeling of emptiness that precedes meals from 1 to 3 hours.
 - severe gnawing pain that increases in severity as the day progresses.
 - combination of all of the above.
9. The best time to administer an antacid is:
- with the meal.
 - 30 minutes before the meal.
 - 1 to 3 hours after the meal.
 - immediately after the meal.
10. A Billroth I procedure is a surgical approach to ulcer management whereby:
- a partial gastrectomy is done with anastomosis of the stomach segment to the duodenum.
 - a sectioned portion of the stomach is joined to the jejunum.
 - the antral portion of the stomach is removed and a vagotomy is performed.
 - the vagus nerve is cut and gastric drainage is established.
11. The most common complication of peptic ulcer disease is:
- hemorrhage.
 - intractable ulcer.
 - perforation.
 - pyloric obstruction.
12. Nursing interventions associated with peptic ulcers include:
- checking the blood pressure and pulse rate every 15 to 20 minutes.
 - frequently monitoring hemoglobin and hematocrit levels.
 - observing stools and vomitus for color, consistency, and volume.
 - all of the above.
13. If peptic ulcer hemorrhage were suspected, an immediate nursing action would be to:
- place the patient supine with his or her legs elevated.
 - prepare a peripheral and central line for intravenous infusion.
 - assess vital signs.
 - accomplish all of the above.
14. Pyloric obstruction can occur when the area distal to the pyloric sphincter becomes stenosed by:
- edema.
 - scar tissue.
 - spasm.
 - all of the above.
15. Symptoms associated with pyloric obstruction include all of the following *except*:
- anorexia.
 - diarrhea.
 - nausea and vomiting.
 - weight loss.
16. Morbid obesity is a term applied to people who are more than:
- 20 lb above ideal body weight.
 - 50 lb above ideal body weight.
 - 75 to 80 lb above ideal body weight.
 - 100 lb above ideal body weight.
17. Pulmonary complications frequently follow upper-abdominal incisions, because:
- aspiration is a common occurrence associated with postoperative injury to the pyloric sphincter or the cardiac sphincter.
 - pneumothorax is a common complication of abdominal surgery when the chest cavity has been entered.
 - the patient tends to have shallow respirations in an attempt to minimize incisional pain.
 - all of the above are true.
18. Teaching points to help a total gastric resection patient avoid the dumping syndrome include all of the following *except*:
- eating small, frequent meals.
 - increasing the carbohydrate content of the diet to supply needed calories for energy.
 - lying down after meals.
 - taking fluids between meals to decrease the total volume in the stomach at one time.

Read each statement carefully. Write the best response in the space provided.

1. List two measures used to treat the ingestion of corrosive acid.

1. _____
2. _____

2. Explain why patients with gastritis due to a vitamin deficiency usually have a malabsorption of vitamin B₁₂.

3. Name two conditions specifically related to peptic ulcer development.

4. List the bacillus that is commonly associated with gastric and possibly duodenal ulcers:

5. List several findings characteristic of Zollinger-Ellison syndrome.

6. Define the term *stress ulcer*.

7. Distinguish between the cause and locations of Cushing's and Curling's ulcers.

8. Explain the current theory about diet modification for peptic ulcer disease.

9. Name three major complications of a peptic ulcer.

1. _____
2. _____
3. _____

10. Describe the clinical manifestations associated with peptic ulcer perforation.

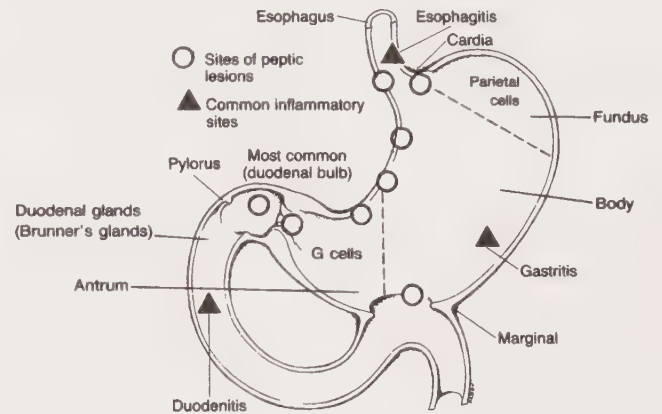
II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Extracting Inferences

Examine the figure below. Outline in detail the pathophysiology of peptic ulcer formation. Explain why specific sites are more common and what contributes to common inflammatory sites.

FIGURE Peptic lesions may occur in the esophagus (esophagitis), stomach (gastritis), or duodenum (duodenitis). Note peptic ulcer sites and common inflammatory sites. Hydrochloric acid is formed by parietal cells in the fundus; gastrin is secreted by G cells in the antrum. The duodenal glands secrete an alkaline mucous solution.



35

Management of Patients With Intestinal and Rectal Disorders

Chapter Overview

Intestinal disorders range from mild alterations in bowel function to the acute manifestations of peritonitis and the chronic problems associated with intestinal conduits subsequent to carcinoma. Nurses need to be alert to indicators of pathology, since prognosis can be influenced by early diagnosis and treatment. Covert physiologic symptoms can frequently be identified by analyzing psychosocial behavior. Nursing care plans need to address a person's total needs, because the entire body is frequently adversely affected by localized gastrointestinal disorders.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The pathophysiology of constipation may be related to interference with:
 - a. myoelectric activity of the colon.
 - b. mucosal transport.
 - c. processes involved in defecation.
 - d. all of the above mechanisms.
2. Nursing suggestions to help a person break the constipation habit include all of the following *except*:
 - a. a fluid intake of at least 2 L/day.
 - b. a low-residue, bland diet.
 - c. establishing a regular schedule of exercise.
 - d. establishing a regular time for daily elimination.
3. The classification of moderate diarrhea refers to the quantity of daily unformed stools described as:
 - a. more than two bowel movements a day.
 - b. between two and four bowel movements daily.
 - c. between three and six bowel movements daily.
 - d. more than six bowel movements a day.
4. In assessing stool characteristics associated with diarrhea, the nurse knows that the presence of greasy stools suggests:
 - a. disorders of the colon.
 - b. inflammatory enteritis.
 - c. intestinal malabsorption.
 - d. small-bowel disorders.
5. Hypokalemia may occur rapidly in an elderly person who experiences diarrhea. The nurse should report a critical potassium level of ____ to the physician immediately.
 - a. 3.0 mEq/L
 - b. 4.0 mEq/L
 - c. 4.5 mEq/L
 - d. 5.0 mEq/L

6. A positive Rovsing's sign is indicative of appendicitis. The nurse knows to assess for this indicator by palpating the:
 - a. right lower quadrant.
 - b. left lower quadrant.
 - c. right upper quadrant.
 - d. left upper quadrant.
7. The most common site for diverticulitis is the:
 - a. duodenum.
 - b. ileum.
 - c. jejunum.
 - d. sigmoid.
8. Diverticulitis is clinically manifested by:
 - a. a low-grade fever.
 - b. a change in bowel habits.
 - c. left lower quadrant pain.
 - d. all of the above.
9. Common clinical manifestations of Crohn's disease are:
 - a. abdominal pain and diarrhea.
 - b. edema and weight gain.
 - c. nausea and vomiting.
 - d. obstruction and ileus.
10. A nurse suspects a diagnosis of regional enteritis when she assesses the symptom(s) of:
 - a. abdominal distention and rebound tenderness.
 - b. hyperactive bowel sounds in the right lower quadrant.
 - c. intermittent pain associated with diarrhea.
 - d. all of the above.
11. Nutritional management for regional enteritis consists of diet therapy that is:
 - a. high in fats.
 - b. high in fiber.
 - c. low in protein.
 - d. low in residue.
12. Remission of inflammation in ulcerative colitis is possible with:
 - a. antidiarrheal medication.
 - b. periods of rest after meals.
 - c. steroid therapy.
 - d. all of the above.
13. A problem unique to the patient with an ileostomy is that:
 - a. regular bowel habits cannot be established.
 - b. sexual activity is restricted.
 - c. skin excoriation can occur.
 - d. the collecting appliance is bulky and large.
14. Postoperative nursing management for a patient with a continent ileostomy includes all of the following *except*:
 - a. checking to make certain that the rectal packing is in place.
 - b. irrigating the ileostomy catheter every 3 hours.
 - c. nasogastric tube feedings, 30 to 50 ml, every 4 to 6 hours.
 - d. perineal irrigations after the dressings are removed.
15. Clinical manifestations associated with small-bowel obstruction include all of the following *except*:
 - a. dehydration.
 - b. pain that is wavelike.
 - c. the passage of blood-tinged stool.
 - d. vomiting.
16. The mortality rate for cancer of the colon is:
 - a. less than 20%.
 - b. 25 to 35%.
 - c. 40 to 50%.
 - d. greater than 60%.
17. Preoperatively, intestinal antibiotics are given for colon surgery to:
 - a. decrease the bulk of colon contents.
 - b. reduce the bacteria content of the colon.
 - c. soften the stool.
 - d. do all of the above.
18. For colostomy irrigation, the enema catheter should be inserted into the stoma:
 - a. 1 in.
 - b. 2 to 3 in.
 - c. 4 to 6 in.
 - d. 8 in.
19. For colostomy irrigation, the patient should be directed to hold the enema can or bag at shoulder level approximately ____ above the stoma.
 - a. 6 in.
 - b. 8 to 16 in.
 - c. 18 to 24 in.
 - d. 30 in.

20. The total quantity of irrigating solution that can be instilled at one session is:
- 1,000 ml.
 - 1,500 ml.
 - 2,500 ml.
 - 3,000 ml.

Crossword Puzzle

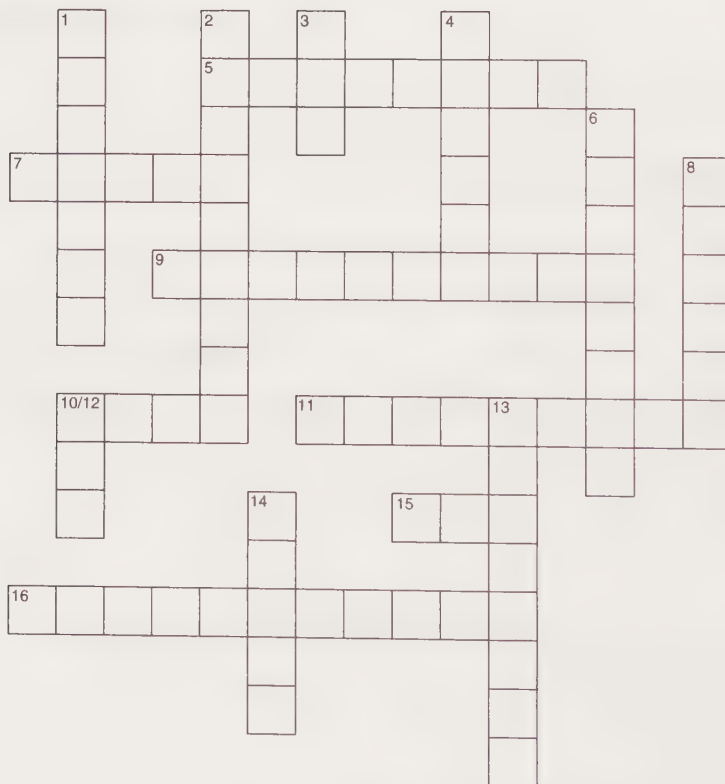
Complete the following crossword puzzle using common terms associated with intestinal and rectal disorders.

Down

- A tubular fibrous tract that extends from an opening beside the anus into the anal canal
- Dilated and atonic colon caused by a fecal mass
- A chemotherapeutic agent used to treat colon cancer
- A food to avoid for a patient with an ileostomy
- Straining at stool
- Another name for regional enteritis
- A highly reliable blood study used to diagnose colon cancer
- Painful straining at stool
- The most common bacteria associated with peritonitis

Across

- Another term for fecal matter
- An ileal outlet on the abdomen
- Intestinal rumbling
- Another food to avoid for a patient with an ileostomy
- The most popular "over-the-counter" medications purchased in the United States
- Intravenous nutrition used for inflammatory bowel disease
- The most common complication of appendicitis



II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. Diarrhea is a condition in which there is an increased frequency of bowel movements (more than six per day) associated with increased amount and consistency.
2. Peritonitis, the most common reason for emergency abdominal surgery, occurs in about 10% of the population.
3. The most serious complication of appendicitis is strangulation of adjacent bowel tissue, which occurs in 5% of the cases.
4. The most common areas affected in Crohn's disease are the sigmoid colon and the cecum.
5. The most common presenting symptom of colon cancer is rectal bleeding.

Generating Solutions: Clinical Problem Solving

Read the following case studies. Fill in the blanks or circle the correct answer.

CASE STUDY: Appendicitis

Rory, an 18-year-old girl, is admitted to the hospital with a possible diagnosis of appendicitis. She had been symptomatic for several days before admission.

1. During assessment, the nurse is looking for positive indicators of appendicitis, which include all of the following *except*:
 - a. a low-grade fever.
 - b. abdominal tenderness on palpation.
 - c. thrombocytopenia.
 - d. vomiting.
2. On physical examination, the nurse should be looking for tenderness on palpation at McBurney's point, which is located in the:
 - a. left lower quadrant.
 - b. left upper quadrant.
 - c. right lower quadrant.
 - d. right upper quadrant.
3. Symptoms suggestive of acute appendicitis include:
 - a. a positive Rovsing's sign.
 - b. increased abdominal pain with coughing.
 - c. tenderness around the umbilicus.
 - d. all of the above.
4. Preparation for an appendectomy includes:
 - a. an intravenous infusion.
 - b. prophylactic antibiotic therapy.
 - c. salicylates to lower an elevated temperature.
 - d. all of the above.

CASE STUDY: Peritonitis

Sharon has peritonitis subsequent to ambulatory peritoneal dialysis. Her presenting symptoms are pain, abdominal tenderness, and nausea.

1. On assessment, the nurse should be looking for additional symptoms diagnostic of peritonitis, which include:
 - a. abdominal rigidity.
 - b. diminished peristalsis.
 - c. leukocytosis.
 - d. all of the above.
2. A central venous pressure (CVP) catheter is inserted to monitor fluid balance. The nurse's readings indicate low circulatory volume. The reading is probably between:
 - a. 2 and 4 cm H₂O.
 - b. 6 and 8 cm H₂O.
 - c. 10 and 12 cm H₂O.
 - d. 14 and 16 cm H₂O.

3. Given Sharon's CVP reading indicating hypovolemia, the nurse should assess for all of the following *except*:
- a. bradycardia.
 - b. hypotension.
 - c. oliguria.
 - d. tachypnea.
4. With treatment, Sharon's peritonitis subsides. However, the nurse continues to assess for the common complication of:
- a. abscess formation.
 - b. respiratory arrest owing to excessive pressure on the diaphragm.
 - c. umbilical hernia.
 - d. urinary tract infection.

Learner's Self-Evaluation Tool for End of Unit 7 Review

1. The most important concepts or facts I have learned from this unit are:

- 1. _____
- 2. _____
- 3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

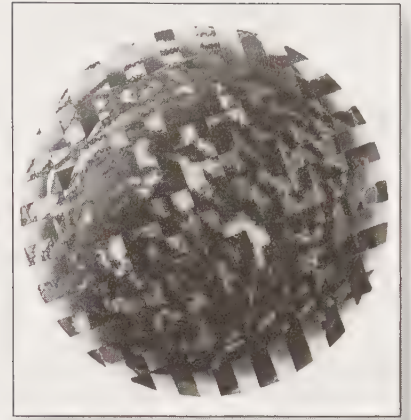
I will do this on _____ (date and time).

5. I believe my mastery of this unit to be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.

UNIT 8

Metabolic and Endocrine Function



36

Assessment and Management
of Patients With Hepatic
and Biliary Disorders

37

Assessment and Management
of Patients With Diabetes
Mellitus

38

Assessment and Management
of Patients With Endocrine
Disorders

36

Assessment and Management of Patients With Hepatic and Biliary Disorders

Chapter Overview

The liver is vital to human survival. Among its functions are glucose, protein, and fat metabolism, drug metabolism, bile formation, and vitamin storage. The biliary system works synergistically with the hepatic system and plays a major role in digestion and absorption. Hepatic and biliary disorders always result in systemic as well as localized responses. Therefore, during assessment a nurse needs to be sensitive to covert as well as overt manifestations of organ and system pathophysiology that may result from hepatic or biliary dysfunction.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The majority of blood supply to the liver comes from the:
 - a. hepatic artery.
 - b. hepatic vein.
 - c. portal artery.
 - d. portal vein.
2. The liver plays a major role in glucose metabolism by:
 - a. producing ketone bodies.
 - b. synthesizing albumin.
 - c. participating in gluconeogenesis.
 - d. doing all of the above.
3. The liver synthesizes prothrombin only if there is enough vitamin:
 - a. A.
 - b. B₁₂.
 - c. D.
 - d. K.
4. The substance necessary for the manufacture of bile salts by hepatocytes is:
 - a. albumin.
 - b. bilirubin.
 - c. cholesterol.
 - d. vitamin D.
5. The main function of bile salts is:
 - a. albumin synthesis.
 - b. fat emulsification in the intestines.
 - c. lipid manufacture for the transport of proteins.
 - d. urea synthesis from ammonia.
6. Hepatocellular dysfunction will result in all of the following *except*:
 - a. decreased serum albumin.
 - b. elevated serum bilirubin.
 - c. increased blood ammonia levels.
 - d. increased levels of urea.

7. Jaundice becomes evident when serum bilirubin levels exceed:
- 0.5 mg/dl.
 - 1.0 mg/dl.
 - 1.5 mg/dl.
 - 2.5 mg/dl.
8. Negative sodium balance is important for a patient with ascites. An example of food permitted on a low-sodium diet is:
- 1/4 cup of peanut butter.
 - 1 cup of powdered milk.
 - one frankfurter.
 - two slices of cold cuts.
9. A person who consumes contaminated shellfish would probably develop hepatitis:
- A virus.
 - B virus.
 - non-A, non-B virus.
 - C virus.
10. The hepatitis virus that has the shortest average incubation period is hepatitis:
- A virus.
 - B virus.
 - C virus.
 - D virus.
11. Immune serum globulin provides passive immunity to type A hepatitis in those not vaccinated if administered 2 to 7 days after exposure. Immunity is effective for about:
- 1 month.
 - 2 months.
 - 3 months.
 - 4 months.
12. Choose the correct statement about hepatitis B vaccine.
- All persons at risk should receive active immunization.
 - Evidence suggests that the HIV virus may be harbored in the vaccine.
 - It should be given only once because of its potency.
 - One dose in the dorsogluteal muscle is recommended.
13. Indications for postexposure vaccination with hepatitis B immune globulin include:
- accidental exposure to Hb_sAg-positive blood.
 - perinatal exposure.
 - sexual contact with those who are positive for Hb_sAg.
 - all of the above exposures.
14. The chemical(s) most commonly implicated in toxic hepatitis is(are):
- chloroform.
 - gold compounds.
 - phosphorus.
 - all of the above hepatoxins.
15. Fulminant hepatic failure may progress to hepatic encephalopathy ____ weeks after disease onset.
- 2
 - 4
 - 6
 - 8
16. Late symptoms of hepatic cirrhosis include all of the following *except*:
- edema.
 - hypoalbuminemia.
 - hypokalemia.
 - hyponatremia.
17. Cirrhosis results in shunting of the portal system blood into collateral blood vessels in the gastrointestinal tract. The most common site(s) is(are) the:
- esophagus.
 - lower rectum.
 - stomach.
 - a combination of all of the above.
18. Signs of advanced liver disease include:
- ascites.
 - jaundice.
 - portal hypertension.
 - all of the above.
19. The most common single cause of death in patients with cirrhosis is:
- congestive heart failure.
 - hepatic encephalopathy.
 - hypovolemic shock.
 - ruptured esophageal varices.
20. The mortality rate from bleeding esophageal varices is about:
- 10%.
 - 30%.
 - 50%.
 - 80%.

21. Indicator(s) of probable esophageal varices is(are):
 - a. hematemesis.
 - b. a positive guaiac test.
 - c. melena.
 - d. all of the above.
22. Bleeding esophageal varices result in a decrease in:
 - a. nitrogen load from bleeding.
 - b. renal perfusion.
 - c. serum ammonia.
 - d. all of the above.
23. Hepatic lobectomy for cancer can be successful when the primary site is localized. Because of the regenerative capacity of the liver, a surgeon can remove up to:
 - a. 25% of liver tissue.
 - b. 50% of liver tissue.
 - c. 75% of liver tissue.
 - d. 90% of liver tissue.
24. Statistics show that there is a greater incidence of gallbladder disease for women who are:
 - a. multiparous.
 - b. obese.
 - c. over 40 years of age.
 - d. characterized by all of the above.
25. Clinical manifestations of common bile-duct obstruction include all of the following *except*:
 - a. amber-colored urine.
 - b. clay-colored feces.
 - c. pruritus.
 - d. jaundice.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Liver Biopsy

Veronica is scheduled for a liver biopsy. The staff nurse assigned to care for Veronica is to accompany her to the treatment room.

1. Before a liver biopsy, the nurse should check to see that:
 - a. a compatible donor blood is available.
 - b. hemostasis tests have been completed.
 - c. vital signs have been assessed.
 - d. all of the above have been done.
2. The nurse begins preparing Veronica for the biopsy by assisting her to the correct position, which is:
 - a. jackknife, with her entire back exposed.
 - b. recumbent, with her right upper abdomen exposed.
 - c. lying on her right side, with the left upper thoracic area exposed.
 - d. supine, with the left lateral chest wall exposed.
3. The nurse knows that the biopsy needle will be inserted into the liver between the:
 - a. third and fourth ribs.
 - b. fourth and fifth ribs.
 - c. sixth and seventh ribs.
 - d. eighth and ninth ribs.
4. Immediately before needle insertion, Veronica needs to be instructed to:
 - a. breathe slowly and deeply so that rib cage expansion will be minimized during needle insertion.
 - b. inhale and exhale deeply and then hold her breath at the end of expiration until the needle is inserted.
 - c. pant deeply and continue panting during needle insertion so pain perception will be minimized.
 - d. take a deep inspiration and not breathe for 30 to 40 seconds so that the area for needle insertion can be determined; she should then resume normal breathing for the remainder of the procedure.
5. After the biopsy, the nurse assists Veronica to:
 - a. high Fowler's position, in which she can effectively take deep breaths and cough.
 - b. ambulate while splinting her incision.
 - c. assume the Trendelenburg position to prevent postbiopsy shock.
 - d. the right-side-lying position with a pillow placed under the right costal margin.

CASE STUDY: Paracentesis

Wendy is scheduled for a paracentesis for ascites formation subsequent to cirrhosis of the liver.

1. Before the procedure, the nurse obtains several drainage bottles. She knows that the maximum amount of fluid to be aspirated at one time is:
 - a. 1 L.
 - b. 2 L.
 - c. 3 L.
 - d. 4 L.
2. The nurse helps Wendy to assume the proper position for a paracentesis, which is:
 - a. recumbent so that the fluid will pool to the lower abdomen.
 - b. lying on her left side so that fluid will not exert pressure on the liver.
 - c. semi-Fowler's to avoid shock and provide the most comfort.
 - d. upright with her feet resting on a support so that the puncture site will be readily visible.
3. After the paracentesis, Wendy should be observed for signs of vascular collapse, which include all of the following *except*:
 - a. bradycardia.
 - b. hypotension.
 - c. oliguria.
 - d. pallor.

CASE STUDY: Alcoholic or Nutritional Cirrhosis

Nathan, a 50-year-old physically disabled veteran, has lived alone for 30 years. He has maintained his independence despite chronic back pain resulting from a war injury. He has a long history of depression and limited food intake. He drinks six to ten bottles of beer daily. He was recently admitted to a veteran's hospital with a diagnosis of alcoholic or nutritional cirrhosis. He was asymptomatic for ascites.

1. On assessment the nurse notes early clinical manifestations of alcoholic or nutritional cirrhosis, which include all of the following *except*:
 - a. pain caused by liver enlargement.
 - b. a sharp edge to the periphery of the liver.
 - c. a liver decreased in size and nodular.
 - d. a firm liver.
2. An abnormal laboratory finding for Nathan is a:
 - a. blood ammonia level of 35 mg/dl.
 - b. serum albumin of 4.0 g/dl.
 - c. total serum bilirubin of 0.9 mg/dl.
 - d. total serum protein of 5.5 g/dl.
3. Nathan is 5 ft. 10 in. tall and weighs 140 lb. The physician recommends 50 cal/kg for weight gain. Nathan's daily caloric intake would be approximately:
 - a. 2,200 cal.
 - b. 2,800 cal.
 - c. 3,200 cal.
 - d. 3,800 cal.
4. A recommended protein intake for Nathan to gain weight is:
 - a. 31 to 44 g.
 - b. 41 to 54 g.
 - c. 51 to 64 g.
 - d. 61 to 74 g.
5. The physician recommends a sodium-restricted diet. The nurse expects the suggested sodium intake to be approximately:
 - a. 250 to 500 mg/24 hr.
 - b. 500 to 1,000 mg/24 hr.
 - c. 2,000 to 2,500 mg/24 hr.
 - d. 3,000 to 3,500 mg/24 hr.

CASE STUDY: Liver Transplant

Denise, a 54-year-old mother of three, is scheduled for a liver transplantation subsequent to an extensive hepatic malignancy.

1. Denise is hopeful that her surgery will be successful. She is aware that she has a(n) ____ % chance of a 1-year success rate.
 - a. 10
 - b. 30
 - c. 50
 - d. 80
2. Denise knows that a successful outcome to transplantation will be compromised by:
 - a. fluid and electrolyte disturbances.
 - b. malnutrition.
 - c. massive ascites.
 - d. all of the above.

3. The nurse is aware that postoperatively the leading cause of death is:
 - a. bleeding.
 - b. hypotension.
 - c. infection.
 - d. portal hypertension.
4. The nurse knows that a patient receiving cyclosporine to prevent rejection of the transplanted liver may develop a drug side effect of:
 - a. nephrotoxicity.
 - b. septicemia.
 - c. thrombocytopenia.
 - d. all of the above reactions.

CASE STUDY: Cholecystectomy

Brenda, a 33-year-old obese mother of four, is diagnosed as having acute gallbladder inflammation. She is 5 ft. 4 in. tall and weighs 190 lb. The physician decides to delay surgical intervention until her acute symptoms subside.

1. Brenda's initial course of treatment would probably consist of:
 - a. analgesics and antibiotics.
 - b. intravenous fluids.
 - c. nasogastric suction.
 - d. all of the above.
2. After her acute attack, Brenda was limited to low-fat liquids. As foods are added to her diet, she needs to know that she should avoid:
 - a. cooked fruits.
 - b. eggs and cheese.
 - c. lean meats.
 - d. rice and tapioca.
3. Brenda is being medicated with chenodeoxycholic acid. The nurse needs to tell Brenda that the drug may not be effective if it is taken in conjunction with:
 - a. dietary cholesterol.
 - b. estrogens.
 - c. oral contraceptives.
 - d. all of the above.

Because Brenda's symptoms continue to recur, she is scheduled for gallbladder surgery.

1. Brenda has signed a consent form for removal of her gallbladder and ligation of the cystic duct and artery. She is scheduled to undergo a:
 - a. cholecystectomy.
 - b. cholecystostomy.
 - c. choledochostomy.
 - d. choledocholithotomy.
2. Postoperative nursing observation includes assessing for:
 - a. indicators of infection.
 - b. leakage of bile into the peritoneal cavity.
 - c. obstruction of bile drainage.
 - d. all of the above.
3. Brenda needs to know that fat restriction is usually lifted when the biliary ducts dilate to accommodate bile once held by the gallbladder. This takes about:
 - a. 1 week.
 - b. 2 to 3 weeks.
 - c. 4 to 6 weeks.
 - d. 2 months.

37

Assessment and Management of Patients With Diabetes Mellitus

Chapter Overview

Diabetes mellitus is an endocrine disorder associated with abnormalities in several major body systems. It is characterized by hyperglycemia, by insulin insufficiency, or by inadequate uptake of glucose in the peripheral tissues. Both acute and chronic manifestations are observed. The following questions and clinical situations refer to symptomatology and to nursing and medical management of patients who are diagnosed as having diabetes mellitus.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- A patient who is diagnosed with type I diabetes mellitus would be expected to:
 - be restricted to an American Diabetic Association diet.
 - have no damage to the islet cells of the pancreas.
 - need exogenous insulin.
 - need to receive daily doses of a hypoglycemic agent.
- As a cause of death by disease in the United States, diabetes mellitus ranks:
 - first.
 - second.
 - third.
 - fourth.
- Possible risk factors associated with type 1 diabetes mellitus (IDDM) include:
 - an autoimmune susceptibility to diabetogenic viruses.
 - environmental factors.
 - the presence of human leukocyte antigen (HLA).
 - all of the above.
- Knowing that gluconeogenesis helps to maintain blood levels, a nurse should:
 - document weight changes because of fatty acid mobilization.
 - evaluate the patient's sensitivity to low room temperatures because of decreased adipose tissue insulation.
 - protect the patient from sources of infection because of decreased cellular protein deposits.
 - do all of the above.

5. Clinical manifestations associated with a diagnosis of type 1 diabetes mellitus include all of the following except:
 - a. hypoglycemia.
 - b. hyponatremia.
 - c. ketonuria.
 - d. polyphagia.
6. A nurse is assigned to care for a patient who is suspected of having type 2 diabetes mellitus (NIDDM). Clinical manifestations for which the nurse should assess include:
 - a. blurred or deteriorating vision.
 - b. fatigue and muscle cramping.
 - c. wounds that heal slowly or respond poorly to treatment.
 - d. all of the above.
7. The nurse is asked to assess a patient for glucosuria. The nurse would secure a specimen of:
 - a. blood.
 - b. sputum.
 - c. stool.
 - d. urine.
8. There seems to be a positive correlation between type 2 diabetes mellitus and:
 - a. hypotension.
 - b. kidney dysfunction.
 - c. obesity.
 - d. sex.
9. The lowest fasting plasma glucose level suggestive of a diagnosis of diabetes is:
 - a. 90 mg/dl.
 - b. 115 mg/dl.
 - c. 126 mg/dl.
 - d. 180 mg/dl.
10. The most sensitive test for diabetes mellitus is the:
 - a. fasting plasma glucose test.
 - b. oral glucose tolerance test.
 - c. intravenous glucose test.
 - d. urine glucose test.
11. A female diabetic who weighs 130 lb has an ideal body weight of 116 lb. For weight reduction, her daily caloric intake should be approximately:
 - a. 1,000 cal.
 - b. 1,200 cal.
 - c. 1,500 cal.
 - d. 1,800 cal.
12. The nurse should encourage exercise in the management of diabetes, because it:
 - a. decreases total triglyceride levels.
 - b. improves insulin utilization.
 - c. lowers blood glucose.
 - d. accomplishes all of the above mechanisms.
13. Self-monitoring of blood glucose (SMBG) is recommended for patients with:
 - a. abnormal renal glucose thresholds.
 - b. hypoglycemia without warning symptoms.
 - c. unstable diabetes.
 - d. all of the above conditions.
14. An example of a commonly administered intermediate-acting insulin is:
 - a. NHP
 - b. Iletin II.
 - c. Humalog.
 - d. Humulin U.
15. The nurse knows that an intermediate-acting insulin should reach its "peak" in:
 - a. 1 to 2 hours.
 - b. 3 to 4 hours.
 - c. 4 to 12 hours.
 - d. 16 to 20 hours.
16. Current insulin pumps in use today:
 - a. can deliver a premeal dose (bolus) of insulin before each meal.
 - b. deliver a continuous basal rate of insulin at 0.5–2.0 units/hr.
 - c. prevent unexpected savings in blood glucose measurements.
 - d. are capable of doing all of the above.
17. A probable candidate for diabetic management with oral antidiabetic agents is one who is:
 - a. non-insulin-dependent.
 - b. stable and not prone to ketosis.
 - c. unable to be managed by diet alone.
 - d. characterized by all of the above.
18. The nurse should expect that insulin therapy will be temporarily substituted for oral antidiabetic therapy if the diabetic:
 - a. develops an infection with fever.
 - b. suffers trauma.
 - c. undergoes major surgery.
 - d. develops any or all of the above.

19. The tissue area that provides the fastest absorption rate for regular insulin is believed to be the:
 - a. abdominal area.
 - b. anterior thigh.
 - c. deltoid area.
 - d. gluteal site.
20. Rotation sites for insulin injection should be separated from one another by 2.5 cm (1 in.) and should be used only once every:
 - a. third day.
 - b. week.
 - c. 2 to 3 weeks.
 - d. 2 to 4 weeks.
21. Hypoglycemia, an abnormally low blood glucose level, occurs with a glucose level:
 - a. below 50–60 mg/dl.
 - b. between 60 and 80 mg/dl.
 - c. between 75 and 90 mg/dl.
 - d. of 95 mg/dl.
22. A clinical feature that distinguishes a hypoglycemic reaction from a ketoacidosis reaction is:
 - a. blurred vision.
 - b. diaphoresing.
 - c. nausea.
 - d. weakness.
23. The nurse knows that treatment modalities for diabetic ketoacidosis should focus on management of:
 - a. acidosis.
 - b. dehydration.
 - c. hyperglycemia
 - d. all of the above.
24. Mortality rates for patients with diabetes are positively correlated with atherosclerotic complications, especially in the coronary arteries, which account for about:
 - a. 10% of all deaths.
 - b. 30% of all deaths.
 - c. 40% of all deaths.
 - d. 60% of all deaths.
25. Macrovascular disease has a direct link with:
 - a. hypertension.
 - b. increased triglyceride levels.
 - c. obesity.
 - d. all of the above.
26. Clinical nursing assessment for a patient with microangiopathy who has manifested impaired peripheral arterial circulation includes all of the following *except*:
 - a. integumentary inspection for the presence of brown spots on the lower extremities.
 - b. observation for paleness of the lower extremities.
 - c. observation for blanching of the feet after the legs are elevated for 60 seconds.
 - d. palpation for increased pulse volume in the arteries of the lower extremities.
27. With nonproliferative (background) retinopathy, examination of the retina may reveal:
 - a. leakage of fluid or serum (exudates).
 - b. microaneurysms.
 - c. focal capillary single closure.
 - d. all of the above pathologic changes.
28. A diagnostic manifestation of proliferative retinopathy is:
 - a. decreased capillary permeability.
 - b. microaneurysm formation.
 - c. neovascularization into the vitreous humor.
 - d. the leakage of capillary wall fragments into surrounding areas.
29. Nursing care for a diabetic with peripheral neuropathy includes:
 - a. assessing pain patterns to rule out peripheral vascular insufficiency.
 - b. inspecting the feet for breaks in skin integrity.
 - c. palpating the lower extremities for temperature variations.
 - d. all of the above.
30. With peripheral neuropathy, a diabetic has limited sensitivity to:
 - a. heat.
 - b. pain.
 - c. pressure.
 - d. all of the above.
31. During surgery, glucose levels will rise, because there is an increased secretion of:
 - a. cortisol.
 - b. epinephrine.
 - c. glucagon.
 - d. all of the above.

32. The nurse expects that a type 1 diabetic may receive ____ of his or her usual morning dose of insulin preoperatively.
- 10% to 20%
 - 25% to 40%
 - 50% to 60%
 - 85% to 90%

For each of the clinical characteristics listed below, choose the associated classification of diabetes mellitus.

1 refers to type 1: Insulin-dependent diabetes mellitus

2 refers to type 2: Non-insulin-dependent diabetes mellitus

- ____ Etiology includes obesity
- ____ Ketosis is rare
- ____ Usually thin at diagnosis
- ____ Needs insulin to preserve life
- ____ Often has islet cell antibodies
- ____ No islet cell antibodies
- ____ Onset at any age
- ____ Usually is diagnosed after age 30
- ____ Hyperosmolar nonketotic syndrome is a complication
- ____ Little or no endogenous insulin

Match the physiologic change listed in Column II with its associated term listed in Column I.

Column I

- _____ gluconeogenesis
- _____ glucosuria
- _____ glycogenolysis
- _____ nephropathy
- _____ retinopathy

Column II

- Filtered glucose that the kidney cannot absorb spills over into urine.
- Glycogen breaks down in the liver through the action of glucagon.
- New glucose is produced from amino acids.
- Microvascular changes develop in the eyes.
- Small vessel disease affects the kidneys.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Type 1 Diabetes

Albert, a 35-year-old insulin-dependent diabetic, is admitted to the hospital with a diagnosis of pneumonia. He has been febrile since admission. His daily insulin requirement is 24 units of NPH.

- Every morning Albert is given NPH insulin at 7:30 AM. Meals are served at 8:30 AM, 12:30 PM, and 6:30 PM. The nurse expects that the NPH insulin will reach its maximum effect (peak) between the hours of:
 - 11:30 AM and 1:30 PM.
 - 1:30 PM and 7:30 PM.
 - 3:30 PM and 9:30 PM.
 - 5:30 PM and 11:30 PM.

2. A bedtime snack is provided for Albert. This is based on the knowledge that intermediate-acting insulins are effective for an approximate duration of:
 - a. 6 to 8 hours.
 - b. 10 to 14 hours.
 - c. 16 to 20 hours.
 - d. 24 to 28 hours.
3. Albert refuses his bedtime snack. This should alert the nurse to assess for:
 - a. an elevated serum bicarbonate and a decreased blood pH.
 - b. signs of hypoglycemia earlier than expected.
 - c. symptoms of hyperglycemia during the peak time of NPH insulin.
 - d. sugar in the urine.

CASE STUDY: Hypoglycemia

Betty, an 18-year-old type 1 diabetic, is unconscious when admitted to the hospital. Her daily dose of insulin has been 32 units of NPH each morning.

1. Based on knowledge of hypoglycemia, the nurse would expect that Betty's serum glucose level on admission is approximately:
 - a. 50 mg/dl.
 - b. 70 mg/dl.
 - c. 90 mg/dl.
 - d. 110 mg/dl.
2. Betty is given 1 mg of glucagon hydrochloride, subcutaneously, in the emergency department. Your knowledge about the action of this drug alerts you to observe for latent symptoms associated with:
 - a. glucosuria.
 - b. hyperglycemia.
 - c. ketoacidosis.
 - d. rebound hypoglycemia.
3. After Betty is medically stabilized, she is admitted to the clinical area for observation and health teaching. The nurse should make sure that Betty is aware of warning symptoms associated with hypoglycemia, such as:
 - a. emotional changes.
 - b. slurred speech and double vision.
 - c. staggering gait and incoordination.
 - d. all of the above.
4. Betty should also be taught that hypoglycemia may be prevented by:
 - a. eating regularly scheduled meals.
 - b. eating snacks to cover the peak time of insulin.
 - c. increasing food intake when engaging in increased levels of physical exercise.
 - d. doing all of the above.

CASE STUDY: Diabetic Ketoacidosis

Christine, a 64-year-old woman, is admitted to the clinical area with a diagnosis of diabetic ketoacidosis. On admission, she is drowsy yet responsive.

1. Nursing actions for a diagnosis of ketoacidosis include:
 - a. monitoring urinary output by means of an indwelling catheter.
 - b. evaluating serum electrolytes.
 - c. testing for glucosuria and acetonuria.
 - d. all of the above.
2. The nurse should expect that the rehydrating intravenous solution used will be:
 - a. 0.9% saline solution.
 - b. 5% dextrose in water.
 - c. 10% dextrose in water.
 - d. sterile water.
3. In evaluating the laboratory results, the nurse expects all of the following to indicate ketoacidosis *except*:
 - a. a decreased serum bicarbonate level.
 - b. an elevated blood glucose.
 - c. an increased blood urea.
 - d. an increased blood pH.
4. The physician notes a change in Christine's respirations. Her breathing is described as Kussmaul respirations. The nurse knows that these respirations are:
 - a. deep.
 - b. labored.
 - c. rapid.
 - d. shallow.

5. Christine is started on low-dose intravenous insulin therapy. Nursing assessment includes all of the following *except* frequent:
- a. blood pressure measurements to monitor the degree of hypotension.
 - b. estimates of serum potassium, since increased blood glucose levels are correlated with elevated potassium levels.
 - c. evaluation of blood glucose levels, because glucose levels should decline as insulin levels increase.
 - d. elevation of serum ketones to monitor the course of ketosis.
6. As blood glucose levels approach normal, the nurse should assess for signs of electrolyte imbalance associated with:
- a. hypernatremia.
 - b. hypercapnia.
 - c. hypocalcemia.
 - d. hypokalemia.

Identifying Patterns

In diagram format, illustrate the pathophysiologic sequence of changes that occurs with type 1 diabetes from "decreased insulin production by beta cells" to "ketoacidosis." Any outline format is acceptable as long as a cause-and-effect sequence can be seen.

Applying Concepts

Examine Figure 37-10 below and answer the following questions.



FIGURE 37-10 Neuropathic ulcers occur on pressure points in areas with diminished sensation in diabetic polyneuropathy. Pain is absent (and therefore the ulcer may go unnoticed).

1. Explain how each of the following diabetic complications lead to the formation of neuropathic ulcers and foot infections.
 - a. Sensory neuropathy causes _____.
 - b. Autonomic neuropathy causes _____.
 - c. Motor neuropathy causes _____.
2. Appropriate foot care could prevent up to _____% of lower extremity amputations as a result of foot infections and complications.
3. Explain how peripheral vascular disease affects the progression of a foot infection and ulcer formation:

4. Explain how hyperglycemia affects the spread of a foot infection.

5. The three events that typically occur in sequence and lead to the development of a diabetic foot ulcer are:
_____, _____, and _____.
6. List five daily activities related to foot care that a nurse should instruct a diabetic to complete.
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
7. Foot infections and ulcers may progress to the point that amputation is necessary, because:

38

Assessment and Management of Patients With Endocrine Disorders

Chapter Overview

The endocrine system is characterized by a feedback mechanism that functions interdependently with other systems to maintain homeostasis. Any imbalance in one area can quickly and adversely affect another area. Endocrine disorders are difficult to diagnose because of the multiplicity of nondescriptive symptoms associated with glandular dysfunction. Medical and nursing assessments need to be sensitive to the variety of clinical manifestations that may be present. Behavioral outcomes should be constantly monitored, because even minor medical and nursing interventions may produce a change, necessitating a change in the approach to care.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A clinical manifestation not usually associated with hyperthyroidism is:
 - a. a pulse rate below 90 beats per minute.
 - b. an elevated systolic blood pressure.
 - c. muscular fatigability.
 - d. weight loss.
2. Patients with hyperthyroidism are characteristically:
 - a. apathetic and anorexic.
 - b. calm.
 - c. emotionally stable.
 - d. insensitive to heat.
3. The objectives of pharmacotherapy for hyperthyroidism include:
 - a. destruction of overreactive thyroid cells.
 - b. prevention of thyroid hormonal synthesis.
 - c. increasing the amount of thyroid tissue.
 - d. all of the above.
4. Iodine or iodide compounds are used for hyperthyroidism, because they do all of the following *except*:
 - a. decrease the basal metabolic rate.
 - b. increase the vascularity of the gland.
 - c. lessen the release of thyroid hormones.
 - d. reduce the size of the gland.
5. Signs of thyroid storm include all of the following *except*:
 - a. bradycardia.
 - b. delirium or somnolence.
 - c. dyspnea and chest pain.
 - d. hyperpyrexia.
6. Medical management for thyroid crisis includes:
 - a. intravenous dextrose fluids.
 - b. hypothermia measures.
 - c. oxygen therapy.
 - d. all of the above.

7. Pharmacotherapy for thyroid storm would *not* include the administration of:
 - a. acetaminophen.
 - b. iodine.
 - c. propylthiouracil.
 - d. synthetic levothyroxine.
8. A diagnosis of hyperparathyroidism can be established by all of the following signs *except*:
 - a. a negative reading on a Sulkowitch test.
 - b. a serum calcium level of 12 mg/dl.
 - c. an elevated level of parathyroid hormone.
 - d. bone demineralization seen on x-ray film.
9. A recommended breakfast for a hyperparathyroid patient would be:
 - a. cereal with milk and bananas.
 - b. fried eggs and bacon.
 - c. orange juice and toast.
 - d. pork sausage and cranberry juice.
10. The pathophysiology of hypoparathyroidism is associated with all of the following *except* a(n):
 - a. decrease in serum calcium.
 - b. elevation of blood phosphate.
 - c. increase in the renal excretion of phosphate.
 - d. lowered renal excretion of calcium.
11. Nursing management for a hypoparathyroid patient would *not* include:
 - a. maintaining a quiet, subdued environment.
 - b. making certain that calcium gluconate is kept at the bedside.
 - c. observing the patient for signs of tetany.
 - d. supplementing the diet with milk and milk products.
12. The goal of medical management for hypoparathyroidism is to:
 - a. achieve a serum calcium level of 9–10 mg/dl.
 - b. eliminate clinical symptoms.
 - c. reverse the symptoms of hypocalcemia.
 - d. accomplish all of the above.
13. A pheochromocytoma is an adrenal medulla tumor that causes arterial hypertension by increasing the level of circulating:
 - a. catecholamines.
 - b. enzymes.
 - c. hormones.
 - d. glucocorticoids.
14. A positive test for overactivity of the adrenal medulla is an epinephrine value of:
 - a. 50 pg/ml.
 - b. 100 pg/ml.
 - c. 100 to 300 pg/ml.
 - d. 450 pg/ml.
15. Laboratory findings suggestive of Addison's disease include all of the following *except*:
 - a. a relative lymphocytosis.
 - b. hyperkalemia and hyponatremia.
 - c. hypertension.
 - d. hypoglycemia.
16. A positive diagnosis of Cushing's syndrome is associated with:
 - a. the disappearance of lymphoid tissue.
 - b. a reduction in circulating eosinophils.
 - c. an elevated cortisol level.
 - d. all of the above.
17. Clinical manifestations of Cushing's syndrome may be modified with a diet that is:
 - a. high in protein.
 - b. low in carbohydrates.
 - c. low in sodium.
 - d. all of the above.
18. The nurse needs to be aware that large-dose corticosteroid therapy is most effective when administered:
 - a. at 8:00 A.M.
 - b. at 8:00 P.M.
 - c. between 4:00 A.M. and 5:00 A.M.
 - d. between 4:00 P.M. and 6:00 P.M.
19. Nursing assessment for a patient who is receiving corticosteroid therapy includes observation for the unacceptable side effect of:
 - a. glaucoma.
 - b. facial mooning.
 - c. potassium loss.
 - d. weight gain.
20. A major symptom of pancreatitis is:
 - a. severe abdominal pain.
 - b. fever.
 - c. jaundice.
 - d. mental agitation.
21. The nurse should assess for an important *early indicator* of acute pancreatitis, which is an increased:
 - a. serum amylase level.
 - b. serum lipase level.
 - c. white cell count.
 - d. urine amylase level.

22. Nursing measures for pain relief for acute pancreatitis include:
- encouraging bed rest to decrease the metabolic rate.
 - teaching the patient about the correlation between alcohol intake and pain.
 - withholding oral feedings to limit the release of secretin.
 - all of the above.
23. With pancreatic carcinoma, insulin deficiency is suspected when the patient evidences:
- an abnormal glucose tolerance.
 - glucosuria.
 - hyperglycemia.
 - all of the above.
24. Clinical manifestations associated with a tumor of the head of the pancreas include:
- clay-colored stools.
 - dark urine.
 - jaundice.
 - all of the above.
25. A nurse should monitor blood glucose levels for a patient who is diagnosed as having hyperinsulinism. A value inadequate to sustain normal brain function is:
- 30 mg/dl.
 - 50 mg/dl.
 - 70 mg/dl.
 - 90 mg/dl.

Match the hormonal function listed in Column II with its corresponding hormone listed in Column I.

Column I

- _____ glucagon
- _____ aldosterone
- _____ oxytocin
- _____ somatotropin
- _____ vasopressin
- _____ calcitonin
- _____ prolactin
- _____ melatonin
- _____ parathormone
- _____ insulin

Column II

- controls excretion of water by the kidneys
- lowers blood sugar
- inhibits bone resorption
- influences metabolism that is essential for normal growth
- supports sexual maturation
- promotes the secretion of milk
- stimulates the reabsorption of sodium and the elimination of potassium
- promotes glycogenolysis
- increases the force of uterine contractions during parturition

Read each statement carefully. Write your response in the space provided.

- The two major hormones secreted by the posterior lobe of the pituitary gland are _____ and _____.
- Oversecretion of ACTH or the growth hormone results in _____ disease.
- A deficiency of ADH or vasopressin can result in the disorder known as _____.
- The thyroid gland produces three hormones: _____, _____, and _____.
- The most common type of hyperthyroidism is _____.
- Tetany is suggested when either of these signs are positive: _____ or _____.

Unscramble the letters to answer each statement.

1. The master gland of the endocrine system:

I U I Y P R A T T _____

2. Another name for the growth hormone.

P O T T I A S N R O O M _____

3. Excessive secretion of ADH results in a syndrome that causes fluid retention. It is identified by five letters.

H D A I S _____

4. The thyroid gland depends on the uptake of _____ to synthesize its hormones.

E O N I D I _____

5. The term used to describe "bulging eyes" found in patients with hyperthyroidism.

H M P L O S E A X O H T _____

6. The term used to describe hyperirritability of the nerves and excessive muscular twitching secondary to hypocalcemia.

Y T N A E T _____

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answer.

CASE STUDY: Primary Hypothyroidism

Connie had been hospitalized for 1 week for studies to confirm a diagnosis of primary hypothyroidism.

- Several tests were used in Connie's assessment. All of the following results are consistent with her diagnosis of hypothyroidism *except* for a(n):
 - elevated level of thyrotropin (TSH).
 - low uptake of radioactive iodine (^{131}I).
 - protein-bound iodine reading of 3 mg/dl.
 - T_3 uptake value of 45%.
- Nursing care for Connie includes assessing for clinical manifestations associated with hypothyroidism. A manifestation not consistent with her diagnosis is a:
 - change in her menstrual pattern.
 - pulse rate of 58 beats per minute.
 - temperature of 95.8° F
 - weight loss of 10 lb over a 2-week period.
- The principal objective of medical management is to:
 - irradiate the gland in an attempt to stimulate hormonal secretion.
 - replace the missing hormone.
 - remove the diseased gland.
 - withhold exogenous iodine to create a negative feedback response, which will force the gland to secrete hormones.

4. Nursing comfort measures for Connie should include:
 - a. encouraging frequent periods of rest throughout the day.
 - b. offering her additional blankets to help prevent chilling.
 - c. using a cleansing lotion instead of soap for her skin.
 - d. all of the above.
5. Health teaching for Connie includes making sure that she knows that iodine-based chemotherapy is:
 - a. administered intravenously for 1 week so that her symptoms may be rapidly put into remission.
 - b. needed for life.
 - c. recommended for 1 to 3 months.
 - d. used until her symptoms disappear.

CASE STUDY: Subtotal Thyroidectomy

Darrell, a 37-year-old father of two, has just returned to the clinical area from the recovery room. Darrell has had a subtotal thyroidectomy.

1. Postoperatively, Darrell is assisted from the stretcher to the bed. The most comfortable position for him to assume would be:
 - a. high Fowler's with his neck supported by a soft collar.
 - b. recumbent with his neck hyperextended and supported by a neck pillow.
 - c. recumbent with sandbags preventing his neck from rotating.
 - d. semi-Fowler's with his head supported by pillows.
2. Postoperative bleeding when the patient is in the dorsal position would probably be evidenced:
 - a. anteriorly.
 - b. laterally.
 - c. posteriorly.
 - d. in any of the above areas.
3. Indicators of internal bleeding include:
 - a. a sensation of fullness at the incision site.
 - b. hypotension.
 - c. tachycardia.
 - d. all of the above.
4. The nurse should assess for the common manifestation of recurrent laryngeal nerve damage, which is:
 - a. any voice change.
 - b. the inability to speak.
 - c. pain while speaking.
 - d. pain while swallowing.
5. The nurse expects Darrell's postoperative diet to be:
 - a. clear liquids, such as tea and carbonated beverages.
 - b. high in calories.
 - c. low in fat and protein.
 - d. low in minerals, especially calcium.
6. The nurse should monitor serum calcium levels for hypocalcemia, which will occur with a serum calcium level of:
 - a. 5 mg/dl.
 - b. 9 mg/dl.
 - c. 13 mg/dl.
 - d. 17 mg/dl.

Learner's Self-Evaluation Tool for End of Unit 8 Review

1. The most important concepts or facts I have learned from this unit are:
 1. _____
 2. _____
 3. _____
2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

I will do this on _____ (date and time).

5. I believe my mastery of this unit to be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.



UNIT 9

Urinary and Renal Function



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Assessment of Urinary
and Renal Function

40

Management of Patients
With Urinary and Renal
Dysfunction

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Management of Patients
With Urinary and Renal
Disorders

39

Assessment of Urinary and Renal Function

Chapter Overview

The urine is a valuable and readily accessible tool for indicating renal or urinary dysfunction. The nurse should always observe urine for abnormal characteristics and measure output in any patient suspected of having renal or urinary dysfunction. Patient education and preparation for invasive procedures used in diagnosing pathology should be part of any nursing care plan. Assessment includes observing for clinical manifestations of chronic as well as acute disorders in any patient suspected of having renal or urinary problems.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. An abnormal constituent of urine is:
 - a. creatinine.
 - b. glucose.
 - c. potassium.
 - d. urea.
2. The normal quantity of water ingested and excreted in the urine is approximately:
 - a. 0.5 L/day.
 - b. 1.5 L/day.
 - c. 2.5 L/day.
 - d. 4.0 L/day.
3. The normal amount of sodium ingested and excreted in the urine is approximately:
 - a. 2 to 3 g/day.
 - b. 4 to 5 g/day.
 - c. 6 to 8 g/day.
 - d. 9 to 10 g/day.
4. Increased blood osmolality will result in:
 - a. antidiuretic hormone (ADH) stimulation.
 - b. an increase in urine volume.
 - c. diuresis.
 - d. less reabsorption of water.
5. The nephrotic syndrome causes hypoalbuminemia, which results in:
 - a. activation of the renin–angiotensin system.
 - b. decreased oncotic pressure.
 - c. edema.
 - d. all of the above.
6. A major sensitive indicator of kidney disease is the:
 - a. blood urea nitrogen level.
 - b. creatinine clearance level.
 - c. serum potassium level.
 - d. uric acid level.

7. A major manifestation of uremia is:
 - a. a decreased serum phosphorus level.
 - b. hyperparathyroidism.
 - c. hypocalcemia with bone changes.
 - d. increased secretion of parathormone.
8. Oliguria is said to be present when urinary output is:
 - a. less than 30 ml/hr.
 - b. about 100 ml/hr.
 - c. between 300 and 500 ml/hr.
 - d. between 500 and 1,000 ml/hr.
9. Significant nursing assessment data relevant to renal function should include information about:
 - a. any voiding disorders.
 - b. the patient's occupation.
 - c. the presence of hypertension or diabetes mellitus.
 - d. all of the above.
10. A 24-hour urine collection is scheduled to begin at 8:00 AM. The nurse should begin the procedure:
 - a. after discarding the 8:00 AM specimen.
 - b. at 8:00 AM, with or without a specimen.
 - c. 6 hours after the urine is discarded.
 - d. with the first specimen voided after 8:00 AM.
11. The nurse should inform a patient that preparation for intravenous pyelography includes:
 - a. a liquid restriction for 8 to 10 hours before the test.
 - b. liquids before the test.
 - c. enemas until clear.
 - d. remaining NPO from midnight before the test.
12. Nursing responsibilities after renal angiography include:
 - a. assessment of peripheral pulses.
 - b. color and temperature comparisons between the involved and uninvolved extremities.
 - c. examination of the puncture site for swelling and hematoma formation.
 - d. all of the above.
13. A cystoscope allows visualization of the:
 - a. bladder.
 - b. ureteral orifices.
 - c. urethra.
 - d. above areas.
14. Nursing management after a renal biopsy includes:
 - a. assessing for the clinical manifestations of hemorrhage.
 - b. encouraging a fluid intake of 3 L every 24 hours.
 - c. obtaining a sample of each voided urine to compare it with a prebiopsy specimen.
 - d. all of the above.

Read each statement carefully. Write the best response in the space provided.

1. The functional unit of each kidney is the _____.
2. The normal urine osmolality ranges between _____.
3. The test that most accurately reflects glomerular filtration and renal excretory function is the _____ test.
4. Water is reabsorbed, rather than excreted, under the control of _____.
5. The most common early manifestation of kidney disease is: _____.

II. Critical Analysis Questions

Identifying Patterns

Draw the sequence of pathophysiologic events that are triggered when the blood pressure decreases and the hormone renin is released from the cells in the kidneys.

Renal perfusion decreases
and
Blood pressure decreases



Kidneys release _____



Liver manufactures _____

(converts to)



_____ (a powerful vasoconstrictor)



Adrenals release _____

Increases sodium retention



Released from pituitary _____



Blood pressure increases



40

Management of Patients With Urinary and Renal Dysfunction

Chapter Overview

Renal and urinary dysfunctions range from discomfort related to urinary tract infections to toxemia and a life-threatening situation caused by renal failure. Without a renal transplant, a patient with end-stage renal disease needs to be dialyzed for the rest of his or her life. Although dialysis can prolong life, the quality of that life can be severely compromised. A person must learn to deal with the psychosocial aspect of chronic illness and the emotional strain of dependence on a machine. A renal transplantation is the ideal alternative for an acceptable candidate.

A major concern for patients with renal or urinary dysfunction is the multisystem alternations that result from the original pathology, in addition to the magnitude of psychosocial needs subsequent to the disorders. Other nursing concerns are nutrition, fluid and electrolyte imbalance, catheter management, medical and surgical asepsis, and infection.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The most accurate indicator of fluid loss or gain in an acutely ill patient is:
 - a. blood pressure.
 - b. capillary refill.
 - c. serum sodium levels.
 - d. weight.
2. The type of incontinence that results from a sudden increase in intra-abdominal pressure is:
 - a. reflex incontinence.
 - b. stress incontinence.
 - c. overflow incontinence.
 - d. urge incontinence.
3. The major cause of death for patients with neurologic impairment of the bladder is:
 - a. myocardial infarction.
 - b. pulmonary edema.
 - c. septicemia.
 - d. renal failure.
4. A spastic neurogenic bladder is associated with all of the following *except*:
 - a. a loss of conscious sensation and cerebral motor control.
 - b. a lower motor neuron lesion.
 - c. hypertrophy of the bladder walls.
 - d. reduced bladder capacity.

5. The major complication of neurogenic bladder is:
 - a. hypertrophy.
 - b. infection.
 - c. pain.
 - d. spasm.
6. Nursing measures for a patient with a neurogenic bladder include:
 - a. encouraging a liberal fluid intake.
 - b. keeping the patient as mobile as possible.
 - c. offering a diet low in calcium.
 - d. all of the above.
7. When managing a closed urinary drainage system, the nurse needs to remember not to:
 - a. allow the drainage bag to touch the floor.
 - b. disconnect the bag.
 - c. raise the drainage bag above the level of the patient's bladder.
 - d. do any of the above.
8. A sign of a possible urinary tract infection is:
 - a. a negative urine culture.
 - b. an output of 200 to 900 ml with each voiding.
 - c. cloudy urine.
 - d. urine with a specific gravity of 1.005 to 1.022.
9. A female is taught to catheterize herself by inserting the catheter into the urethra:
 - a. 1/2 to 1 in.
 - b. 2 in.
 - c. 3 in.
 - d. 5 in.
10. Choose the process that underlies/supports the procedure of hemodialysis.
 - a. Diffusion
 - b. Osmosis
 - c. Ultrafiltration
 - d. All of the processes listed above
11. An incomplete protein not recommended for the diet of a patient managed by long-term hemodialysis is that found in:
 - a. eggs.
 - b. fish.
 - c. milk.
 - d. nuts.
12. With peritoneal dialysis, urea and creatinine pass through the peritoneum by:
 - a. active transport.
 - b. diffusion and osmosis.
 - c. filtration.
 - d. ultrafiltration.
13. The complete peritoneal dialysis process of removing toxic substances and body wastes takes approximately:
 - a. 6 to 8 hours.
 - b. 9 to 11 hours.
 - c. 12 to 24 hours.
 - d. 36 to 48 hours.
14. At the end of five peritoneal exchanges, the patient's fluid loss was 500 ml. This loss is equal to approximately:
 - a. 0.5 lb.
 - b. 1.0 lb.
 - c. 1.5 lb.
 - d. 2 lb.
15. The chief danger after renal surgery is:
 - a. abdominal distention owing to reflex cessation of intestinal peristalsis.
 - b. hypovolemic shock caused by hemorrhage.
 - c. paralytic ileus caused by manipulation of the colon during surgery.
 - d. pneumonia caused by shallow breathing because of severe incisional pain.
16. A nephrostomy tube is inserted to:
 - a. conserve and restore tissue traumatized by obstruction.
 - b. provide drainage from the kidney postoperatively.
 - c. provide ureter drainage when there is an interruption of the normal drainage course.
 - d. do all of the above.

Match the symptom listed in Column II with its associated fluid or electrolyte imbalance listed in Column I.

Column I

1. _____ calcium deficit
2. _____ calcium excess
3. _____ fluid volume deficit
4. _____ fluid volume excess
5. _____ magnesium deficit
6. _____ potassium deficit
7. _____ potassium excess
8. _____ protein deficit
9. _____ sodium deficit
10. _____ sodium excess

Column II

- a. carpopedal spasm and tetany
- b. muscle hypotonicity and flank pain
- c. oliguria and weight loss
- d. positive Chvostek's sign
- e. crackles and dyspnea
- f. chronic weight loss and fatigability
- g. fingerprinting on the sternum
- h. irritability and intestinal colic
- i. rough, dry tongue and thirst
- j. soft, flabby muscles and weakness

Read each statement carefully. Write your response in the space provided.

1. List four reasons for catheterization.

1. _____
2. _____
3. _____
4. _____

2. List several pathogens responsible for catheter-associated urinary tract infections.

- _____
- _____

3. List several signs and symptoms associated with catheter-induced urinary tract infections.

- _____
- _____

4. The leading cause of death for patients undergoing chronic hemodialysis is:

- _____

5. List seven potential complications of dialysis treatment:

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | |

6. The most common and serious complication of CAPD is: _____.

7. List two complications of renal surgery that are believed to be caused by reflex paralysis of intestinal peristalsis and manipulation of the colon or duodenum during surgery.

- _____
- _____

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. About 5 million adults in the United States suffer from urinary incontinence.
2. Urinary incontinence afflicts about one-third of all nursing home residents.
3. With a closed drainage system, only 20% of all patients experience bacteriuria.
4. Hemodialysis can be used as a long-term management therapy that can reverse the progress of renal disease.
5. CAPD is a good choice for home management because the process needs to be completed only once a day.

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answer.

CASE STUDY: CAPD

Edward, a 29-year-old diabetic, chose continuous ambulatory peritoneal dialysis (CAPD) as a way of managing his end-stage renal disease.

1. Edward chose CAPD because it helped him:
 - a. avoid severe dietary restrictions.
 - b. control his blood pressure.
 - c. have control over his daily activities.
 - d. do all of the above.
2. Using CAPD, Edward needs to dialyze himself:
 - a. approximately 4 to 5 times a day with no night changes.
 - b. every 3 hours while awake.
 - c. every 4 hours around the clock.
 - d. once in the morning and once in the evening every day.
3. Edward needs to be aware that toxic wastes are exchanged during the equilibration or dwell time, which usually lasts for:
 - a. 10–15 minutes.
 - b. 30 minutes.
 - c. 1 hour.
 - d. 2 to 3 hours.
4. Edward needs to be taught how to detect signs of the most serious and most common complication of CAPD, which is:
 - a. an abdominal hernia.
 - b. anorexia.
 - c. edema.
 - d. peritonitis.
5. Edward's diet should be modified to be:
 - a. high in carbohydrates.
 - b. high in fats.
 - c. high in protein.
 - d. low in bran and fiber.

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Management of Patients With Urinary and Renal Disorders

Chapter Overview

There are clinical manifestations common to renal and urinary disorders, as well as symptoms specific to the diagnosis (such as acute glomerulonephritis, cystitis, tuberculosis, and urolithiasis). Nursing interventions must incorporate common approaches as well as individual adaptations.

A major renal disorder is acute renal failure (ARF), which has several causes but one result: the sudden shut-down of renal function. ARF can be cured, or it can progress to chronic renal failure. Nursing care is directed toward managing renal dysfunction as well as those symptoms associated with the cause of the disorder.

Renal surgery (transplantation, diversion, or conduit) demands expert preoperative and postoperative nursing management. Rehabilitative nursing care includes patient education about permanent catheters or collecting devices. Some communities offer support groups to patients with disorders that necessitate a major adjustment in body image and self-esteem. Nursing intervention in such circumstances includes referral and follow-up.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The most common site of a lower urinary tract infection (UTI) is the:
 - a. bladder.
 - b. kidney.
 - c. prostate.
 - d. urethra.
2. There is an increased risk of urinary tract infections in the presence of:
 - a. altered metabolic states.
 - b. immunosuppression.
 - c. urethral mucosa abrasion.
 - d. all of the above.
3. The most common organism responsible for UTIs in the elderly is:
 - a. *Klebsiella*.
 - b. *Escherichia coli*.
 - c. *Proteus*.
 - d. *Pseudomonas*.
4. Health information for a female patient diagnosed as having cystitis includes all of the following *except*:
 - a. cleanse around the perineum and urethral meatus (from front to back) after each bowel movement.
 - b. void frequently.
 - c. shower rather than bathe in a tub.
 - d. avoid irritants such as perfumed soaps.

- b. drink liberal amounts of fluid.
- d. void no more frequently than every 6 hours to allow urine to dilute the bacteria in the bladder.
5. Complications of chronic pyelonephritis include:
- end-stage renal disease.
 - hypertension.
 - kidney stone formation.
 - all of the above.
6. Acute glomerulonephritis refers to a group of kidney diseases in which there is:
- an inflammatory reaction.
 - an antigen–antibody reaction to streptococci that results in circulating molecular complexes.
 - cellular complexes that lodge in the glomeruli and injure the kidney.
 - a combination of all of the above.
7. In most cases, the major stimulus to acute glomerulonephritis is:
- Escherichia coli*.
 - group A streptococcal infection of the throat.
 - Staphylococcus aureus*.
 - Neisseria gonorrhoeae*.
8. Laboratory findings consistent with acute glomerulonephritis include all of the following *except*:
- hematuria.
 - polyuria.
 - proteinuria.
 - white cell casts.
9. Chronic glomerulonephritis is manifested by:
- anemia secondary to erythropoiesis.
 - hypercalcemia and decreased serum phosphorus.
 - hypokalemia and elevated bicarbonate.
 - metabolic alkalosis.
10. The major manifestation of nephrotic syndrome is:
- hematuria.
 - hyperalbuminemia.
 - edema.
 - anemia.
11. Oliguria is a clinical sign of acute renal failure that refers to a daily urine output of:
- 1.5 L.
 - 1.0 L.
 - less than 400 mL.
 - less than 50 mL.
12. Hyperkalemia is a serious electrolyte imbalance that occurs in ARF and results from:
- protein catabolism.
 - electrolyte shifts in response to metabolic acidosis.
 - tissue breakdown.
 - all of the above.
13. A patient in ARF and negative nitrogen balance is expected to lose about:
- 0.5 kg/day.
 - 1.0 kg/day.
 - 1.5 kg/day.
 - 2 kg/day.
14. Potassium intake can be restricted by eliminating high-potassium food such as:
- butter.
 - citrus fruits.
 - cooked white rice.
 - salad oils.
15. In chronic renal failure (end-stage renal disease), decreased glomerular filtration leads to:
- increased pH.
 - decreased creatinine clearance.
 - increased serum BUN.
 - all of the above.
16. Dietary intervention for renal deterioration includes limiting the intake of:
- fluid.
 - protein.
 - sodium and potassium.
 - all of the above.
17. Decreased levels of erythropoietin, a substance normally secreted by the kidneys, leads to the following serious complication of chronic renal failure:
- anemia
 - acidosis
 - hyperkalemia
 - pericarditis
18. Recent research about the long-term toxicity of aluminum products has led physicians to recommend antacids that lower serum phosphorus such as:

- a. calcium carbonate.
 - b. sodium bicarbonate.
19. Preoperative management for a patient who is to undergo kidney transplantation includes:
- a. bringing the metabolic state to as normal a level as possible.
 - b. making certain that the patient is free of infection.
 - c. suppressing immunologic defense mechanisms.
 - d. all of the above.
20. Postoperative management for a recipient of a transplanted kidney includes:
- a. aseptic technique to avoid infection.
 - b. hourly urinary outputs to estimate the degree of kidney function.
 - c. protective isolation while immunosuppressive drug therapy is at its maximum dosage.
 - d. all of the above.
21. A major clinical manifestation of renal stones is:
- a. dysuria.
 - b. hematuria.
 - c. infection.
 - d. pain.
22. Patients with urolithiasis need to be encouraged to:
- a. increase their fluid intake so they can excrete 3,000 to 4,000 ml every day, which will help to prevent additional stone formation.
 - b. participate in strenuous exercises so that the tone of smooth muscle in the urinary tract can be strengthened to help propel calculi.
 - c. supplement their diet with calcium needed to replace losses to renal calculi.
 - d. limit their voiding to every 6 to 8 hours so that increased volume can increase hydrostatic pressure, which will help push stones along the urinary system.
23. A patient being managed on a diet moderately reduced in calcium and phosphorus should be taught to avoid:
- a. citrus fruits.
 - b. milk.
 - c. pasta.
 - d. whole grain breads.
24. The usual early clinical sign of a renal tumor is:
- a. a palpable mass.
 - b. painless hematuria.
 - c. localized tenderness.
 - d. renal colic.
25. The most common symptom of cancer of the bladder is:
- a. back pain.
 - b. dysuria.
 - c. gross painless hematuria.
 - d. infection.
26. The predominant cause of bladder cancer is:
- a. chronic renal failure.
 - b. cigarette smoking.
 - c. environmental pollution.
 - d. metatasis from another primary site.
27. The most effective intravesical agent for recurrent bladder cancer is:
- a. Bacille Calmette-Guérin (BCG).
 - b. doxorubicin.
 - c. etoglucid.
 - d. thiotepa.
28. The urinary diversion whereby the patient will void from his rectum for the rest of his life is known as a:
- a. cutaneous ureterostomy.
 - b. nephrostomy.
 - c. suprapubic cystostomy.
 - d. ureterosigmoidostomy.
29. Tuberculosis of the kidney and lower urinary tract is always:
- a. localized rather than a systemic disease.
 - b. a primary infection.
 - c. secondary to renal tuberculosis.
 - d. subsequent to pulmonary tuberculosis.
30. Choose the incorrect statement about interstitial cystitis. It is:

- a. associated with pain in the abdomen and perineum.
- b. characterized by severe voiding symptoms.
- c. seen in women between the ages of 40 and 50.
- d. caused by *Escherichia coli*.

Read each statement carefully. Write your response in the space provided.

1. Name the most common organism responsible for UTIs in women.

2. Name common signs and symptoms associated with an uncomplicated lower UTI (cystitis).

3. List the six clinical manifestations of acute pyelonephritis.

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

4. Describe the physical appearance of the urine early in the stage of acute glomerulonephritis.

5. Name four physiologic disorders that characterize the nephrotic syndrome: _____, _____, _____, and _____.

6. List three major conditions that cause acute renal failure. For each condition, give one to two examples.

- 1. _____
- 2. _____
- 3. _____

7. List several clinical manifestations seen in patients with acute renal failure.

8. Name several signs or symptoms seen in patients with threatened kidney transplant rejection.

9. List three crystalline substances known to form stones in the urinary tract: _____, _____, and _____.

10. Identify seven complications that may occur following an ileal conduit.

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. The majority of hospital-acquired urinary tract infections are caused by infrequent urination secondary to dehydration.
2. Urethrovesical reflux refers to the backward flow of urine from the bladder into one or both ureters.
3. Currently, cystoscopy and intravenous pyelography are the diagnostic tests of choice for individuals with recurring urinary tract infections.
4. Glomerulonephritis is primarily a disease of the elderly, especially in those older than 70 years.
5. Septicemia, secondary to uremia, is the most serious life-threatening condition of acute renal failure.
6. The most common clinical manifestation of renal trauma is severe, debilitating pain.

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answer.

CASE STUDY: Acute Renal Failure

Fran is hospitalized with a diagnosis of acute renal failure (ARF). She had been taking gentamicin sulfate for a pseudomonas infection.

1. The nurse knows that the kidney is susceptible to damage by nephrotoxic antibiotic agents, because it functions as a major excretory pathway and receives ____ of cardiac output at rest.
 - a. 5%
 - b. 15%
 - c. 25%
 - d. 45%
2. The nurse needs to assess for symptoms consistent with pathology secondary to reduced renal blood flow. Symptoms would include:
 - a. reduced glomerular filtration.
 - b. renal ischemia.
 - c. tubular damage.
 - d. all of the above.
3. During the oliguric phase of ARF, Fran's protein intake for her 156-lb body weight should be approximately:
 - a. 35 g/24 hr.
 - b. 70 g/24 hr.
 - c. 120 g/24 hr.
 - d. 156 g/24 hr.
4. While evaluating laboratory studies, the nurse expects that Fran's oliguric phase will be marked by all of the following *except*:
 - a. blood urea nitrogen of 10 mg/dl.
 - b. serum creatinine of 0.8 mg/dl.
 - c. serum potassium of 6 mEq/L.
 - d. urinary volume less than 600 ml/24 hr.
5. After the diuretic phase, the nurse should recommend a:
 - a. high-potassium diet.
 - b. high-protein diet.
 - c. low-carbohydrate diet.
 - d. low-fat diet.
6. The nurse expects the period of recovery to follow a period of oliguria and to last approximately:
 - a. 2 weeks.
 - b. 6 weeks.
 - c. 2 months.
 - d. 6–12 months.

Learner's Self-Evaluation Tool for End of Unit 9 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____

2. _____

3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by

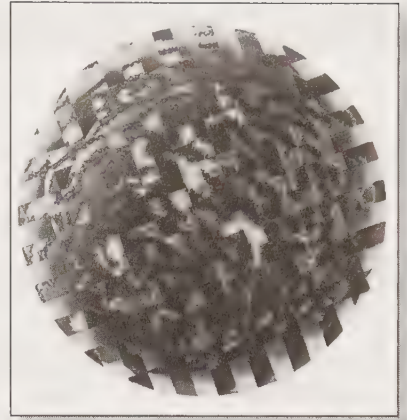
I will do this on _____ (date and time).

5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.

UNIT 10

Reproductive Function



42

Assessment and
Management: Problems
Related to Female
Physiologic Processes

43

Management of Women
With Reproductive Disorders

44

Assessment and Management
of Patients With Breast
Disorders

45

Assessment and
Management: Problems
Related to Male Reproductive
Processes

42

Assessment and Management: Problems Related to Female Physiologic Processes

Chapter Overview

Nursing intervention during the reproductive cycle includes patient education about individual promotion of health, impending signs of illness, self-examination of the breast, conception and birth control, prenatal care or pregnancy termination, nutrition for postmenopausal women, and hormonal pharmacotherapy.

A nurse should also support community efforts that encourage health care during the childbearing years by participating in seminars and functioning as a resource person.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A neighbor tells you that she has had vaginal bleeding for the past several days. She is postmenopausal and has not had a menstrual period for the past 4 years. You tell her to:
 - a. see her gynecologist or physician as soon as possible.
 - b. mention the bleeding episode to her physician at her next appointment.
 - c. disregard this bleeding episode, because it is probably normal.
 - d. use a birth control method, because she may be fertile with her next ovulation.
2. The results of a patient's cytologic test for cancer (Pap test) were interpreted as class II. The nurse explains that a class II finding indicates:
 - a. squamous cell abnormalities.
 - b. malignancy.
 - c. suggestive but not conclusive malignancy.
 - d. the absence of atypical or abnormal cells.
3. Newer classifications are being used to describe the findings of the cytologic smear. For example, a high-grade, squamous, intraepithelial lesion corresponds to type:
 - a. I.
 - b. II.
 - c. III.
 - d. IV.
4. After a cervical biopsy, the patient needs to be instructed to:
 - a. leave the packing in place for 8 to 24 hours.
 - b. report any excess bleeding.
 - c. delay sexual intercourse for 1 week.
 - d. do all of the above.

5. For vaginal irrigations, the nozzle of the applicator should be inserted into the vagina for a distance of:
 - a. 1.0 cm.
 - b. 2.5 cm.
 - c. 5.0 cm.
 - d. 7.5 cm.
6. Premenstrual syndrome may be caused by estrogen rising and progesterone decreasing during the phase of the menstrual cycle known as:
 - a. follicular.
 - b. luteal.
 - c. ovulation.
 - d. premenstrual.
7. In educating a patient with PMS (premenstrual syndrome) about changing her dietary practices, you would recommend that she increase her intake of:
 - a. magnesium.
 - b. vitamin D.
 - c. iron.
 - d. zinc.
8. Pain at the time of the regular menstrual flow is referred to as:
 - a. dysmenorrhea.
 - b. amenorrhea.
 - c. menorrhagia.
 - d. metrorrhagia.
9. A middle-aged woman experiencing dyspareunia can use _____ to diminish the discomfort.
 - a. ibuprofen
 - b. petroleum jelly
 - c. K-Y jelly
 - d. aspirin
10. A nutritional recommendation for postmenopausal women would be dietary increase in:
 - a. calcium.
 - b. iron.
 - c. salt.
 - d. vitamin K.
11. The most common side effect of the new implantable contraceptive (Norplant) is:
 - a. breast cancer.
 - b. irregular bleeding.
 - c. thrombophlebitis.
 - d. upper-arm pain at insertion site.
12. Statistically, use of the calendar rhythm method as a means of contraception yields a pregnancy rate of:
 - a. less than 10%.
 - b. between 10% and 20%.
 - c. about 40%.
 - d. about 80%.
13. The most frequently occurring factor in the cause of infertility is:
 - a. endometriosis.
 - b. ovulatory failure.
 - c. tubal damage.
 - d. unexplained reasons.
14. The highest incidence of ectopic pregnancy occurs in the:
 - a. cervix.
 - b. interstitial tissue.
 - c. fallopian tube.
 - d. abdominal area.
15. The incidence of recurrence of an ectopic pregnancy is:
 - a. 5%.
 - b. 7%–15%.
 - c. 20%.
 - d. 25%–40%.

Read each statement carefully. Write your response in the space provided.

1. Identify the normal range in years during which menopause usually begins.

2. List seven danger signals that any woman should report to a health care professional.

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | |

3. The most accurate outpatient procedure for evaluating a woman for endometrial cancer is

_____.

4. List eight major symptoms a woman with premenstrual syndrome (PMS) may experience:

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

5. Describe the physiologic basis for "the pill" as a contraceptive.

6. Identify some risk factors that would absolutely contraindicate the use of oral contraceptives.

7. Explain how an injection of Depo-Provera works.

8. Explain how the emergency use of estrogen or estrogen and a progestin can prevent pregnancy.

9. Describe the use of laminaria tents in therapeutic abortions.

10. List five reproductive areas where abnormalities can cause infertility in women.

1. _____
2. _____
3. _____
4. _____
5. _____

11. Describe *in vitro* fertilization.

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. When conducting a health assessment, the nurse knows that about 10% of women have been victims of incest.

2. Women born to mothers who took diethylstilbestrol (DES) during their pregnancy have a higher than average chance of suffering miscarriage.
3. A cervical cone biopsy may be done without anesthesia because the cervix is less sensitive to pain.
4. Magnetic resonance imaging (MRI) exposes the patient to radiation and is more expensive than other pelvic diagnostic aids.
5. Estrogen prepares the uterus for implantation of the fertilized ovum.
6. Progesterone can cause painful cramps during ovulation because it causes myometrial contractility and arteriolar vasospasm.
7. More than 1 million yearly pregnancies in the United States are unintended.
8. A recently approved abortion drug is methotrexate.

Extracting Inferences

Refer to Figure 42-9 when answering the following questions about ectopic pregnancies.

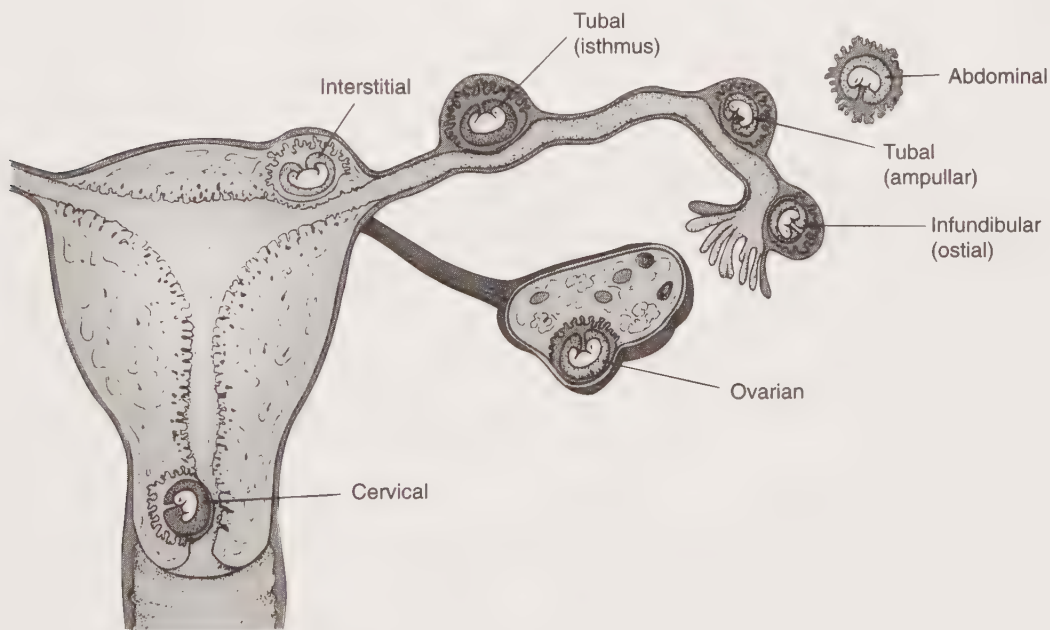


FIGURE 42-9 Sites of ectopic pregnancy.

1. Explain what occurs after the ovum is fertilized to cause an ectopic pregnancy.

2. List several possible causes of alternate implantation.

3. Look at the ovum implanted in the tubal (isthmus) area. What symptoms would you expect the woman to exhibit prior to tubal rupture?

4. Name three possible surgical options to treat ectopic pregnancies: _____,
_____, and _____.

5. Postoperative medical management would include assessing the level of beta-HCG to _____
_____.

6. The mortality rate for ectopic pregnancies is _____
_____.

43

Management of Women With Reproductive Disorders

Chapter Overview

Nursing management of patients with gynecologic disorders involves an awareness of the sensitivity of such patients. In the United States, society places such an exaggerated emphasis on female beauty and sexuality based on physical appearance that any threat to a woman's sexual image makes her anxious and fearful. Because sexual discussions are not considered proper in some cultures, nurses need to encourage patients to verbalize their fears and discomforts. Empathy, optimism, and a supportive attitude are needed in caring for patients with gynecologic disorders.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Conditions that increase the chances of a woman developing candidiasis include:
 - pregnancy.
 - diabetes mellitus.
 - antibiotic therapy.
 - all of the above.
- Metronidazole (Flagyl) is the recommended treatment for a vaginal infection caused by:
 - Candida albicans*.
 - Escherichia coli*.
 - Streptococcus*.
 - Trichomonas vaginalis*.
- Nursing interventions for the relief of pain and discomfort for a woman with a vulvovaginal infection include:
 - warm perineal irrigations.
 - sitz baths.
 - cornstarch for chafed inner thighs.
 - all of the above.
- To prevent the occurrence of toxic shock syndrome, women should be advised to do all of the following *except*:
 - avoid the use of superabsorbent tampons.
 - change tampons frequently.
 - avoid the use of diaphragms.
 - alternate the use of tampons with sanitary pads.
- The bacterium responsible for mucopurulent cervicitis is:
 - chlamydia.
 - gonorrhea.
 - staphylococcus.
 - pseudomonas.

6. Mrs. Jakes has had a pessary inserted for long-term treatment of a prolapsed uterus. As part of your teaching plan, you would advise Mrs. Jakes to:
- see her gynecologist to remove and clean the pessary at regular intervals.
 - keep the insertion site clean and dry.
 - avoid sexual intercourse.
 - avoid climbing stairs as much as possible.
7. Mrs. Schurman, who has been diagnosed as having endometriosis, asks for an explanation of the disease. The best response for the nurse is to explain that:
- she has developed an infection in the lining of her uterus.
 - tissue from the lining of the uterus has implanted in areas outside the uterus.
 - the lining of the uterus is thicker than usual, causing heavy bleeding and cramping.
 - the lining of the uterus is too thin because endometrial tissue has implanted outside the uterus.
8. The highest frequency of endometriosis is found in the:
- cervix.
 - cul-de-sac.
 - ovaries.
 - ureterovesical peritoneum.
9. Mrs. Schurman's treatment involves taking danazol (Danocrine), 200 mg. po, for 9 months. Danazol is a(n):
- gonadotropin that decreases ovarian and pituitary stimulation.
 - antigonadotropin that increases pituitary stimulation and decreases ovarian stimulation.
 - gonadotropin that decreases pituitary stimulation and increases ovarian stimulation.
 - antigonadotropin that decreases pituitary and ovarian stimulation.
10. Risk factors commonly associated with cancer of the cervix include:
- chronic cervical infections.
 - exposure to DES *in utero*.
 - multiple sexual partners.
 - all of the above.
11. By incidence, cervical cancer is the ____ most common female reproductive cancer.
- first
 - second
 - third
 - fourth
12. The two chief symptoms of early carcinoma of the cervix are:
- leukoplakia and metrorrhagia.
 - dyspareunia and foul-smelling vaginal discharge.
 - "strawberry" spots and menorrhagia.
 - leukorrhea and irregular vaginal bleeding or spotting.
13. Using the International Classification of Carcinoma of the Uterine Cervix, a stage II Pap smear result indicates:
- cancer *in situ*.
 - vaginal invasion.
 - pelvic wall invasion.
 - bladder extension.
14. A postmenopausal woman who has irregular uterine or vaginal bleeding should be encouraged by a nurse to:
- stop taking her Premarin (hormonal therapy).
 - see her gynecologist as soon as possible.
 - disregard this phenomenon because it is common during this life stage.
 - mention it to her physician during her next annual examination.
15. Cancer of the uterus, the most common pelvic neoplasm in women, ranks ____ among cancer for women.
- first
 - second
 - third
 - fourth
16. Women who experience postmenopausal bleeding have a ____% chance of developing cancer of the uterus.
- 10
 - 20
 - 35
 - 75
17. The most common symptom of cancer of the vulva is:
- a foul-smelling discharge.
 - bleeding.
 - pain.
 - pruritus.

18. The primary treatment for vulvar malignancy is:
- chemotherapy creams.
 - laser vaporization.
 - radiation.
 - wide excision.
19. Postoperative nursing care for a simple vulvectomy should include:
- cleansing the wound daily.
 - offering a low-residue diet.
 - positioning the patient with pillows.
 - all of the above.
20. Ovarian cancer ranks ____ as the cause of cancer deaths related to the female reproductive system.
- first
 - second
 - third
 - fourth
21. A diagnosis of stage III ovarian cancer indicates that growth involves:
- only the ovaries.
 - the ovaries with pelvic extension.
 - metastases outside the pelvis.
 - distant metastases.
22. Radiation therapy is the treatment of choice for:
- ovarian cancer.
 - squamous cell carcinoma of the cervix.
 - uterine carcinoma.
 - vaginal wall cancer.

Complete the following scramblegram by circling the word(s) that answer each statement below. Terms may be written in any direction.

A	E	E	T	D	A	C	Y	C	L	O	V	I	R
H	L	B	K	E	M	O	M	C	M	U	R	S	C
C	E	D	H	R	A	L	I	T	L	K	L	P	H
V	C	P	A	M	D	E	C	V	Y	L	M	R	A
P	O	A	L	O	N	G	O	S	G	B	E	O	D
B	T	P	U	I	M	D	S	C	A	R	N	L	S
Y	S	S	T	D	Y	L	T	N	L	I	O	A	M
M	Y	M	S	N	M	F	A	B	F	L	R	P	Y
O	C	E	I	R	A	C	T	G	O	T	R	S	T
T	R	A	F	O	S	F	I	Y	E	B	H	E	I
C	E	R	T	S	C	I	N	O	J	K	A	L	R
E	W	D	R	B	D	B	E	P	I	S	G	C	A
R	B	G	B	F	C	R	A	R	M	D	I	B	P
E	R	C	L	M	D	O	I	O	E	S	A	N	I
T	D	S	E	P	T	I	C	S	H	O	C	K	L
S	H	E	R	M	H	D	R	J	R	A	T	H	L
Y	B	A	G	A	C	S	Y	A	T	B	O	L	U
H	B	H	M	D	M	T	P	C	K	T	I	D	N

Definition of Terms

- Intense burning and inflammation of the vulva.
- A preferred treatment for candidiasis.

3. The recommended treatment for trichomoniasis.
4. The drug of choice for herpes genitalis.
5. A potential complication of toxic shock syndrome.
6. The downward displacement of the bladder toward the vaginal orifice.
7. This test is used for diagnosis of cervical cancer.
8. Term used to describe the surgical procedure where the uterus, cervix, and ovaries are removed.
9. A term to describe vaginal bleeding.
10. Another name for benign tumors of the uterus.
11. *In utero* exposure to this drug increases the incidence of vaginal cancer.
12. A risk factor for uterine cancer.
13. Exercises that strengthen the pelvic muscles.
14. An opening between two hollow organs.
15. Displacement of the uterus into the vaginal canal.
16. Cysts that arise from parts of the ovum.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answer.

CASE STUDY: Vaginal Discharge

Maryanne, a 19-year-old college student, has recently noticed increased vaginal discharge.

1. After examination the nurse prepares a wet mount (vaginal smear). When potassium hydroxide solution is added to the smear, a fishy odor is noted. Maryanne probably has a nonspecific vaginitis known as:
 - a. bacterial vaginosis.
 - b. candidiasis.
 - c. trichomoniasis.
 - d. atropic vaginitis.
2. A characteristic symptom of bacterial vaginosis is:
 - a. a scanty to minimal discharge.
 - b. a fishlike odor.
 - c. painful menstruation
 - d. a greenish discharge between periods.
3. Metronidazole is prescribed to be taken twice a day for 1 week. While taking this medication, Maryanne should be instructed to:
 - a. avoid dairy products.
 - b. avoid sunlight.
 - c. avoid alcohol.
 - d. lie down flat for at least 30 minutes after inserting the medication.
4. If Maryanne's vaginal infection recurs, the nurse should recommend that:
 - a. her sexual partner be tested and treated.
 - b. she refrain from sexual intercourse.
 - c. she avoid the use of tampons.
 - d. she take only showers and no tub baths for a while.
5. An appropriate nursing diagnosis for Maryanne is:
 - a. altered comfort—pain and discomfort related to burning or itching from the infectious process.
 - b. self-care deficit related to inability to perform activities of daily living.
 - c. altered comfort related to *Gardnerella*-associated vaginitis.
 - d. altered comfort related to candidiasis.

CASE STUDY: Toxic Shock Syndrome

Irene, a 23-year-old woman, is admitted to the emergency department in shock with an elevated temperature. She is diagnosed as having toxic shock syndrome (TSS).

1. The nurse knows that TSS is a bacterial infection associated with the use of tampons. The bacterial toxin is believed to be:
 - a. *Escherichia coli*.
 - b. *Haemophilus influenzae*.
 - c. *Staphylococcus aureus*.
 - d. *Pseudomonas aeruginosa*.
2. The onset of TSS is characterized by the sudden appearance of:
 - a. an elevated fever (up to 102° F).
 - b. a red, macular rash.
 - c. myalgia and dizziness.
 - d. uncontrolled hypotension.
3. Signs associated with TSS include all of the following *except*:
 - a. an elevated blood urea nitrogen level.
 - b. a decreased bilirubin level.
 - c. leukocytosis.
 - d. oliguria.
4. Diagnostic evaluation is made from examination of cultures from:
 - a. the blood and urine.
 - b. the cervix.
 - c. the vagina.
 - d. all of the above areas.
5. A priority of medical management is:
 - a. alleviating respiratory distress.
 - b. treating the shock.
 - c. controlling the infection.
 - d. managing the emotional distress.

44

Assessment and Management of Patients With Breast Disorders

Chapter Overview

Few things can be more traumatic to a woman than loss of a breast. Because society associates the breast with femininity and sexuality, loss of that tissue can be emotionally devastating. When developing a care plan for a patient who has had a mastectomy, the nurse needs to consider the woman's age, marital status, support systems, and mental attitude toward her breasts. These variables will significantly influence the direction of psychosocial care and nursing interventions.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The optimal time for breast self-examination is usually beginning at the ____ day after menses.
 - third
 - fifth
 - eighth
 - tenth
- The average percentage of women who perform breast self-examination is believed to be about:
 - 15%.
 - 25%.
 - 40%.
 - 80%.
- Mammography can diagnose breast cancer before it is clinically palpable, meaning that the lump can be detected by x-ray when it is approximately:
 - 1 cm in size.
 - 1 mm in size.
 - 2 cm in size.
 - 1 m in size.
- As part of health teaching, the nurse needs to alert patients that mammography can yield a false-negative result in ____ instances out of 100.
 - 5 to 10
 - 10 to 15
 - 15 to 20
 - 20 to 25
- Mammography should be used to annually screen women:
 - under age 35.
 - between the ages of 35 and 40.
 - from 40 to 50 years old.
 - over age 50.

6. Breast cancer is the leading cause of death for women:
 - a. between the ages of 25 and 35.
 - b. between the ages of 35 and 60.
 - c. between the ages of 60 and 70.
 - d. older than 70 years of age.
7. Characteristics of the lumps present in cystic disease of the breasts include all of the following *except*:
 - a. a rapid increase and decrease in size.
 - b. increased tenderness before menstruation.
 - c. a painless or tender lump.
 - d. skin dimpling and nipple retraction.
8. The risk of developing breast cancer is now one woman out of:
 - a. 8.
 - b. 20.
 - c. 35.
 - d. 50.
9. The current 5-year survival rate is ____%.
 - a. 60
 - b. 75
 - c. 88
 - d. 97
10. The strongest factor (80% correlation) that influence the incidence of breast cancer is:
 - a. chemical elements.
 - b. environmental pollution.
 - c. genetic predisposition.
 - d. the number of menstrual cycles.
11. The chance of developing breast cancer doubles if:
 - a. a woman has her first child after age 30.
 - b. a woman's mother had breast cancer.
 - c. the woman was exposed to radiation after puberty.
 - d. all of the above are true.
12. The majority of breast cancers occur in the:
 - a. upper, inner quadrant.
 - b. lower, inner quadrant.
 - c. upper, outer quadrant.
 - d. lower, outer quadrant.
13. Early clinical manifestations of breast carcinoma include all of the following *except*:
 - a. a nontender lump.
 - b. asymmetry of the breasts.
 - c. nipple retraction.
 - d. pain in the breast tissue.
14. A noninvasive breast tumor between 2 cm and 5 cm in size is classified as a stage:
 - a. I.
 - b. II.
 - c. III.
 - d. IV.
15. Carcinoma of the breast results from a cell doubling. A cell that doubles every 60 days would become palpable after:
 - a. 3 years.
 - b. 5 years.
 - c. 10 years.
 - d. 15 years.
16. At diagnosis of breast carcinoma, the risk for presence of metastasis is about:
 - a. 25%.
 - b. 38%.
 - c. 55%.
 - d. 73%.
17. The most common site of distant metastasis for breast carcinoma is the:
 - a. adrenals.
 - b. bone.
 - c. lungs.
 - d. liver.
18. If the number of positive axillary lymph nodes is between five and six on biopsy, the risk for breast cancer recurrence is:
 - a. less than 10%.
 - b. 15%.
 - c. 30%.
 - d. greater than 50%.
19. A patient is scheduled for removal of her left breast and the axillary lymph nodes; the pectoralis minor muscle is to be left in place. This surgical intervention is called a(n):
 - a. extended radical mastectomy.
 - b. modified radical mastectomy.
 - c. quadrantectomy.
 - d. simple mastectomy.
20. The most common hormonal method of intervention is the use of:
 - a. Cytodren.
 - b. DES.
 - c. Megace.
 - d. Tamoxifen.

21. Suggested postoperative positioning of the affected arm following surgical intervention (mastectomy) is:
 - a. abduction to promote incisional healing.
 - b. adduction to minimize trauma to sensitive tissue.
 - c. elevation to promote lymphatic drainage.
 - d. extension to facilitate isometric exercises.
22. Postmastectomy arm exercises facilitate the development of collateral circulation, which decreases lymphedema. Collateral circulation is usually developed within:
 - a. 1 month.
 - b. 3 months.
 - c. 5 months.
 - d. 8 to 10 months.
23. A patient with lymphedema in an arm should be advised to avoid:
 - a. blood pressure assessments in that arm.
 - b. injections or needles in that arm.
 - c. prolonged exposure of that arm to sunlight.
 - d. all of the above.
24. The most commonly encountered breast condition in the male is:
 - a. breast cancer.
 - b. mastitis.
 - c. gynecomastia.
 - d. cystic breast disease.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answers.

CASE STUDY: Simple Mastectomy

Louise is 53 years old and single. The biopsy findings indicate that she has a malignancy in her breast. She is scheduled for a simple mastectomy.

1. Based on her knowledge about the cause of breast cancer, the nurse knows that the highest incidence of this type of cancer is found:
 - a. among those who give birth to their first child after age 35.
 - b. among those who have had multiple pregnancies.
 - c. in the unmarried woman who has not had children.
 - d. in the woman who has menopause after age 50.
2. On examination, Louise's tumor is found in the anatomic area where tumors usually develop, the:
 - a. medial half of the breast.
 - b. nipple area.
 - c. posterior segment, inferior to the nipple.
 - d. upper, outer quadrant.
3. Louise is advised that if she chooses not to seek treatment, her life expectancy will be:
 - a. less than 1 year.
 - b. between 2 and 3 years.
 - c. about 5 years.
 - d. as long as 10 years.
4. The nurse can advise Louise that surgical management for her stage I cancer has a cure rate of:
 - a. 30%.
 - b. 50%.
 - c. 90%.
 - d. 100%.

Postoperatively, Louise returns to the clinical area and is alert and aware of her surroundings. She experiences moderate pain for the first 72 hours.

5. Postoperative care of the incision includes all of the following *except*:
 - a. applying cocoa butter to increase elasticity.
 - b. drying the area with slight friction to stimulate the circulation.
 - c. gently bathing the area with a nonabrasive soap.
 - d. massaging the area.
6. Louise's affected arm should be elevated on a pillow so that her:
 - a. entire arm is in a horizontal plane.
 - b. forearm is level with her heart.
 - c. wrist is higher than her elbow, which should be higher than her shoulder.
 - d. wrist is lower than her elbow so that circulation to her hand will not be decreased.

7. The nurse expects that Louise will be allowed out of bed in:
- a. 1 to 2 days.
 - b. about 5 days.
 - c. about 1 week.
 - d. 1 to 2 weeks.

Identifying Patterns

Five figures of a woman performing breast self-examination follow. Start with the first figure and explain the activity associated with each step.

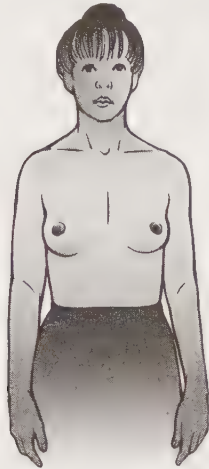


FIGURE 1

1. _____
2. _____
3. _____

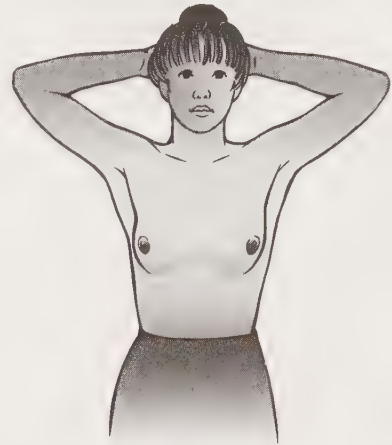


FIGURE 2

1. _____



FIGURE 3

1. _____

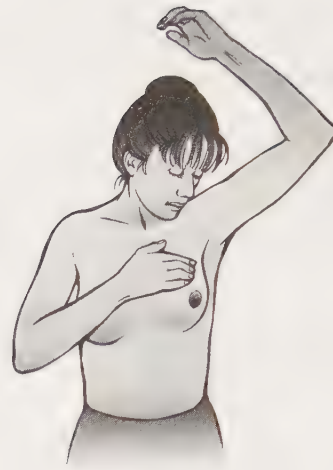


FIGURE 4

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____



FIGURE 5

1. _____

2. _____

3. _____

45

Assessment and Management: Problems Related to Male Reproductive Processes

Chapter Overview

Nursing care for a male patient with a reproductive system disorder requires sensitivity to the patient's need for privacy and an awareness of society's tendency to correlate maleness with sexuality. Nursing care can be effective and positive if concern for body image and self-esteem is maintained.

Nurses need to be aware that sometimes the patient's psychosocial needs may have priority over his physiologic needs.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Health education for a patient with prostatitis includes all of the following *except*:
 - a. avoiding drinks that increase prostatic secretions.
 - b. forcing fluids to prevent urine from backing up and distending the bladder.
 - c. taking several hot sitz baths daily.
 - d. using antibiotic therapy for 10 to 14 days.
2. Enlargement of the prostate gland, benign prostatic hyperplasia, is usually associated with:
 - a. dysuria.
 - b. dilation of the ureters.
 - c. hydronephrosis.
 - d. all of the above.
3. As a cause of death in American men over age 55, cancer of the prostate ranks:
 - a. first.
 - b. second.
 - c. third.
 - d. fourth.
4. Prostatic cancer commonly metastasizes to the:
 - a. bone.
 - b. liver.
 - c. lungs.
 - d. brain.

5. The concentration of prostate-specific antigen (PSA) is proportional to the total prostatic mass. As a diagnostic tool, PSA would indicate all of the following *except*:
 - a. local progression of the disease.
 - b. patient responsiveness to cancer therapy.
 - c. recurrence of prostate cancer.
 - d. the presence of malignancy.
6. The life expectancy following a radical prostatectomy is about ____ years.
 - a. 3
 - b. 6
 - c. 10
 - d. >15
7. The closed surgical procedure used for a prostatectomy is a ____ approach.
 - a. perineal
 - b. suprapubic
 - c. retropubic
 - d. transurethral
8. The prostatectomy approach that is associated with a high incidence of impotency is:
 - a. perineal.
 - b. retropubic.
 - c. suprapubic.
 - d. transurethral.
9. Patients undergoing open surgical removal of the prostate seem to experience a high incidence of:
 - a. paralytic ileus.
 - b. pneumonia.
 - c. impotence.
 - d. all of the above.
10. In most instances, patients can be advised that sexual activity can resume, postprostatectomy, in about:
 - a. 4 weeks.
 - b. 2 months.
 - c. 10 weeks.
 - d. 4 months.
11. An expected postoperative outcome of prostatectomy is light pink urine within:
 - a. 24 hours.
 - b. 48 hours.
 - c. 3 days.
 - d. 1 week.
12. During the 2 months it takes for the prostatic fossa to heal, the patient is advised not to:
 - a. engage in strenuous exercise.
 - b. perform the Valsalva maneuver.
 - c. take long automobile rides.
 - d. do all of the above.
13. In the 15- to 35-year-old age group, testicular cancer as a cause of death ranks:
 - a. first.
 - b. second.
 - c. third.
 - d. fourth.
14. Retroperitoneal lymphadenectomy after orchiectomy would probably lead to:
 - a. altered libido.
 - b. inability to have orgasm.
 - c. infertility.
 - d. all of the above.
15. One cause of infertility in men is a:
 - a. hydrocele.
 - b. varicocele.
 - c. paraphimosis.
 - d. phimosis.
16. Neonatal circumcision is an important protective measure against carcinoma of the:
 - a. penis.
 - b. testes.
 - c. scrotum.
 - d. urethra.
17. All of the following are true of priapism *except* that it:
 - a. is a urologic emergency.
 - b. may result in gangrene.
 - c. is painless.
 - d. may result in impotence.

Read each statement carefully. Write your response in the space provided.

1. Name two specific tests used to diagnose prostate cancer.

1. _____ 2. _____

2. List four medications associated with erectile dysfunction.

1. _____ 3. _____
2. _____ 4. _____

3. List five symptoms associated with prostatitis.

- 1. _____
- 2. _____
- 3. _____

- 4. _____
- 5. _____

4. List five symptoms found with benign prostatic hyperplasia (BPH).

- 1. _____
- 2. _____
- 3. _____

- 4. _____
- 5. _____

5. The most commonly used medication for estrogen therapy in the treatment of prostatic cancer is:

6. Explain why low-dose heparin is usually given to patients undergoing prostatectomy.

7. Describe epididymitis and several of its common causes.

8. Define priapism and list its major symptoms.

Learner's Self-Evaluation Tool for End of Unit 10 Review

1. The most important concepts or facts I have learned from this unit are:

- 1. _____
- 2. _____
- 3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by

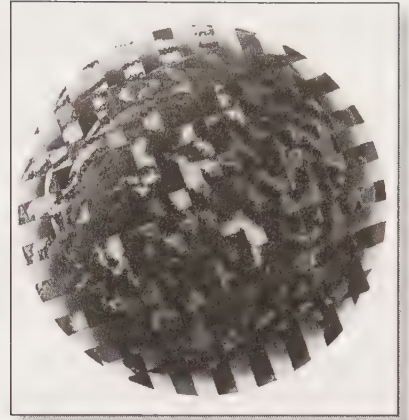
I will do this on _____ (date and time).

5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.

UNIT 11

Immunologic Function



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Assessment of Immune
Function

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Management of Patients
With Immunodeficiency

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Management of Patients
With HIV Infections and AIDS

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Assessment and Management
of Patients With Allergic
Disorders

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Assessment and Management
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Disorders

46

Assessment of Immune Function

Chapter Overview

Most people are familiar with the terms antigen, antibody, and interferon; however, understanding of these terms is frequently vague. Immunopathology is a complex field in which more is being learned every day. It involves understanding cellular activity that results in damage. Today, as the science and study of immunology advance, immunologic defects are being suggested as causative agents for acute disorders, such as acquired immunodeficiency syndrome (AIDS), as well as for chronic illnesses, such as rheumatoid arthritis. As equipment becomes more sophisticated, we can expect to unravel many of the mysteries surrounding this science.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The immune system is essentially composed of:
 - bone marrow.
 - lymphoid tissue.
 - white blood cells.
 - all of the above components.
- An example(s) of biologic response modifiers that interfere with viruses is (are):
 - bradykinin.
 - eosinophils.
 - granulocytes.
 - interferon.
- The body's first line of defense is the:
 - antibody response.
 - cellular immune response.
 - phagocytic immune response.
 - white blood cell response.
- The primary cells responsible for recognition of foreign antigens are:
 - leukocytes.
 - lymphocytes.
 - monocytes.
 - reticulocytes.
- Lymphocytes interfere with disease by picking up specific antigens from organisms to alter their function during the ____ stage of an immune response.
 - effector
 - proliferation
 - recognition
 - response
- During the proliferation stage:
 - antibody-producing plasma cells are produced.
 - lymph nodes enlarge.
 - lymphocytes rapidly increase.
 - all of the above occur.

7. Cell-mediated immune responses are responsible for all of the following *except*:
 - a. anaphylaxis.
 - b. graft-versus-host reactions.
 - c. transplant rejection.
 - d. tumor destruction.
8. Antibodies are believed to be a type of:
 - a. carbohydrate.
 - b. fat.
 - c. protein.
 - d. sugar.
9. It is important to realize that cellular membrane damage results from all the following *except*:
 - a. activation of complement.
 - b. antibody-antigen binding.
 - c. arrival of killer T cells.
 - d. attraction of macrophages.
10. Effector T cells destroy foreign organisms by:
 - a. altering the antigen's cell membrane.
 - b. causing cellular lysis.
 - c. producing lymphokines, which destroy invading organisms.
 - d. all of the above mechanisms.
11. Interferon is a lymphokine that exerts its effect by:
 - a. increasing vascular permeability.
 - b. inhibiting the growth of certain antigenic cells.
 - c. stopping the spread of viral infections.
 - d. suppressing the movement of macrophages.
12. Complement acts by:
 - a. attracting phagocytes to an antigen.
 - b. destroying cells through destruction of the antigen's membrane.
 - c. rendering the antigen vulnerable to phagocytosis.
 - d. a combination of all of the above mechanisms.

Read each statement carefully. Write your response in the space provided.

1. List four ways that disorders of the immune system occur.

1. _____ 3. _____
 2. _____ 4. _____

2. Distinguish between natural, acquired, and passively acquired immunity.

Natural: _____

Acquired: _____

Passively acquired: _____

3. Explain what "complement" is and how it is formed.

4. Name the two ways biologic response modifiers affect the immune response:

5. Identify the trace elements that help the immune system function properly:

Match the immunoglobulin listed in Column II with its associated immunoglobulin activity listed in Column I. An answer may be used more than once.

Column I

1. _____ enhances phagocytosis
2. _____ appears in intravascular serum
3. _____ helps defend against parasites
4. _____ activates complement system
5. _____ protects against respiratory infections
6. _____ influences B-lymphocyte differentiation
7. _____ prevents absorption of antigens from food

Column II

- a. IgA
- b. IgD
- c. IgE
- d. IgG
- e. IgM

Match the immune system effect listed in Column II with its corresponding medication listed in Column I. An answer may be used more than once.

Column I

1. _____ cyclosporine
2. _____ dactinomycin
3. _____ indomethacin
4. _____ methotrexate
5. _____ mustagen
6. _____ propylthiouracil
7. _____ vancomycin

Column II

- a. Agranulocytosis, leukopenia
- b. Agranulocytosis, neutropenia
- c. Leukopenia, aplastic bone marrow
- d. Leukopenia, T-cell inhibition
- e. Transient leukopenia

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Management of Patients With Immunodeficiency

Chapter Overview

Immunodeficiency disorders are challenging for their victim, the victim's family, and the medical–nursing health care team. The onset is frequently insidious, sometimes lying dormant for years. The symptoms are chronic and debilitating and the treatments palliative for the most part. Living with an immunodeficiency disorder is a daily juggling act, making certain that management is effective against current and future bacteria, viruses, and fungi. Vigilant attention to detail and compliance with life-long therapy are necessary for survival.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Immunodeficiency disorders are caused by defects or deficiencies in:
 - a. the complement system.
 - b. B and T lymphocytes.
 - c. phagocytic cells.
 - d. all of the above.
2. The cardinal symptoms of immunodeficiency are:
 - a. chronic diarrhea.
 - b. chronic or recurrent severe infections.
 - c. poor response to treatment of infections.
 - d. inclusive of all the above.
3. The nitroblue tetrazolium reductase (NTR) test is used to diagnose immunodeficiency disorders related to:
 - a. complement.
 - b. B-cell lymphocytes.
 - c. T-cell lymphocytes.
 - d. phagocytic cells.
4. More than 50% of individuals with ____ develop pernicious anemia.
 - a. Bruton's disease
 - b. common variable immunodeficiency (CVID)
 - c. DeGeorge's syndrome
 - d. Nezelaf's syndrome
5. The primary cause of death for individuals with ataxia-telangiectasia is:
 - a. acute renal failure.
 - b. chronic lung disease.
 - c. neurologic dysfunction.
 - d. overwhelming infection.
6. Individuals with ____ disorder do not have a thymus gland.
 - a. DeGeorge's
 - b. Job's
 - c. Nezelaf's
 - d. Burton's

7. The most common secondary immunodeficiency disorder is:
 - a. AIDS.
 - b. DAF
 - c. CVID.
 - d. SCID.
8. The recommended dose of IV gamma globulin for a 60-kg man is ____ given monthly
 - a. 15 g
 - b. 30 g
 - c. 45 g
 - d. 60 g
9. When gamma globulin is infused intravenously, the rate should not exceed:
 - a. 1.5 ml/min.
 - b. 3 ml/min.
 - c. 6 ml/min.
 - d. 10 ml/min.
10. The nurse knows to stop an infusion of gamma globulin if the patient experiences:
 - a. flank pain.
 - b. shaking chills.
 - c. tightness in the chest.
 - d. any or all of the above.

II. Critical Analysis Questions

Identifying Patterns

For each group of clustered clues, write the corresponding immunodeficiency disorder.

1. Increased incidence of bacterial infections
Readily develops fungal infections from candida organism
Easily infected from herpes simplex
Afflicted with chronic eczematoid dermatitis

Disorder is: _____

2. Disappearance of germinal centers from lymphatic tissue
Complete lack of antibody production
Is associated with the most common immunodeficiency seen in childhood
Disease onset occurs most often in the second decade of life

Disorder is: _____

3. Lymphopenia is usually present
Failure of thymus gland to develop
Chronic mucocutaneous candidiasis is an associated disorder

Disorder is: _____

4. IgA deficiency is present in 40% of individuals
T-cell deficiencies become more severe with age
Neurologic symptoms usually occur before age 5

Disorder is: _____

5. Usually occurs as a result of underlying disease processes
Frequently caused by certain autoimmune disorders
May be caused by certain viruses

Disorder is: _____

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Management of Patients With HIV Infection and AIDS

Chapter Overview

Acquired immunodeficiency syndrome (AIDS) is one of the newest (about 17 years ago in the United States) and most frightening infections that the United States and the world is struggling to conquer. Its virulence is directly proportional to its insidious onset, its confusing and myriad modes of transmission, its profound immunosuppression, life-threatening infections, rare malignancies, and devastating personal and social consequences. AIDS is a virus without a cure; a virus that has the potential of eliminating an entire generation of individuals, especially the young and innocent (for example, sexually active young adults and newborns with HIV-infected mothers) who believe they are “invincible” or who are the victims of others’ carelessness. Nursing’s role encompasses patient education to prevent transmission, as well as the management and care of those who are infected and symptomatic. Cure may be possible only by eliminating transmission, since pharmacotherapy has been successful only in prolonging the manifestation of symptoms and the onset of active infection.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The Centers for Disease Control and Prevention (CDC) initially and officially “defined” AIDS after 100 cases were reported in:
 - a. 1978.
 - b. 1982.
 - c. 1986.
 - d. 1991.
2. The majority of AIDS cases in women occur in the ____ population(s).
 - a. Caucasian
 - b. Hispanic and African-American
 - c. non-Hispanic white
 - d. Asian
3. One of the fastest growing populations of women with AIDS are those:
 - a. between the ages of 18 and 20.
 - b. who contracted the disease as children.
 - c. who are between 25 and 44 years old.
 - d. who acquired the disease in adolescence.
4. Up to 85% of individuals infected with HIV will develop symptoms of AIDS within ____ years of infection.
 - a. 3
 - b. 6
 - c. 10
 - d. 15

5. HIV is transmitted only through:
 - a. intimate sexual contact.
 - b. parenteral exposure to infected blood or blood products.
 - c. perinatal transmission (mother to neonate).
 - d. all of the above routes.
6. The most common infection in persons with AIDS is:
 - a. cytomegalovirus.
 - b. legionnaire's disease.
 - c. *Mycobacterium tuberculosis*.
 - d. *Pneumocystis carinii pneumonia*.
7. At least 90% of individuals with AIDS experience:
 - a. anorexia.
 - b. candidiasis.
 - c. diarrhea.
 - d. fungal infections.
8. The minimum number of daily calories recommended for a 70-kg individual with AIDS-related "wasting syndrome" is:
 - a. 1,500.
 - b. 2,000.
 - c. 2,800.
 - d. 4,000.
9. The minimum number of daily protein *calories* for a 70-kg individual with AIDS-related "wasting syndrome" is:
 - a. 20.
 - b. 35.
 - c. 45.
 - d. 60.
10. The most common malignancy seen with HIV infection is:
 - a. carcinoma of the skin.
 - b. Kaposi's sarcoma.
 - c. pancreatic cancer.
 - d. stomach cancer.
11. Abnormal laboratory findings seen with AIDS include:
 - a. decreased CD4 and T-cell count.
 - b. +p24 antigen.
 - c. positive ELISA test.
 - d. all of the above.
12. Antibody formation, after HIV infection, may take as long as:
 - a. 14 months.
 - b. 2 years.
 - c. 4 years.
 - d. 10 years.

Read each statement carefully. Write your response in the space provided.

1. The three drugs of choice for postexposure prophylaxis are: _____, _____, and _____.
2. Medications for postexposure prophylaxis must be started _____. If _____ hours have expired, the drugs are considered of no value.
3. The initial manifestation of AIDS in over 60% of patients is the appearance of _____.
4. Neurologic dysfunction is present in approximately _____% of all patients with AIDS.
5. Antiretroviral therapy, recommended for all who have advanced or symptomatic HIV infection, should include the triple drug regimen of _____.

Match the AIDS-indicated category listed in Column II with its associated clinical condition listed in Column I. An answer may be used more than once.

Column I

1. _____ histoplasmosis
2. _____ hairy leukoplakia
3. _____ Kaposi's sarcoma
4. _____ acute primary HIV infection
5. _____ *pneumocystis carinii*
6. _____ Bacillary angiomatosis
7. _____ persistent generalized lymphadenopathy (PGL)
8. _____ wasting syndrome

Column II

- a. Clinical Category A
- b. Clinical Category B
- c. Clinical Category C

II. Critical Analysis Questions

Recognizing Contradictions

Rewrite each statement correctly. Underline the key concepts.

1. The HIV virus carries its genetic material in DNA.
2. Research data indicate that the increase in AIDS is primarily among the homosexual population.
3. The incidence of HIV for healthcare workers exposed to HIV by a needle-stick injury is about 10%.
4. Presently there is exciting research indicating initial success with HIV vaccination.
5. The current drug of choice for the treatment of *Pneumocystis carinii pneumonia* is pentamidine.
6. The most effective chemotherapy regimen for Kaposi's sarcoma is a combination of trimethoprim-sulfamethoxazole (Septra), pentamidine, and zidovudine (AZT).

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: AIDS

Brenden is a 39-year-old homosexual who has been recently diagnosed with AIDS.

1. On initial assessment, the nurse identifies two major potential risk factors associated with AIDS:
_____ and _____.
2. As part of her assessment, the nurse checks Brenden for candidiasis. To do this, she would inspect Brenden's.
 - a. heart.
 - b. lungs.
 - c. oral cavity.
 - d. skin.
3. Assessment data indicated dehydration as evidenced by:
 - a. bradycardia.
 - b. hypertension.
 - c. urine specific gravity >1.025.
 - d. urine output >70 ml/hr.
4. The assessment data indicates five possible collaborative problems; list two: _____
and _____.

5. The nurse advises Brenden to avoid certain foods that are bowel irritants to prevent diarrhea. She advises him not to eat:
- a. bland foods.
 - b. cooked cereal.
 - c. jello and pudding.
 - d. popcorn.
6. To improve Brenden's nutritional status, the nurse would:
- a. encourage him to rest before eating.
 - b. limit fluids 1 hour before meals.
 - c. serve five to six small meals per day.
 - d. do all of the above.

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Assessment and Management of Patients With Allergic Disorders

Chapter Overview

Nursing assessment and management of a patient with an allergic disorder requires knowledge about the allergen that triggers the response, knowledge about expected symptoms and their anticipated severity, and knowledge about the usual protocol of therapy. Allergic responses range from mild erythema to anaphylactic shock. No reaction should be taken lightly, because covert responses can be life-threatening. Some responses require prolonged hospitalization and complex nursing skills.

Patients with allergy disorders need expert medical and nursing management as well as an understanding attitude. They need to know that their discomfort is both perceived and appreciated.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The body's first line of defense against potential invaders is the:
 - a. gastrointestinal tract.
 - b. respiratory tract.
 - c. skin.
 - d. combination of all the above.
2. Histamine acts on major organs by:
 - a. contracting bronchial smooth muscle.
 - b. dilating small venules.
 - c. increasing gastric secretions.
 - d. stimulating all of the above mechanisms.
3. Hypersensitivity reactions follow reexposure and are classified by type of reaction. An anaphylactic reaction is usually identified as type:
 - a. I.
 - b. II.
 - c. III.
 - d. IV.
4. Delayed hypersensitivity (Type IV) is said to have occurred when the inflammatory response to an allergen peaks within:
 - a. 4 to 8 hours.
 - b. 24 to 72 hours.
 - c. 4 to 6 days.
 - d. 1 to 2 weeks.
5. The nurse monitors the patient's eosinophil level. She suspects a definite allergic disorder with a value of:
 - a. 1% to 3% of total leukocyte count.
 - b. 3% to 4% of total leukocyte count.
 - c. 5% to 10% of total leukocyte count.
 - d. 15% to 40% of total leukocyte count.

6. Atopic disorders that results from an allergic response to an allergen include:
 - a. anaphylaxis.
 - b. atopic dermatitis
 - c. bronchial asthma.
 - d. all of the above.
7. Pruritus and nasal congestion may be indicators of an impending anaphylactic reaction. If dysphagia is not present, the reaction is classified as:
 - a. initial.
 - b. mild.
 - c. moderate.
 - d. severe.
8. Allergic rhinitis is induced by:
 - a. airborne pollens or molds.
 - b. ingested foods.
 - c. parenteral medications.
 - d. topical creams or ointments.
9. Patients who are sensitive to ragweed should be advised that weed pollen begins to appear in:
 - a. early spring.
 - b. early fall.
 - c. summer.
 - d. midwinter.
10. A major side effect of antihistamines that requires accurate patient education is:
 - a. dryness of the mouth.
 - b. anorexia.
 - c. palpitations.
 - d. sedation.
11. An area of nursing concern when administering a sympathomimetic drug is the drug's ability to:
 - a. cause bronchodilation.
 - b. constrict integumentary smooth muscle.
 - c. dilate the muscular vasculature.
 - d. do all of the above.
12. Injected allergens are used for "hyposensitization" and may produce systemic reactions that can be harmful. The medication that should be on hand for an adverse reaction is:
 - a. Dramamine.
 - b. epinephrine.
 - c. Phenergan hydrochloride.
 - d. Pyribenzamine.
13. For a 132-lb (60-kg) woman who is experiencing anaphylaxis, the nurse should immediately administer a minimum of:
 - a. 2 ml of adrenaline, intramuscularly.
 - b. 4 ml of adrenaline, intramuscularly.
 - c. 6 ml of adrenaline, intramuscularly.
 - d. 8 ml of adrenaline, intramuscularly.
14. The most serious manifestation of hereditary angioedema is:
 - a. abdominal pain.
 - b. conjunctivitis.
 - c. laryngeal edema.
 - d. urticaria.

Read each statement carefully. Write your response in the space provided.

1. An allergic reaction occurs when:

2. Antibodies of immunoglobulins function by:

1. _____
2. _____
3. _____

3. Prostaglandins are primary chemical mediators that respond to a stimulus by contracting smooth muscle and increasing capillary permeability. This response causes:

4. Type III hypersensitivity reactions involve the binding of antibodies to antigens. This occurs in the following disorders: _____ and _____.

5. Two examples of a Type IV hypersensitivity reaction are: _____ and _____.

6. The primary treatment available for latex allergy is: _____.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: Allergic Rhinitis

Chris is a 26-year-old contractor who specializes in finished basements. Because of his job, he is frequently working in environments where there are substances that stimulate an allergic reaction.

1. Based on assessment data, two likely nursing diagnoses would be:

1. _____
2. _____

2. Four probable patient goals would be:

- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

3. The nurse advises Chris that his attacks may be preceded by the symptom(s) of:

- | | |
|--------------------------|-------------------------|
| a. breathing difficulty. | c. tingling sensations. |
| b. pruritus. | d. all of the above. |

4. The nurse also advises him that other symptoms may be more alarming, such as:

- | | |
|---------------------|----------------------|
| a. hoarseness. | c. wheezing. |
| b. a rash or hives. | d. all of the above. |

5. A teaching plan for Chris would include information about:

- | | |
|------------------------------------|--------------------------------|
| a. reducing exposure to allergens. | c. correct use of medications. |
| b. desensitization procedures. | d. all of the above. |

6. The nurse tells Chris that if the physician recommends a series of inoculations for desensitization, he should expect to receive injections every:

- | | |
|---------------------|------------------------|
| a. day for 30 days. | c. every 2 to 4 weeks. |
| b. week for 1 year. | d. month for 4 years. |

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Assessment and Management of Patients With Rheumatic Disorders

Chapter Overview

Connective tissue disorders affect over 33 million persons in the United States and are indicative of some defect in the collagen and protein portions of connective tissue. Most of these diseases are characterized by exacerbations and remissions and are chronic. Many are debilitating and cause their victims to be handicapped.

Patient education needs to stress that when a disease is in remission, the person will feel as if he or she has been cured. Medications must still be taken and exercise programs continued. The patient needs to be aware that symptoms may reappear at any time.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Joint swelling in rheumatic disease may be due to:
 - a. bony overgrowth.
 - b. fluid accumulation.
 - c. hypertrophied synovium.
 - d. all of the above.
2. The most common symptom of rheumatic disease that causes a patient to seek medical attention is:
 - a. joint swelling.
 - b. limited movement.
 - c. fatigue.
 - d. pain.
3. Synovial fluid from an inflamed joint is characteristically:
 - a. clear and pale.
 - b. milky, cloudy, and dark yellow.
 - c. scanty in volume.
 - d. straw-colored.
4. A serum study that is positive for the rheumatoid factor is:
 - a. diagnostic for Sjögren's syndrome.
 - b. diagnostic for systemic lupus erythematosus.
 - c. specific for rheumatoid arthritis.
 - d. suggestive of rheumatoid arthritis.
5. A disease-modifying antirheumatic drug (DMARD) that is successful in the treatment of rheumatoid arthritis yet has retinal eye changes as a side effect is:
 - a. Butazolidin.
 - b. Naprosyn.
 - c. Plaquenil.
 - d. Solganal.

6. Nonsteroidal anti-inflammatory agents include all of the following *except*:
 - a. Clinoril.
 - b. Cytoxan.
 - c. Motrin.
 - d. Tandearil.
7. When a person with arthritis is temporarily confined to bed, the position recommended to prevent flexion deformities is:
 - a. prone.
 - b. semi-Fowler's.
 - c. side-lying with pillows supporting the shoulders and legs.
 - d. supine with pillows under the knees.
8. To immobilize an inflamed wrist, the nurse should splint the joint in a position of:
 - a. slight dorsiflexion.
 - b. extension.
 - c. hyperextension.
 - d. internal rotation.
9. In rheumatoid arthritis, the cartilage is replaced with fibrous connective tissue during the stage of synovial joint destruction known as:
 - a. cartilage erosion.
 - b. increased phagocytic production.
 - c. lymphocyte infiltration.
 - d. pannus formation.
10. The rheumatoid arthritis (RA) reaction produces enzymes that break down:
 - a. collagen.
 - b. elastin.
 - c. hematopoietic tissue.
 - d. strong supporting tissue.
11. In rheumatoid arthritis, the autoimmune reaction primarily occurs in the:
 - a. joint tendons.
 - b. cartilage.
 - c. synovial tissue.
 - d. interstitial space.
12. The diagnosis of rheumatoid arthritis is consistent with a:
 - a. decreased C4 complement.
 - b. decreased sedimentation rate.
 - c. negative antinuclear antibody (ANA).
 - d. positive C-reactive protein.
13. The characteristic cutaneous lesion called the "butterfly rash," which appears across the bridge of the nose, is found in:
 - a. gout.
 - b. rheumatoid arthritis.
 - c. systemic sclerosis.
 - d. systemic lupus erythematosus.
14. Clinical manifestations of systemic sclerosis include:
 - a. decreased ventilation owing to lung scarring.
 - b. dysphagia owing to hardening of the esophagus.
 - c. dyspnea owing to fibrotic cardiac tissue.
 - d. all of the above.
15. The single, most important medication for the treatment of systemic lupus erythematosus (SLE) is:
 - a. immunosuppressants.
 - b. corticosteroids.
 - c. NSAIDs.
 - d. salicylates.
16. The most common type of connective tissue disease in the United States is:
 - a. carpal tunnel syndrome.
 - b. degenerative joint disease.
 - c. fibrositis.
 - d. polymyositis.
17. Pathophysiologic changes seen with osteoarthritis include:
 - a. joint cartilage degeneration.
 - b. the formation of bony spurs at the edges of the joint surfaces.
 - c. narrowing of the joint space.
 - d. all of the above changes.
18. The nurse knows that a patient diagnosed with a spondyloarthropathy would not have:
 - a. ankylosing spondylitis.
 - b. Raynaud's phenomenon.
 - c. reactive arthritis.
 - d. psoriatic arthritis.
19. With a diagnosis of gout, a nurse should expect to find:
 - a. glucosuria.
 - b. hyperuricemia.
 - c. hypoproteinuria.
 - d. ketonuria.

20. A purine-restricted diet is prescribed for a patient. The nurse should recommend:
- dairy products.
 - organ meats.
 - raw vegetables.
 - shellfish.

Match the clinical interpretation/laboratory significance listed in Column II with its associated test listed in Column I.

Column I

- _____ uric acid
- _____ complement
- _____ rheumatoid factor
- _____ hematocrit
- _____ HLA-B27 antigen
- _____ antinuclear antibody (ANA)

Column II

- Decrease can be seen in chronic inflammation.
- This positive test is associated with SLE, RA, and Raynaud's disease.
- An increase in this substance is seen with gout.
- This protein substance is decreased in RA and SLE.
- This is present in 80% of those who have rheumatoid arthritis.
- This is present in 85% of those with ankylosing spondylitis.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: Rheumatoid Arthritis

Jane is a 33-year-old mother of two who is suspected of having rheumatoid arthritis. She went to her physician with concerns about joint pain and stiffness in her knees, decreased mobility (she is having discomfort playing tennis), and increased frequency of fatigue. She is unable to maintain her usual busy schedule and is depressed.

- The physician immediately suspects a diagnosis of rheumatoid arthritis, which she knows manifests itself primarily in the ____ decade of life.
 - second
 - third
 - fourth
 - fifth
- On initial examination, the physician notes that Jane's knees are hot, swollen, and painful. She orders specific laboratory studies. The test result, which is *not* significant for a diagnosis of rheumatoid arthritis, is a(n):
 - decreased red blood count.
 - elevated C₄ complement component.
 - elevated erythrocyte sedimentation rate.
 - positive C-reactive protein.
- The nurse also assesses for the four systemic features found with rheumatoid arthritis:

(1) _____, (2) _____, (3) _____, and (4) _____.
- Name the histocompatibility antigen whose presence is associated with a predisposition to rheumatoid arthritis: _____.
- Jane is scheduled for an arthrocentesis. The nurse advises her that her knee joint will be anesthetized locally and a fluid specimen obtained. There is no special preparation or precautions after the procedure. Jane is told that a positive finding would be joint fluid that:
 - contains few inflammatory cells.
 - does not contain leukocytes.
 - is viscous and tan in color.
 - will not form a mucin clot.

6. A positive diagnosis of rheumatoid arthritis results in a multidisciplinary approach to treatment. Jane's pharmacotherapy regimen includes several drug classifications. A popular, nonsteroidal anti-inflammatory agent that is prescribed is:
- Aralen.
 - Imuran.
 - Motrin.
 - Ridaura.
7. A low-dose corticosteroid regimen is begun for a short period. The nurse advises Jane to be aware of certain drug-induced side effects, such as:
- elevated blood pressure.
 - gastric upset.
 - weight gain.
 - all of the above.

Interpreting Patterns

Review Figure 50-1, which depicts the results of the inflammatory response in the knee joint. Outline in detail the series of related steps that lead to the inflammation, beginning with the antigen stimulus that activates monocytes and T lymphocytes.

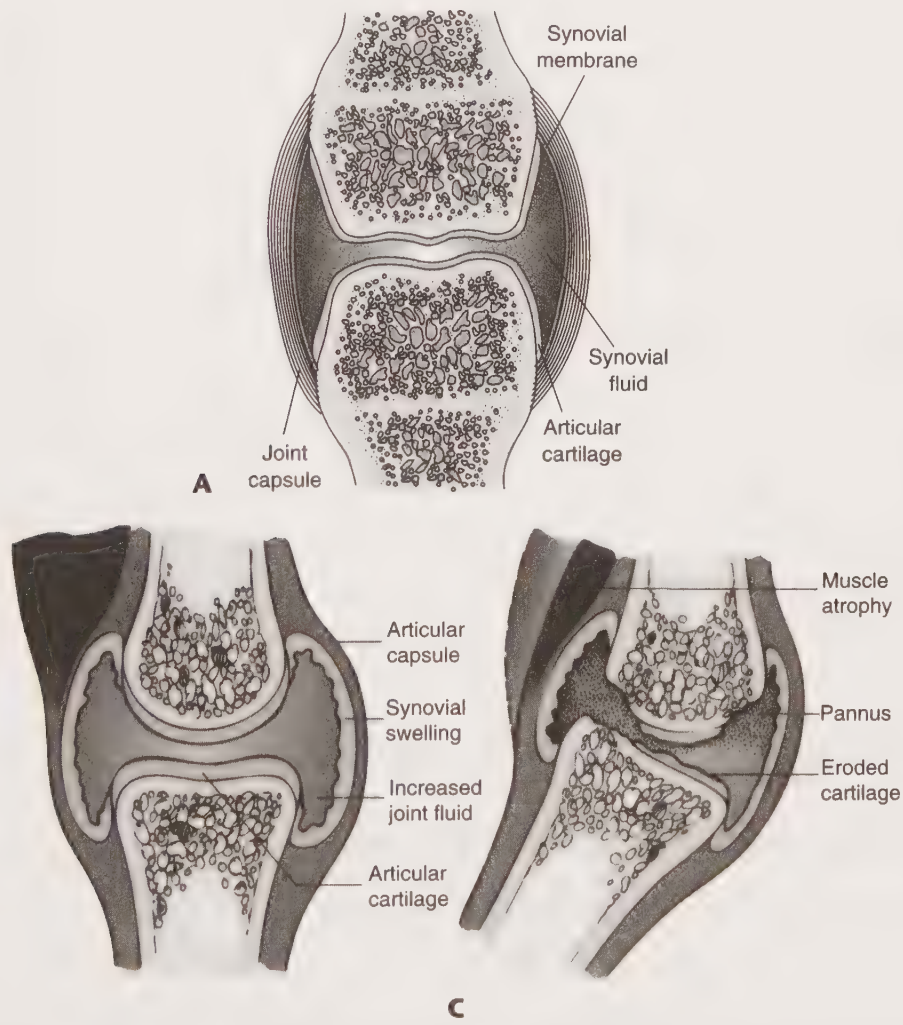


FIGURE 50-1 (A) Normal synovial joint. (B) The joint at left sustains synovial swelling and fluid accumulation. (C) The joint at right displays pannus (a proliferation of synovial tissue), eroded articular cartilage, and joint space narrowing—all of which contribute to muscle atrophy and ankylosis (joint rigidity and immobility).

Refer to Figure 50-1. Pathophysiology: inflammation triggers antigen to activate T cells, resulting in a series of reactions that cause the characteristic signs of rheumatoid arthritis.

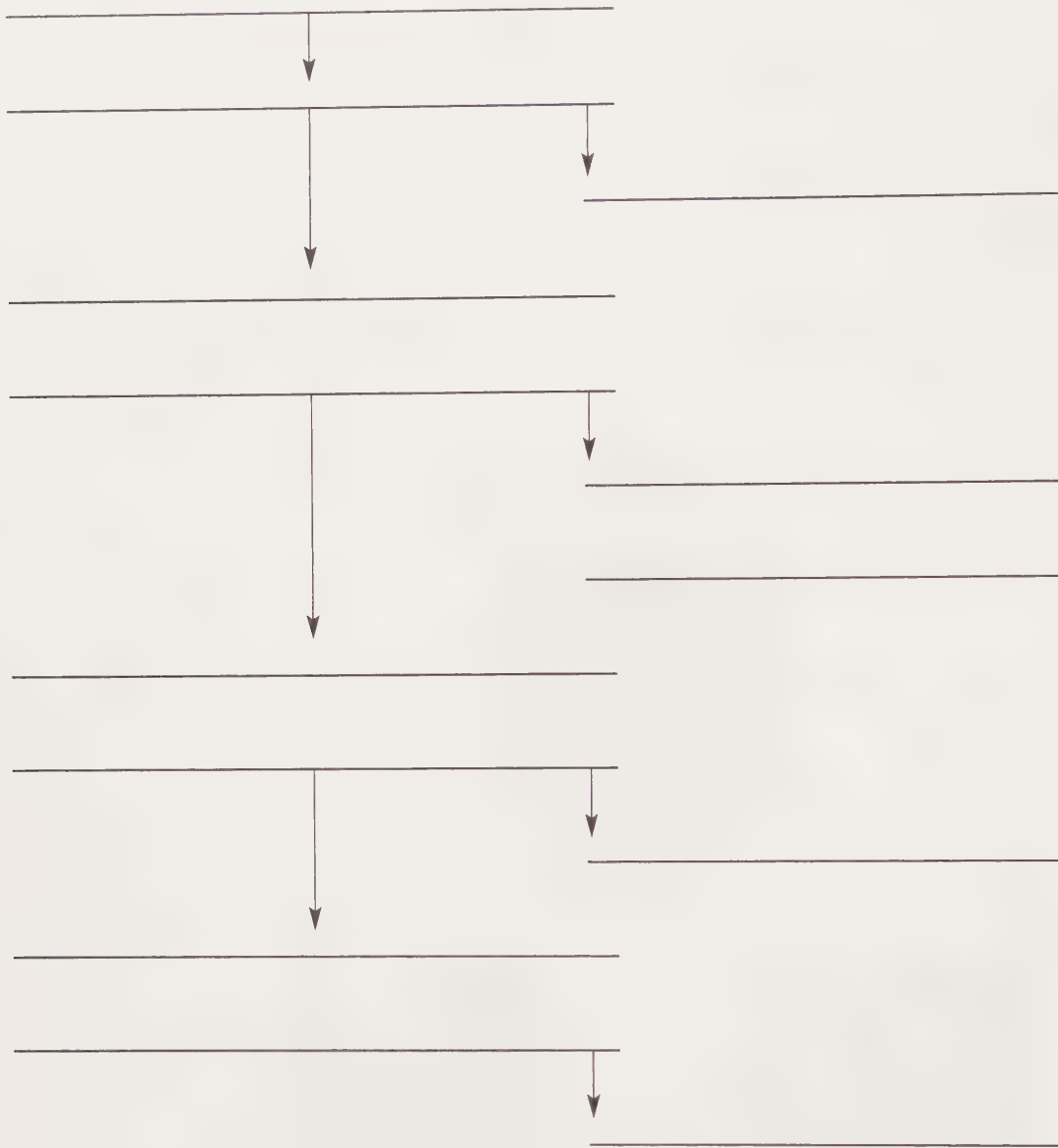


FIGURE 50-3 Pathophysiology and associated physical signs of rheumatoid arthritis.

Learner's Self-Evaluation Tool for End of Unit 11 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by

I will do this on _____ (date and time).

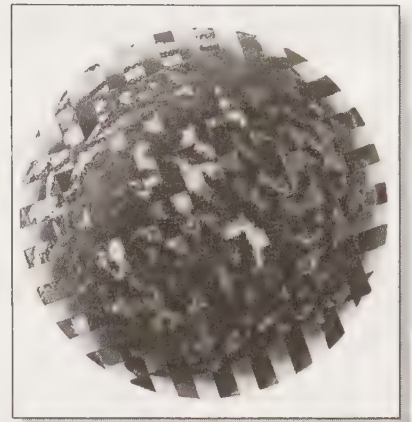
5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.



UNIT 12

Integumentary Function



51

Assessment of Integumentary
Function

52

Management of Patients
With Dermatologic Problems

53

Management of Patients
With Burn Injury

51

Assessment of Integumentary Function

Chapter Overview

If the eyes are the windows of the soul, then the skin is the doorway to the body—a door that can open slightly or all the way to let in helpful and destructive organisms. A door is characteristic of its owner and may be blank on the outside or covered with messages that help explain what is going on inside the body. Assessing the skin is as simple as it is complex, because subtle messages can be overlooked or misinterpreted. This chapter will review the major types of skin lesions and describe the most accurate assessment techniques to distinguish types of lesions.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. For the average adult with a normal body temperature, a nurse needs to know that insensible water loss is approximately:
 - a. 250 ml/day.
 - b. 600 ml/day.
 - c. 800 ml/day.
 - d. 1,000 ml/day.
2. When a nurse applies a cold towel to a patient's neck to reduce body heat, heat is reduced by:
 - a. conduction.
 - b. convection.
 - c. evaporation.
 - d. radiation.
3. Sweating, a process by which the body regulates heat loss, does not occur until the core body temperature exceeds the base level of:
 - a. 24° C.
 - b. 37° C.
 - c. 43° C.
 - d. 51° C.
4. In a dark-skinned person, color change that occurs in the presence of shock can be evidenced when the skin appears:
 - a. ashen gray and dull.
 - b. dusky blue.
 - c. reddish pink.
 - d. whitish pink.
5. Dark-skinned patients who have cherry-red nail beds, lips, and oral mucosa may be exhibiting signs of:
 - a. anemia.
 - b. carbon monoxide poisoning.
 - c. polycythemia.
 - d. shock.
6. A clinical example of a primary skin lesion known as a macule is:
 - a. hives.
 - b. impetigo.
 - c. port-wine stains.
 - d. psoriasis.

II. Critical Analysis Questions

Analyzing Comparisons

Read each analogy. Fill in the space provided with the best response.

1. Keratin: skin hardening :: melanin: _____
2. Bluish skin color: insufficient oxygenation :: yellow-green skin: _____
3. Vitamin D deficiency: rickets :: vitamin C deficiency: _____
4. Palpation: skin turgor :: _____ : vesicle.
5. Acne: a pustule :: psoriasis: _____

Identifying Patterns

Consider each of the systemic diseases listed in each grouping along with cutaneous manifestations of the disease. Cluster the data to identify the skin manifestation.

1. Seen in systemic lupus erythematosus
Characterized by red, spidery lines
Appears in plaques on the nose and ears
Seen on scales on the cheek area

2. Appears as an ulcerated lesion
Is a painless chancre

3. Seen in platelet disorders
Associated with vessel fragility
Characterized by purpura

4. Occurs in infections
Seen with allergic reactions
Characteristic of drug reactions

5. Present as macules, papules, plaques, or nodules
Lesions are visually multiple
Lesions are characteristically blue-red or dark brown
Seen in AIDS

For each of the following eight primary or secondary lesions, document two defining characteristics.

1. Cherry Angioma
a. _____ b. _____
2. Crust
a. _____ b. _____
3. Cyst
a. _____ b. _____

4. Fissure

a. _____

b. _____

5. Keloid

a. _____

b. _____

6. Telangiectasis

a. _____

b. _____

7. Petechia

a. _____

b. _____

8. Spider Angioma

a. _____

b. _____

Examining Associations

For each pathophysiological change in the skin that occurs with aging, list associated alterations in function.

1. Thinning of the dermis and epidermis at their junction (example)

a. _____

b. _____

c. _____

d. _____

2. Loss of subcutaneous tissue of elastin, fat, and collagen

a. _____

b. _____

c. _____

3. Decreased cellular replacement

a. _____

b. _____

4. Decrease in the number and function of sweat and sebaceous glands

a. _____

5. Reduced hormonal levels of androgens

a. _____

52

Management of Patients With Dermatologic Problems

Chapter Overview

Dermatologic disorders can be physically unattractive and emotionally scarring, especially if the characteristics of the disorder are obvious to others. Age is also a consideration in understanding the impact of a skin disorder. A 14-year-old with pruritus of the hand will probably be more upset than a 40-year-old with the same condition. Considering the importance that society places on physical attractiveness, any dermatologic disorder needs to be treated as effectively as possible.

A major dermatologic disorder is skin cancer, which will eventually affect one in seven Americans if it continues to occur at its current rate. The incidence of skin cancer has been shown to be directly related to the amount of exposure one has to the sun. It is hoped that society will eventually place less importance on the tanned, "healthy" look since, in reality, the tanning process can be life-threatening.

A major implication for nursing is to educate people about the harmful effects of the sun. People need to be encouraged to use sun blockers, and mothers should use sunscreen on their children.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Moisture-retentive dressings, more effective than wet compresses at removing exudate, should remain in place a minimum of:
 - 3 hours.
 - 6 hours.
 - 12 hours.
 - 18 hours.
- Occlusive dressings applied to a dermatosis are used to:
 - enhance the absorption of topical medications.
 - improve hydration.
 - increase the local skin temperature.
 - do all of the above.
- The nurse caring for a patient with an occlusive dressing knows to assess the skin every 12 hours for the potential complication of:
 - local atrophy.
 - striae.
 - telangiectasia.
 - all of the above.

4. The patient is advised to apply a suspension-type lotion to a dermatosis site. The nurse advised the patient that the lotion must be applied every ____ to be effective.
 - a. hour
 - b. 3 hours
 - c. 12 hours
 - d. day at the same time
5. The most common symptom of pruritus is:
 - a. a rash.
 - b. itching.
 - c. flaking.
 - d. pain.
6. A nurse should assess all possible causes of pruritus, including the presence of endocrine disease, such as:
 - a. biliary cirrhosis.
 - b. hypothyroidism.
 - c. lymphoma.
 - d. multiple sclerosis.
7. Nurses should advise patients suffering with pruritus to avoid all of the following *except*:
 - a. drying soaps.
 - b. emollient lubricants.
 - c. vigorous towel drying.
 - d. warm to hot water.
8. A commonly prescribed systemic pharmacologic agent for acne vulgaris is:
 - a. Accutane.
 - b. Benzoyl peroxide.
 - c. Retin-A.
 - d. Salicylic acid.
9. Management of follicular disorders includes all of the following *except*:
 - a. cleansing of the skin with an antibacterial soap to prevent spillage of bacteria to adjacent tissues.
 - b. rupture of the boil or pimple to release the pus.
 - c. systemic antibiotic therapy to treat the infection.
 - d. warm, moist compresses to increase resolution of the furuncle or carbuncle.
10. Herpes zoster (shingles) is:
 - a. a varicella-zoster viral infection related to chickenpox.
 - b. an inflammatory condition that produces vesicular eruptions along nerve pathways.
 - c. manifested by pain, itching, and tenderness.
 - d. characterized by all of the above.
11. The most common fungal infection that frequently affects young adults is:
 - a. tinea pedis.
 - b. tinea corporis.
 - c. tinea cruris.
 - d. tinea unguium.
12. Tinea capitis (ringworm of the scalp) can be identified by the presence of:
 - a. papules at the edges of inflamed patches.
 - b. circular areas of redness.
 - c. scaling and spots of baldness.
 - d. all of the above.
13. Patient education for the management of pediculosis capitis should include advising the patient to:
 - a. comb his or her hair with a fine-toothed comb dipped in vinegar to remove nits.
 - b. disinfect all combs and brushes.
 - c. wash his or her hair with a shampoo containing lindane (Kwell).
 - d. do all of the above.
14. A patient is complaining of severe itching that intensifies at night. The nurse decides to assess the skin using a magnifying glass and penlight to look for the "itch mite." The nurse suspects the skin condition known as:
 - a. contact dermatitis.
 - b. pediculosis.
 - c. scabies.
 - d. tinea corporis.
15. Psoriasis is an inflammatory dermatosis that results from:
 - a. a superficial infection with *Staphylococcus aureus*.
 - b. dermal abrasion.
 - c. epidermal proliferation.
 - d. excess deposition of subcutaneous fat.
16. The characteristic lesion of psoriasis is a:
 - a. circular patch covered with silver scales.
 - b. cluster of pustules.
 - c. group of raised vesicles.
 - d. pattern of bullae that rupture and form a scaly crust.

17. Exfoliate dermatitis is characterized by erythema and scaling and is associated with:
 - a. a loss of stratum corneum.
 - b. capillary leakage.
 - c. hypoproteinemia.
 - d. all of the above.
18. Nursing care for a patient with toxic epidermal necrolysis (TEN) should include:
 - a. inspection of the oral cavity.
 - b. assessment of urinary output.
 - c. application of topical skin agents.
 - d. all of the above actions.
19. The incidence of skin cancer in fair-skinned Americans is approximately:
 - a. 8%.
 - b. 12%.
 - c. 20%.
 - d. 35%.
20. The most common type of skin cancer is:
 - a. basal cell.
 - b. squamous cell.
 - c. malignant melanoma.
 - d. Kaposi's sarcoma.
21. The most lethal of all skin cancers is:
 - a. basal cell.
 - b. squamous cell.
 - c. malignant melanoma.
 - d. Kaposi's sarcoma.
22. Danger signals of melanoma include changes in a mole's:
 - a. color.
 - b. shape or outline.
 - c. size or surface.
 - d. appearance as included in all of the above.
23. The etiology of Kaposi's sarcoma is believed to be:
 - a. environmental.
 - b. genetic.
 - c. viral.
 - d. a combination of one or all of the above.
24. A living tissue transplant from the same person is known as a(n):
 - a. allograft.
 - b. alloplastic implant.
 - c. autograft.
 - d. xenograft.
25. For a graft to "take,"
 - a. the area must be free of infection.
 - b. the recipient bed must have an adequate blood supply.
 - c. immobilization must be ensured.
 - d. all of the above conditions must be present.

Read each statement carefully. Write your response in the space provided.

1. Moisture-retentive dressings are very efficient at removing exudate because they:

2. A common nursing diagnosis for a patient with dermatosis would be:

3. The most common skin condition in adolescents and young adults between the ages of 12 and 35 is:

4. The most common primary bacterial skin infections are _____ and _____.
5. Bullous impetigo, a deep-seated infection characterized by large fluid-filled blisters, is caused by the bacteria _____.
6. The most common cancer in the United States is _____; the most common types of this cancer are _____ and _____.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answer.

CASE STUDY: Malignant Melanoma

Steve is a 26-year-old professional baseball player for a Florida farm team. He spent many hours in the sun practicing between 9:00 AM and 4:00 PM. His V-neck uniform left little protection to his chest. Steve had a mole on his chest for 5 years. One day last October he noticed that the margins of the mole were elevated and palpable and the color had become darker. Since his father had malignant melanoma when he was 32 years old, Steve decided to see a physician.

1. Steve knows that malignant melanoma currently causes 2% of all cancers. Based on statistical predictions, the number of deaths in 10 years will be approximately:
 - a. 2%.
 - b. 4%.
 - c. 5%.
 - d. 10%.
2. On examination, the physician noted a circular lesion with irregular outer edges and a pinkish hue in the center. The physician suspected the lesion to be a(n) ____ melanoma.
 - a. acral-lentiginous
 - b. lentigo-maligna
 - c. nodular
 - d. superficial spreading
3. The physician confirms the diagnosis by:
 - a. complete blood count analysis.
 - b. computed tomography.
 - c. excisional biopsy.
 - d. skin examination.
4. The lesion is >14 mm in thickness and growing vertically. The physician knows that:
 - a. dermal invasion is likely.
 - b. the prognosis is favorable.
 - c. metastasis is probable.
 - d. peripheral growth will occur next.
5. The physician considers immunotherapy with a biologic response modifier such as:
 - a. interferon alfa.
 - b. BCG vaccine.
 - c. *Cornebacterium parvum*.
 - d. levamisole.

53

Management of Patients With Burn Injury

Chapter Overview

Nothing is more devastating than a burn. It is visually unattractive, heals slowly, may be disfiguring, and is frequently associated with months of rehabilitation and occupational therapy.

Nurses need to be knowledgeable about the pathophysiology as well as the treatment phase of burn management. The psychosocial aspects of burn care also need to be addressed. Burns of even 10% of the surface area can be accompanied by emotional responses that can hinder rehabilitation.

Burned patients are critically ill and in pain and have multiple biopsychosocial needs. Nursing patients with burns is a unique challenge. It requires a nurse who is a specialist in critical care procedures and who is able to work clinically in a burn unit or treatment center that is warm and has a high humidity. The nurse must also be able to deal with the emotional needs of a group of patients whose survival depends on accurate assessments and quick medical and nursing management decisions.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A full-thickness burn is:
 - a. classified by the appearance of blisters.
 - b. identified by the destruction of the entire dermis.
 - c. not associated with edema formation.
 - d. usually very painful because of exposed nerve endings.
2. With partial-thickness (second-degree) burns, skin regeneration begins to take place:
 - a. within 7 days.
 - b. in 2 to 4 weeks.
 - c. after 2 months.
 - d. between the third and sixth month.
3. Plasma seeps out into surrounding tissues after a burn. The greatest amount of fluid leaks out in:
 - a. the first 2 hours.
 - b. 4 to 8 hours.
 - c. 12 hours.
 - d. 24 to 36 hours.
4. As fluid is reabsorbed after injury, renal function maintains a diuresis for up to:
 - a. 3 days.
 - b. 1 week.
 - c. 2 weeks.
 - d. 1 month.
5. Fluid shifts during the first week of the acute phase of a burn injury cause electrolyte movements that result in:
 - a. hypernatremia.
 - b. hypokalemia.
 - c. hyperkalemia.
 - d. hypercalcemia.

6. An unexpected laboratory value during the fluid remobilization phase of a major burn is a:
- hematocrit of 45% / dl.
 - pH, 7.20; Pao₂, 38 torr; bicarbonate, 15 mEq/L.
 - serum potassium of 3.2 mEq/L.
 - serum sodium of 140 mEq/L.
7. Plasma leakage produces edema, which increases:
- circulating blood volume.
 - the hematocrit level.
 - systolic blood pressure.
 - all of the above.
8. The leading cause of death in fire victims is believed to be:
- cardiac arrest.
 - carbon monoxide intoxication.
 - hypovolemic shock.
 - septicemia.
9. A serious gastrointestinal disturbance that frequently occurs with a major burn is:
- diverticulitis.
 - hematemesis.
 - paralytic ileus.
 - ulcerative colitis.
10. A child tips a pot of boiling water onto his bare legs. The mother should:
- avoid touching the burned skin and take the child to the nearest emergency department.
 - cover the child's legs with ice cubes secured with a towel.
 - immerse the child's legs in cool water.
 - liberally apply butter or shortening to the burned area.
11. A man suffers leg burns from spilled charcoal lighter fluid. His son extinguishes the flames. While waiting for an ambulance, the burn victim should:
- have someone assist him into a bath of cool water, where he can wait for emergency personnel.
 - lie down, have someone cover him with a blanket, and cover his legs with petroleum jelly.
 - remove his burned pants so that the air can help cool the wound.
 - sit in a chair, elevate his legs, and have someone cut his pants off around the burned area.
12. As the first priority of care, a patient with a burn injury will initially need:
- an airway established.
 - an indwelling catheter inserted.
 - fluids replaced.
 - pain medication administered.
13. Eyes that have been irritated or burned with a chemical should be flushed with cool, clean water:
- immediately.
 - in 5 to 10 minutes.
 - after an eye examination.
 - after 24 hours.
14. Decreased urinary output during the first 48 hours of a major burn is secondary to all of the following *except*:
- decreased adrenocortical activity.
 - hemolysis of red blood cells.
 - hypovolemia.
 - sodium retention.
15. Electrolyte changes in the first 48 hours of a major burn include:
- base bicarbonate deficit.
 - hypernatremia.
 - hypokalemia.
 - all of the above.
16. The Evans formula for replacing fluid lost during the first 24 to 48 hours recommends the administration of:
- colloids.
 - electrolytes.
 - glucose.
 - all of the above.
17. The most recent Consensus formula for fluid replacement recommends that a balanced salt solution be administered in the first 24 hours of a burn in the range of 2 ml/kg/% of burn. A 176-lb (80-kg) man with a 30% burn should receive:
- 1,200 ml in the first 8 hours.
 - 2,400 ml in the first 8 hours.
 - 3,600 ml in the first 8 hours.
 - 4,800 ml in the first 8 hours.
18. One parameter of adequate fluid replacement is an hourly urinary output in the range of:
- 10 to 30 ml.
 - 30 to 50 ml.
 - 80 to 120 ml.
 - 100 to 200 ml.

19. Fluid remobilization usually begins:
- within the first 24 hours, when massive amounts of fluid are being administered intravenously.
 - after 48 hours, when fluid is being reabsorbed from the interstitial tissue.
 - after 1 week, when capillary permeability has returned to normal.
 - after 1 month, when scar tissue covers the wound and prevents evaporative fluid loss.
20. Wound cleansing and debridement usually begin when eschar begins to separate at:
- 72 hours.
 - 1 week.
 - 1–1/2 to 2 weeks.
 - 1 month.
21. Leukopenia within 48 hours is a side effect associated with the topical antibacterial agent:
- cerium nitrate solution.
 - gentamicin sulfate.
 - sulfadiazine, silver (Silvadene).
 - mafenide (Sulfamylon).
22. After an occlusive dressing is applied to a burned foot, the foot should be placed in the position of:
- adduction.
 - dorsiflexion.
 - external rotation.
 - plantar flexion.
23. Biological dressings that use skin from living or recently deceased humans are known as:
- autografts.
 - heterografts.
 - homografts.
 - xenografts.
24. The recommended route for administration of low-dose narcotics is:
- intramuscular.
 - intravenous.
 - oral.
 - subcutaneous.
25. To meet his early nutritional demands for protein, a 198-lb (90-kg) burned patient will need to ingest a minimum of:
- 90 g/day.
 - 110 g/day.
 - 180 g/day.
 - 270 g/day.
26. Early indicators of late-stage septic shock include all of the following *except*:
- decreased pulse pressure.
 - a full bounding pulse.
 - pale cool skin.
 - renal failure.

II. Critical Analysis Questions

Recognizing Contradictions

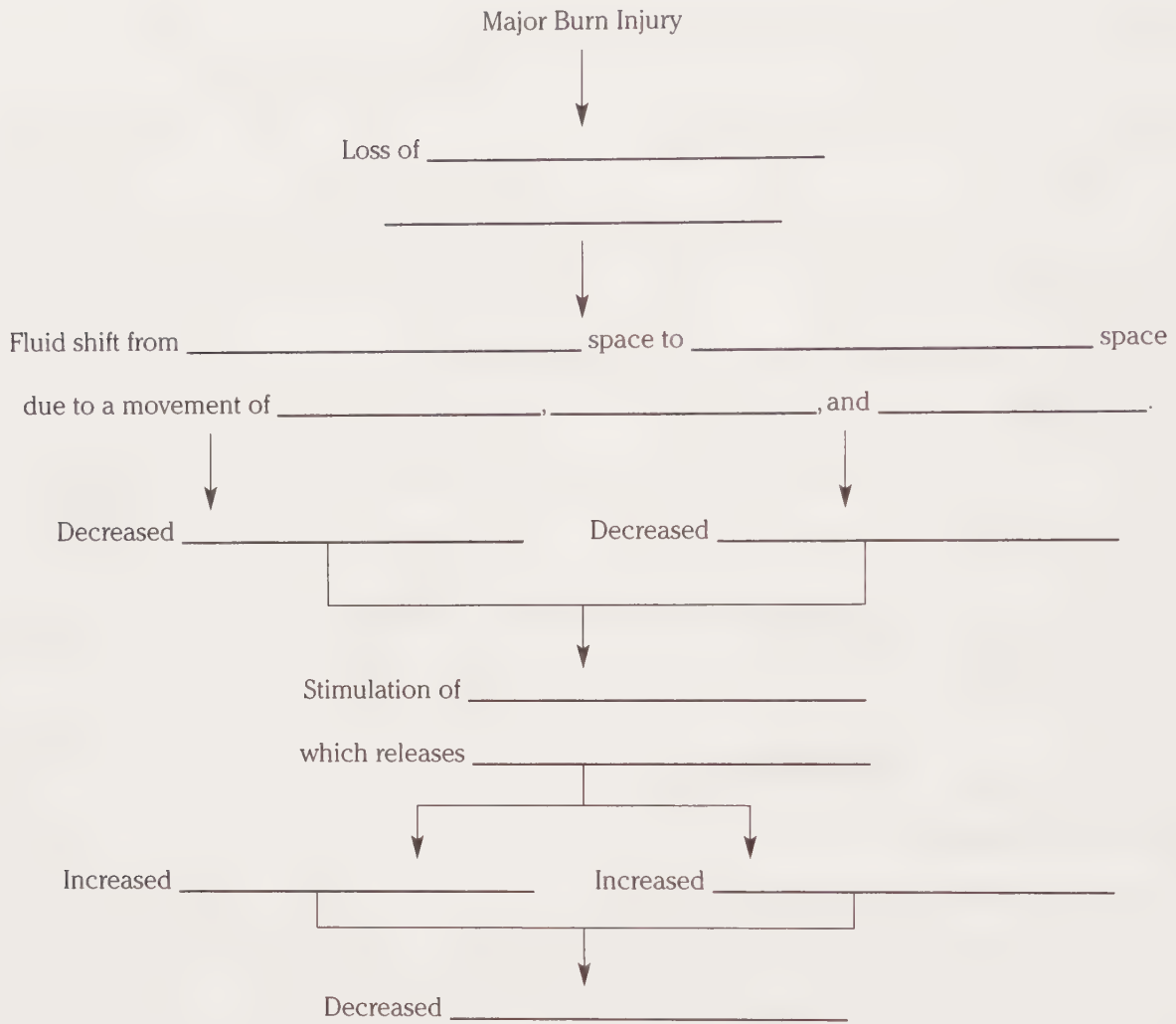
Rewrite each statement correctly. Underline the key concepts.

- The chances of survival are greatest for those who are very young and those between 50 and 60 years of age.
- A localized burn response includes injury limited to 50% of a designated area.
- All burn injuries greater than 25% of body surface area are associated with a pulmonary injury or some level of hypoxia.
- During the acute phase of burn care, the wound closes and cosmetic reconstruction begins.
- Fluid replacement with colloids and crystalloids usually takes a week to restore normal plasma levels after a burn.

Identifying Patterns

Complete the following flow chart illustrating the pathophysiological sequence of reactions that result from a systemic response to a burn injury.

Flow Chart: Systemic Response to Burn Injury



Generating Solutions: Clinical Problem Solving

Develop a nursing care plan for each of the two situations below. Use the following format:

Nursing Diagnoses:

Goals	Nursing Actions	Rationale	Expected Outcomes
-------	-----------------	-----------	-------------------

Suggested Situations

1. Aimee, 9 months old, climbed onto a stove where an electric range was on high. Her pajamas caught fire, and she was burned over 60% of her body (excluding her face and neck) with second- and third-degree burns. Her mother managed to extinguish the flames and immerse her in a sink of cool water before emergency help arrived. Aimee was transported to a burn treatment center. There are two other preschool children in her family.
2. Brad, 12 years old, sustained full-thickness burns on his upper chest, face, and neck when he was trying to start a charcoal fire to prepare dinner for his father. His father sprayed him with water from a hose and took him to a hospital emergency department 3 miles away. On arrival Brad was semiconscious and in extreme respiratory distress. He and his divorced father live together.

Learner's Self-Evaluation Tool for End of Unit 12 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by

I will do this on _____ (date and time).

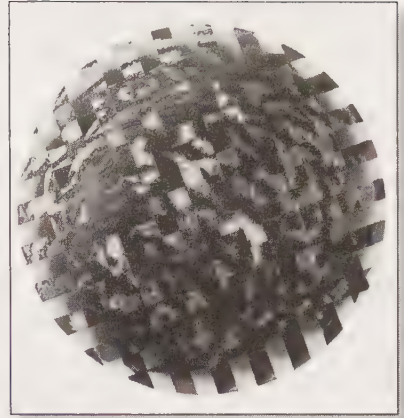
5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.



UNIT 13

Sensorineural Function



54

Assessment and Management
of Patients With Eye
and Vision Disorders

55

Assessment and Management
of Patients With Hearing
and Balance Disorders

54

Assessment and Management of Patients With Eye and Vision Disorders

Chapter Overview

Many bodily functions and activities of daily living require vision for successful performance. Patients with eye disorders need to be shown ways of altering their routines so that basic needs can be safely met.

Before developing a nursing care plan for a patient with a vision problem, the nurse should collect as much data as possible about such things as environment, hobbies, and interests. Goals and behavioral outcomes need to be realistic and attainable. The use of support services that offer volunteers to assist with transportation or help with meal preparation or that just offer companionship should be encouraged. Nurses should strive to assist handicapped patients to be as independent as possible.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. Vision becomes less efficient with age, because aging is associated with:
 - a. a decrease in pupil size.
 - b. slowing of accommodation.
 - c. an increase in lens opaqueness.
 - d. a change in all of the above.
2. During a routine eye examination, a patient complains that she is unable to read road signs at a distance when driving her car. The physician knows to check for:
 - a. an astigmatism.
 - b. anisometropia.
 - c. myopia.
 - d. presbyopia.
3. Legal blindness refers to visual acuity that is _____ or worse.
 - a. 20/50
 - b. 20/100
 - c. 20/150
 - d. 20/200
4. Increased ocular pressure is indicated by a reading of:
 - a. 0 to 5 mm Hg.
 - b. 6 to 10 mm Hg.
 - c. 11 to 20 mm Hg.
 - d. 23 to 30 mm Hg.
5. A diagnostic clinical manifestation of glaucoma is:
 - a. a significant loss of central vision.
 - b. diminished acuity.
 - c. pain associated with a purulent discharge.
 - d. the presence of halos around lights.

6. When assessing acute glaucoma, you would expect to find a:
 - a. clear cornea.
 - b. constricted pupil.
 - c. marked blurring of vision.
 - d. watery ocular discharge.
7. Pharmacotherapy for primary glaucoma that increases the outflow of aqueous humor would include all of the following *except*:
 - a. anticholinesterase drugs.
 - b. carbonic anhydrase inhibitors.
 - c. epinephrine drops.
 - d. miotics.
8. After cataract surgery, a patient is encouraged to:
 - a. maintain bed rest for 1 week.
 - b. lie on his or her stomach while sleeping.
 - c. avoid bending his or her head below the waist.
 - d. lift weights to increase muscle strength.
9. Clinical symptoms of a detached retina include:
 - a. a sensation of floating particles.
 - b. a definite area of blank vision.
 - c. momentary flashes of light.
 - d. all of the above.
10. The most common type of retinal detachment is:
 - a. exudative.
 - b. rhegmatogenous.
 - c. traction.
 - d. a combination of b and c.
11. The most common cause of visual loss in people over the age of 60 is:
 - a. macular degeneration.
 - b. ocular trauma.
 - c. retinal vascular disease.
 - d. uveitis.
12. Chemical burns of the eye are treated with:
 - a. local anesthetics and antibacterial drops for 24 to 36 hours.
 - b. hot compresses applied at 15-minute intervals.
 - c. flushing of the lids, conjunctiva, and cornea.
 - d. cleansing of the conjunctiva with a small cotton-tipped applicator.
13. Acute conjunctivitis is associated with:
 - a. blurred vision.
 - b. elevated intraocular pressure.
 - c. moderate to copious ocular discharge.
 - d. severe pain.
14. The most common neoplasm of the eyelids is:
 - a. basal cell carcinoma.
 - b. a chalazion.
 - c. xanthelasma.
 - d. squamous cell carcinoma.
15. Mydriatics and _____ are used in combination to dilate the patient's pupil.
 - a. anti-infectives
 - b. corticosteroids
 - c. cyclopedics
 - d. NSAIDs
16. An example of a topical anesthetic used before diagnostic tests is:
 - a. atropine sulfate.
 - b. lidocaine hydrochloride.
 - c. phenylephrine hydrochloride.
 - d. proparacaine hydrochloride.

Match the characteristic or function of the eye listed in Column II with its associated structure listed in Column I.

Column I

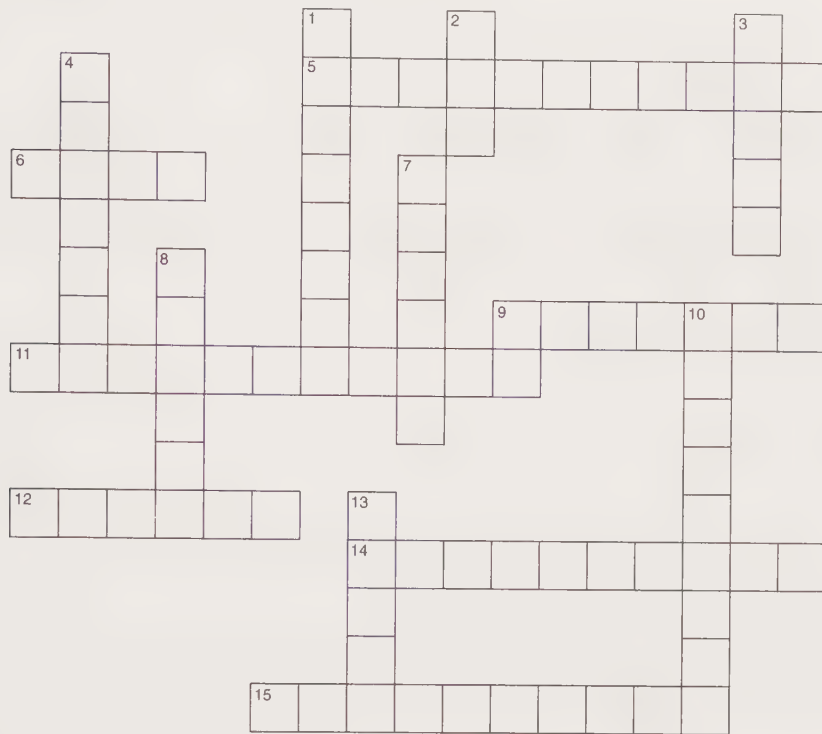
1. _____ choroid
2. _____ lens
3. _____ pupil
4. _____ retina
5. _____ vitreous humor
6. _____ cornea
7. _____ sclera
8. _____ iris
9. _____ uvea
10. _____ limbus

Column II

- a. maintains the form of the eyeball
- b. area where most of the blood vessels for the eye are located
- c. degree of convexity modified by contraction and relaxation of the ciliary muscles
- d. contractile membrane between the cornea and lens
- e. transparent part of the fibrous coat of the eyeball
- f. accommodates to the intensity of light by dilating or contracting
- g. white part of the eye
- h. the pigmented, vascular coating of the eye
- i. the edge of the cornea where it joins the sclera
- j. contains nerve endings that transmit visual impulses to the brain

Complete the following crossword puzzle using common ophthalmologic terms.

Crossword Puzzle



Down

1. Excessive production of tears
2. Another term for an external hordeolum
3. The term *oculus dexter* refers to the ____ eye
4. A term used to describe an inflammatory condition of the uveal tract
7. Another term for nearsightedness
8. An inflammatory condition affecting the iris
9. People who are photosensitive function better outdoors during this time of day
10. Inflammation of the cornea
13. A loss of cornea substance or tissue as a result of inflammation

Across

5. Abnormal sensitivity to light
6. The term *oculus sinister* refers to the ____ eye.
9. Absence of the lens
11. Uneven curvature of the cornea
12. Drooping of the upper eyelid
14. A tear in the eye tissue
15. A condition in which one eye deviates from the object at which the person is looking

II. Critical Analysis Questions

Identifying Patterns

Analyze the following clusters of information about disorders of the eyes and identify the specific disorder.

1. A chronic inflammation of the eyelid margins
Formation of scales and granulations on the eyelashes
White eyelashes may result from this condition
Staphylococcus aureus may be a primary infecting organism

2. A superficial infection of the glands of the eyelids
Pain and swelling of the eyelids are characteristic signs
Warm, moist compresses on the eyelids facilitate healing
Topical sulfonamides may be prescribed

3. Symptoms include hyperemia and edema of conjunctiva
Etiology may be bacterial, fungal, viral, or allergic
Lay person's term for condition is "pink-eye"

4. Corneal edema is a common sign in this disorder
Ulceration and infection are associated with this disorder
Cycloplegics and mydriatics may be prescribed
Etiology is usually associated with trauma or compromise
Systemic or local defense mechanisms

5. Characterized by an opacification of the lens
Usually associated with the aging process
Vision is clouded because light to the retina is blocked
Associated with compromised night vision

Generating Solutions: Clinical Problem Solving

Develop a nursing care plan for Elise, who is 65 years old and needs to have cataract surgery on her right eye. Elise lives with her daughter in a three-story house and has rheumatoid arthritis. She needs a cane to walk. Her daughter has a Down's syndrome child at home who requires constant care. Share your nursing care plan with your instructor for comments.

Nursing Diagnoses:

Goals	Nursing Actions	Rationale	Expected Outcomes
-------	-----------------	-----------	-------------------

Assessment and Management of Patients With Hearing and Balance Disorders

Chapter Overview

Hearing disorders can limit a person's normal activities of daily living, depending on the patient's age, occupation, degree of impairment, and attitude toward the handicap. The capability of a person with impaired hearing to live a normal life has improved over the past 25 years because of increased public awareness of the disorder, the ability of those with hearing problems to communicate with sign language, and the positive performance of hearing-impaired people on the job and in sports.

Even with recent improvements in society's attitude, major adjustments need to be made by the patient and his or her family. Nursing care plans need to be all-inclusive, and the nurse needs to take an active role in patient education and consumer awareness.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The organ of hearing is known as the:
 - cochlea.
 - eardrum.
 - semicircular canal.
 - stapes.
- To straighten the ear canal for examination, the nurse would grasp the auricle and pull it:
 - backward.
 - upward.
 - slightly outward.
 - in all of these directions.
- A sensorineural (perceptive) hearing loss results from impairment of the:
 - eighth cranial nerve.
 - middle ear.
 - outer ear.
 - seventh cranial nerve.
- The critical level of loudness that most people (without a hearing loss) are comfortable with is a decibel (dB) reading of:
 - 15 dB.
 - 30 dB.
 - 45 dB.
 - 60 dB.
- Severe hearing loss is associated with a decibel loss in the range of:
 - 25 to 40.
 - 40 to 55.
 - 70 to 90.
 - >90.

6. A hearing loss that is a manifestation of an emotional disturbance is known as a ____ hearing loss.
- conductive
 - functional
 - mixed
 - sensorineural
7. Hearing loss occurs in about ____ of those between the ages of 65 and 75.
- 15%
 - 25%
 - 40%
 - 75%
8. Changes in the ear that occur with aging may include:
- atrophy of the tympanic membrane.
 - increased hardness of the cerumen.
 - degeneration of cells at the base of the cochlea.
 - all of the above.
9. The most common fungus associated with ear infections is:
- Staphylococcus albus*.
 - Staphylococcus aureus*.
 - Aspergillus*.
 - Pseudomonas*.
10. Nursing instructions for a patient suffering from external otitis should include the:
- application of heat to the auricle.
 - avoidance of swimming.
 - ingestion of over-the-counter analgesics such as aspirin.
 - information included in all of the above.
11. Solutions for ear irrigations should be at a temperature of:
- 98° to 103° F
 - 105° to 110° F
 - 110° to 120° F
 - 120° to 125° F
12. Choose the symptom not usually found with acute otitis media.
- Aural tenderness
 - Rhinitis
 - Otalgia
 - Otorrhea
13. An incident of otitis media is usually associated with:
- ear canal swelling.
 - discharge.
 - intense ear pain.
 - prominent localized tenderness.
14. A myringotomy is performed primarily to:
- drain purulent fluid.
 - identify the infecting organism.
 - relieve tympanic membrane pressure.
 - accomplish all of the above.
15. A tympanoplasty, the most common procedure for chronic otitis media, is surgically performed to:
- close a perforation.
 - prevent recurrent infection.
 - reestablish middle ear function.
 - accomplish all of the above.
16. Postoperative nursing assessment for a patient who has had a mastoidectomy should include observing for facial paralysis, which might indicate damage to the ____ cranial nerve.
- first
 - fourth
 - seventh
 - tenth
17. An acoustic neuroma is a benign tumor of cranial nerve:
- five.
 - six.
 - seven.
 - eight.

II. Critical Analysis Questions

Examining Associations

View Figure 55-1 below. For each anatomic area labeled, write the associated physiologic function.

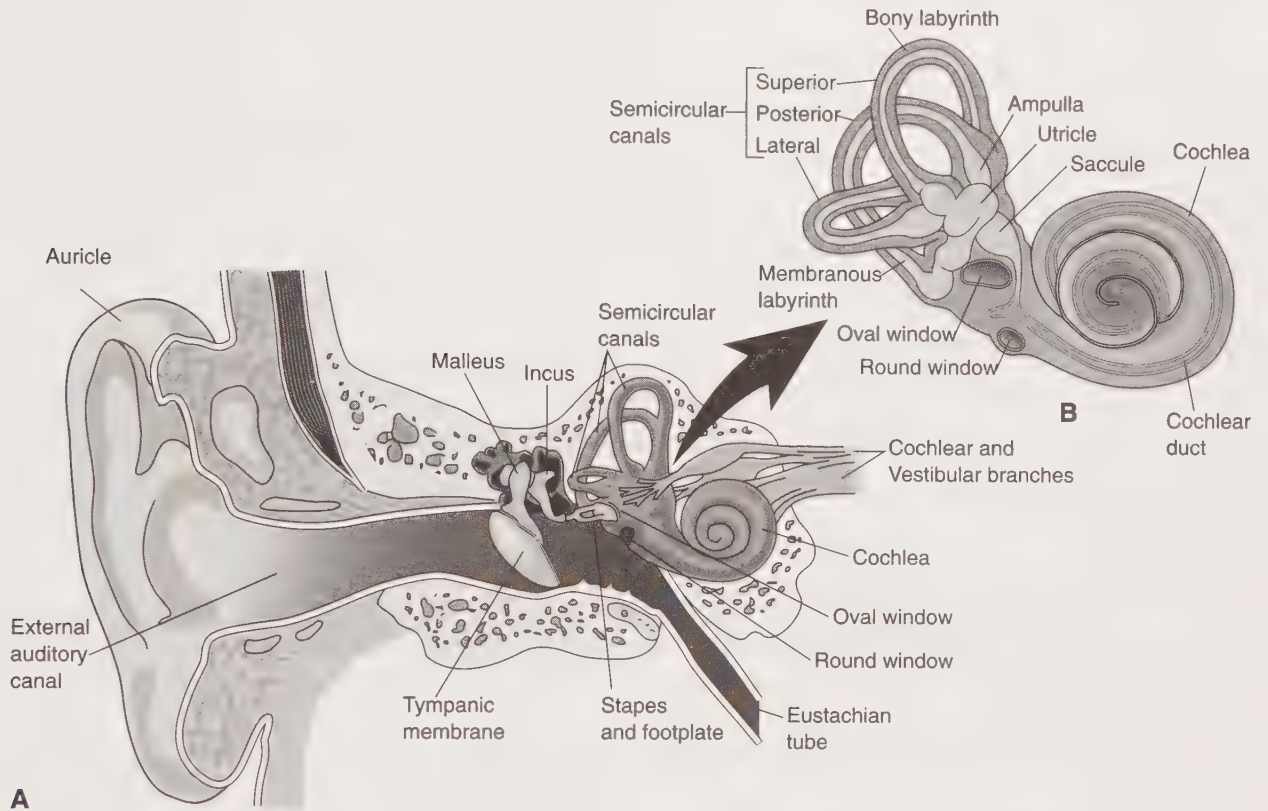


FIGURE 55-1 (A) Anatomy of the ear and (B) the inner ear

1. Auricle _____
2. Malleus _____
3. Incus _____
4. Semicircular canals _____
5. Cochlea _____
6. Oval window _____
7. Round window _____
8. Eustachian tube _____
9. Stapes _____
10. Tympanic membrane _____
11. External auditory canal _____

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: Mastoid Surgery

Amber is a 73-year-old grandmother who is scheduled for mastoid surgery to remove a cholesteatoma, a cystlike sac filled with keratin debris, which was large enough to occlude the ear canal.

1. Preoperatively, the physician reviews the results of the audiogram and assesses for the presence of associated ear problems, such as:

2. Identify four major nursing goals for the patient, preoperatively.

1. _____ 3. _____
2. _____ 4. _____

3. Postoperatively, it is common for the patient to experience:

4. The patient is advised that the postauricular incision should be kept dry for:

a. 7 days. c. 3 weeks.
b. 2 weeks. d. 1 month.

5. Two important signs of infection are: _____ and _____.

6. Manipulation of the semicircular canals during surgery may result in the symptom of:

a. sharp, shooting pain. c. purulent drainage.
b. inner ear fullness. d. vertigo.

7. The patient is advised that it is normal to hear popping and crackling sounds in the affected ear for about:

a. 3 days. c. 3 to 5 weeks.
b. 1 week. d. 2 to 4 months.

8. The patient is advised to prevent activities that increase intracranial pressure, such as:

Read the following case study. Write your responses to the questions in the space provided.

CASE STUDY: Menière's Disease

David is a 42-year-old lawyer who travels internationally. He has recently been diagnosed with Menière's disease.

1. The classic triad of symptoms that are diagnostic for Menière's disease are: _____, _____, and _____.

2. The basic pathophysiology causing the triad of symptoms listed in the previous question is:

3. The most common and disrupting clinical symptom of this disease is: _____.

4. A diet for Menière's disease would include avoiding:
 - a. bread
 - b. cheese
 - c. eggs
 - d. milk
5. A popular medication prescribed to suppress the vestibular system is:
 - a. Antivert
 - b. Lasix
 - c. Phenergan
 - d. Valium
6. The most popular surgical procedure used to treat this disease is:
 - a. Endolymphatic Sac Decompression
 - b. Labyrinthectomy
 - c. Middle Ear Perfusion
 - d. Vestibular Nerve Section

Learner's Self-Evaluation Tool for End of Unit 13 Review

1. The most important concepts or facts that I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

I will do this on _____ (date and time).

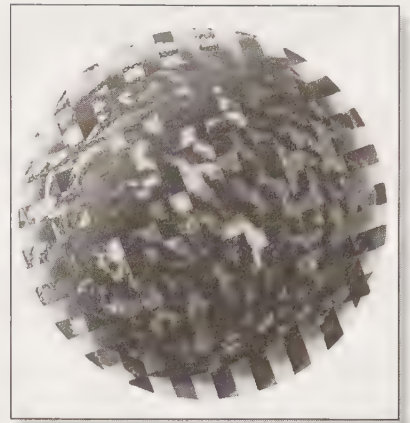
5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.



UNIT 14

Neurologic Function



56

Assessment of Neurologic
Function

57

Management of Patients
With Neurologic Dysfunction

58

Management of Patients
With Neurologic Trauma

59

Management of Patients
With Neurologic Disorders

Assessment of Neurologic Function

Chapter Overview

The central and autonomic nervous systems are complex and interrelated. Assessment of neurologic function requires an expert knowledge of the brain, the spinal cord, and the actions of each nerve. Nurses need to be knowledgeable about the norm and acutely sensitive to any deviations.

Because of the complexity of neurologic function, sophisticated technology is used for diagnostic studies. Nurses need to assist patients undergoing these procedures by making sure they understand what will be involved in the procedure and why.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A person's personality and judgment are controlled by that area of the brain known as the ____ lobe.
 - a. frontal
 - b. occipital
 - c. parietal
 - d. temporal
2. The lobe of the cerebral cortex that influences sensation is the ____ lobe.
 - a. frontal
 - b. occipital
 - c. parietal
 - d. temporal
3. Voluntary muscle control is governed by a vertical band of "motor cortex" located in the ____ lobe.
 - a. frontal
 - b. occipital
 - c. parietal
 - d. temporal
4. The sleep regulator and the site of the hunger center is known as the:
 - a. hypothalamus.
 - b. medulla oblongata.
 - c. pituitary gland.
 - d. thalamus.
5. The major receiving and communication center for afferent sensory nerves is the:
 - a. medulla oblongata.
 - b. pineal body.
 - c. pituitary gland.
 - d. thalamus.
6. The overall supervision of the autonomic nervous system is the function of the:
 - a. cerebellum.
 - b. hypothalamus.
 - c. pons.
 - d. temporal lobe of the cerebral cortex.

7. The "master gland" is also known as the ____ gland.
 - a. adrenal
 - b. thyroid
 - c. pineal
 - d. pituitary
8. Motor axons form pyramidal tracts that cross to the opposite side. This crossed pyramidal tract occurs in the brain in the area of the:
 - a. frontal cerebrum.
 - b. lateral portion of the cerebellum.
 - c. medulla oblongata.
 - d. pons.
9. The brain center responsible for balancing and coordination is the:
 - a. cerebellum.
 - b. second lumbar vertebra.
 - c. first sacral nerve.
 - d. sacrum.
10. The normal adult produces 500 ml of cerebrospinal fluid daily from the:
 - a. arachnoid.
 - b. dura mater.
 - c. circle of Willis.
 - d. corpus callosum.
11. The spinal cord tapers off to a fine thread of tissue at the level of the:
 - a. coccygeal nerve.
 - b. cerebral cortex.
 - c. lateral ventricle.
 - d. medulla oblongata.
12. Parasympathetic impulses are mediated by the secretion of:
 - a. acetylcholine.
 - b. epinephrine.
 - c. norepinephrine.
 - d. all of the above.
13. The preganglionic fibers of the sympathetic neurons are located in those segments of the spinal cord identified as:
 - a. C1–T1.
 - b. C3–L1.
 - c. C8–L3.
 - d. T1–S5.
14. Myelography with an oil-based medium requires the patient to lie ____ for 12 to 24 hours to reduce CSF leakage.
 - a. in high Fowler's position
 - b. in semi-Fowler's position
 - c. prone
 - d. recumbent
15. Patient preparation for electroencephalography includes omitting, for 24 hours before the test, all of the following *except*:
 - a. coffee and tea.
 - b. solid foods.
 - c. stimulants.
 - d. tranquilizers.
16. For a lumbar puncture, the nurse should assist the patient to flex his or her head and thighs while lying on his or her side so that the needle can be inserted between the:
 - a. fourth and fifth cervical vertebrae.
 - b. fifth and sixth thoracic vertebrae.
 - c. third and fourth lumbar vertebrae.
 - d. first and second sacral vertebrae.

II. Critical Analysis Questions

Examining Associations

Write the effects produced by the parasympathetic and sympathetic nervous systems on each organ or tissue listed in Column I. Use the terms provided, and document in the space below.

Terms to be used: acceleration inhibition
 constriction increased motility
 dilation secretion

Organ or Tissue	Parasympathetic Effect	Sympathetic Effect
a. bronchi (sample)	constriction	dilation
b. cerebral vessels		
c. coronary vessels		
d. heart		
e. iris of the eye		
f. salivary glands		
g. smooth muscle of		
(1) bladder wall		
(2) large intestine		
(3) small intestine		

Next to each cranial nerve listed by number, write the appropriate corresponding terminology in Column I and a major associated function in Column II.

Nerve No.	Column I	Column II
1 (sample)	olfactory	smell
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

View Figure 56-3 and list the major functions of each identified area.

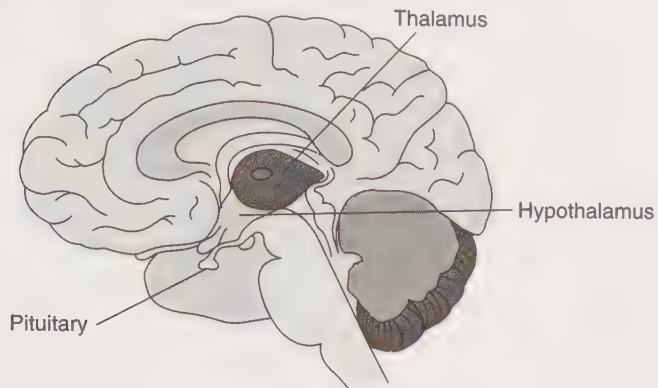


FIGURE 56-3 Diagram showing the thalamus, hypothalamus, and pituitary (hypophysis).

Thalamus

1. _____
2. _____

Hypothalamus

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Pituitary

1. _____
2. _____

57

Management of Patients With Neurologic Dysfunction

Chapter Overview

Patients with neurologic dysfunction represent a challenge to nursing care because of the complexity of their symptoms, the frequent involvement of other systems, and their prolonged rehabilitative course. Recovery is usually slow, with small increments in progress noted. Nurses need to be supportive and to encourage patients to have positive attitudes toward improvement, no matter how minor the gains.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The normal range of intracranial pressure (ICP) is:
 - a. 5 to 8 mm Hg.
 - b. 10 to 20 mm Hg.
 - c. 20 to 30 mm Hg.
 - d. 25 to 40 mm Hg.
2. Intracranial pressure can be increased by a:
 - a. decrease in venous outflow.
 - b. dilation of the cerebral blood vessels.
 - c. rise in P_{aCO_2} .
 - d. change in all of the above.
3. Initial compensatory vital sign changes with increased ICP include all of the following *except*:
 - a. a slow, bounding pulse.
 - b. an increased systemic blood pressure.
 - c. a decreased temperature.
 - d. respiratory rate irregularities.
4. The earliest sign of serious impairment of brain circulation related to increasing ICP is:
 - a. a bounding pulse.
 - b. bradycardia.
 - c. hypertension.
 - d. lethargy and stupor.
5. As ICP rises, the nurse knows that she may be asked to give _____, a commonly used osmotic diuretic.
 - a. glycerin
 - b. isosorbide
 - c. mannitol
 - d. urea
6. The nurses assess the patient's level of consciousness using the Glasgow Coma Scale. Her score of _____ indicates severe impairment of neurologic function.
 - a. 3
 - b. 6
 - c. 9
 - d. 12

7. An indicator of compromised respiratory status significant enough to require mechanical ventilation for an average-weight adult patient with a neurologic dysfunction would be:
 - a. expiratory reserve volume of 1,300 ml.
 - b. inspiratory capacity of 3,000 ml.
 - c. residual volume of 1,400 ml.
 - d. vital capacity of 1,000 ml.
8. Nursing care activities for a patient with increased ICP would *not* include:
 - a. assisting him or her with isometric exercises.
 - b. avoiding activities that interfere with venous drainage of blood from the head.
 - c. use of a cervical collar.
 - d. teaching him or her to exhale when being turned (to avoid the Valsalva maneuver).
9. Unconsciousness may have a ____ origin.
 - a. neurologic
 - b. metabolic
 - c. toxicologic
 - d. multisystem involvement
10. An unconscious patient evidencing fixed, dilated pupils would most likely have:
 - a. brainstem damage.
 - b. damage to the medullary center.
 - c. fifth cranial nerve damage.
 - d. injury at the level of the midbrain.
11. The most common cause of cerebrovascular disease is:
 - a. arteriosclerosis.
 - b. embolism.
 - c. hypertensive changes.
 - d. vasospasm.
12. Approximately ____ of patients who experience a transient ischemic attack (TIA) will have a stroke within 3 years.
 - a. 5%
 - b. 20%
 - c. 40%
 - d. 80%
13. As a cause of death in the United States, stroke currently ranks:
 - a. second.
 - b. third.
 - c. fourth.
 - d. fifth.
14. The initial mortality rate for a stroke is as high as:
 - a. 10%.
 - b. 20%.
 - c. 30%.
 - d. 50%.
15. The most common cause of a non-hemorrhagic cerebrovascular accident is cerebral:
 - a. arteriosclerosis.
 - b. hemorrhage.
 - c. ischemia.
 - d. thrombosis.
16. Aphasia resulting from injury or disease of the brain centers is primarily a disturbance in:
 - a. memory.
 - b. swallowing.
 - c. language.
 - d. vision.
17. Aphasia related to difficulty in speaking is known as:
 - a. apraxia.
 - b. alexia.
 - c. dysarthria.
 - d. paraphasia.
18. Postcraniotomy cerebral edema is maximum ____ after brain surgery.
 - a. 6 hours
 - b. 12 to 20 hours
 - c. 24 to 72 hours
 - d. 3 to 5 days
19. Neurologic and neurosurgical approaches to pain relief would include:
 - a. stimulation procedures.
 - b. administration of intraspinal opiates.
 - c. interruption of nerve tracts that conduct pain.
 - d. all of the above mechanisms.

Match the neurologic dysfunction in Column II with its associated nursing intervention(s) found in Column I. An answer may be used more than once.

Column I

1. _____ assist with daily active or passive range of motion.
2. _____ elevate the head of the bed 30°.
3. _____ institute a bowel-training program.
4. _____ maintain dorsiflexion to affected area.
5. _____ place patient in a lateral position.

Column II

- a. footdrop
- b. incontinence
- c. impaired cough reflex
- d. keratitis
- e. paralyzed diaphragm
- f. paralyzed extremity

Read each statement carefully. Write your response in the space provided.

1. List three primary complications of increased ICP

1. _____	3. _____
2. _____	

2. List six treatment goals for the prompt management of increased ICP

1. _____	4. _____
2. _____	5. _____
3. _____	6. _____

3. Name four ICP monitoring devices that a nurse may be asked to manage.

1. _____	3. _____
2. _____	4. _____

4. The first priority of treatment for the unconscious patient is the:

_____.

5. Decorticate posturing exhibits the muscular signs of _____ whereas decerebrate posturing exhibits the muscular signs of _____.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Develop a plan of care using the format shown below.

1. Develop a plan of care for Miss Potter, a 32-year-old, single circus performer who has been unconscious since she was admitted to the hospital 1 week ago after falling from a high wire. Her family must leave the area to travel with the circus and is expected to return in 2 months.

Nursing Diagnoses:

Goals	Nursing Actions	Rationale	Expected Outcomes
-------	-----------------	-----------	-------------------

2. Construct a nursing care plan for Mrs. Coe, who recently sustained a cerebrovascular accident. Mrs. Coe is 41 years old and lives with her husband and three sons. Emphasize the rehabilitative phase, which should have begun with her diagnosis, and stress the retraining of her flaccid right upper and lower extremities. She also needs to be taught how to sit, stand, and walk with balance and how to use a wheelchair.

Nursing Diagnoses:

Goals	Nursing Actions	Rationale	Expected Outcomes
-------	-----------------	-----------	-------------------

58

Management of Patients With Neurologic Trauma

Chapter Overview

Neurologic trauma is one of the most physically devastating injuries that a person can sustain. Neurologic problems, secondary to brain or spinal cord injury, can render an individual paralyzed or comatose. Rehabilitation can be costly, prolonged, and marginally successful. The added tragedy is that those who are young and athletic tend to be the primary victims.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Choose the *incorrect statement* about the occurrence of head injuries.
 - Almost 70% of all victims are below 30 years of age.
 - An estimated 100,000 persons die annually from these injuries.
 - Motor vehicle crashes are the primary cause.
 - The majority of injuries occur in females.
- A cerebral hemorrhage located under the dura mater is classified as a(n):
 - epidural hematoma.
 - extradural hematoma.
 - intracerebral hematoma.
 - subdural hematoma.
- Comatose patients are mechanically ventilated to control intracranial pressure (ICP). Hypocapnia is a goal that can be achieved with a $Paco_2$ in the range of:
 - 10 to 25 mm Hg.
 - 25 to 30 mm Hg.
 - 30 to 35 mm Hg.
 - 35 to 40 mm Hg.
- The Glasgow coma scale is used to determine the level of consciousness. A score considered indicative of a coma is:
 - 1.
 - 3.
 - 5.
 - 7.
- Assessing the level of consciousness is an important nursing measure postinjury. Signs of increasing ICP include:
 - bradycardia.
 - increased systolic blood pressure.
 - widening pulse pressure.
 - all of the above.

6. An indicator of elevated body temperature in a head-injured patient is:
 - a. cerebral irritation from hemorrhage.
 - b. damage to the hypothalamus.
 - c. infection.
 - d. all of the above.
7. Cerebral edema and swelling peak ____ after the injury.
 - a. 12 hours
 - b. 12 to 24 hours
 - c. 2 to 3 days
 - d. 7 days
8. Head injury patients can experience posttraumatic seizures for up to ____ years after the injury.
 - a. 6 months
 - b. 1 year
 - c. 2 years
 - d. 4 to 5 years
9. Most victims of spinal cord injury are:
 - a. 30 years of age or younger.
 - b. 30 to 40 years of age.
 - c. 40 to 50 years of age.
 - d. 50 years of age or older.
10. In the United States, the number of new spinal cord injuries each year averages approximately:
 - a. 5,000 cases.
 - b. 10,000 cases.
 - c. 15,000 cases.
 - d. 25,000 cases.
11. The primary cause of spinal cord injuries is:
 - a. gunshot wounds.
 - b. industrial accidents.
 - c. sports activities.
 - d. motor vehicle crashes.
12. Respiratory difficulty and paralysis of all four extremities occur with spinal cord injury:
 - a. above C4.
 - b. at C6.
 - c. at C7.
 - d. around C8.
13. High doses of this drug has been found to reduce swelling and disability if given within 8 hours of injury.
 - a. Mannitol
 - b. Methylprednisolone
 - c. Naloxone
 - d. Neomycin
14. A common complication of immobility in a spinal cord injury is:
 - a. pressure ulcers.
 - b. deep vein thrombosis.
 - c. urinary tract infections.
 - d. pneumonia.

Read each statement carefully. Write your response in the space provided.

1. A characteristic sign of a basal skull fracture is:

2. A brain injury can cause serious brain damage because _____

3. Five symptoms of postconcussion syndrome are:

1. _____ 4. _____

2. _____ 5. _____

3. _____

4. Complications after traumatic head injuries can be classified accordingly:

1. _____ 3. _____

2. _____

5. The five vertebrae most commonly involved in spinal cord injuries are the:

1. _____ 4. _____

2. _____ 5. _____

3. _____

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Develop a plan of care as indicated below.

CASE STUDY: Cervical Spine Injury

Develop a nursing care plan for *Katie*, an 11-year-old who suffered a cervical spine injury after diving into a swimming pool. Katie is in traction applied by Crutchfield tongs and is on a Stryker frame. She is the oldest of three children and has never been hospitalized before. Complete your care plan, and share it with your instructor for comments. Use the format below.

Nursing Diagnoses:

Goals	Nursing Actions	Rationale	Expected Outcomes
-------	-----------------	-----------	-------------------

CASE STUDY: Paraplegia

Develop a nursing care plan for *Matthew*, a 29-year-old Navy pilot who was recently injured in a training maneuver. Matthew is a paraplegic. He has been hospitalized for 1 week. He was recently married, and his wife is expecting their first child in 2 months. Emphasize the following areas in your nursing care plan: psychological support, weight-bearing activities, muscle exercises, mobilization, and sexual needs. Share your work with your clinical instructor. Use the suggested format below.

Nursing Diagnoses:

Goals	Nursing Actions	Rationale	Expected Outcomes
-------	-----------------	-----------	-------------------

59

Management of Patients With Neurologic Disorders

Chapter Overview

Nursing care for patients with neurologic disorders demands a multiplicity of resources and skills, since neurologic disorders are not isolated problems. Any neurologic disorder affects other systems and involves psychosocial adjustment to changes in one's self-image and self-esteem.

The specifics of care will depend on the diagnosis. Generally, there are some common denominators to be considered by nurses when developing a care plan, including alterations in mobility, bowel and bladder elimination, comfort, health maintenance, nutrition, sexual functioning, and family processes.

The sequelae of neurologic damage can be heartbreaking, especially when the victim is young or has many dependents. Patient education should be realistic and optimistic, because continued research has brought society closer to some cures and has improved rehabilitative measures.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Headaches classified as *primary* would include all of the following *except*:
 - aneurysm.
 - cluster.
 - migraine.
 - tension.
- The most common drug used for the prevention of a migraine headache is:
 - Cafergot.
 - Inderal.
 - Sansert.
 - Seconal.
- The most frequently seen brain neoplasm is a(n):
 - acoustic neuroma.
 - angioma.
 - glioma.
 - meningioma.
- The most common tumor types seen in the elderly include all of the following *except*:
 - astrocytoma.
 - cerebral metastasis from other sites.
 - glioblastoma multiforme.
 - medulloblastoma.
- The majority of brain tumors are treated by:
 - neurosurgery.
 - chemotherapy.
 - radioisotope implants.
 - all of the above measures.

6. Metastatic cerebral lesions to the brain comprise _____ of all intracranial tumors.
- <5%
 - 10%
 - 15% to 30%
 - >50%
7. The most significant form of meningitis is:
- bacterial.
 - aseptic.
 - septic.
 - viral.
8. Bacterial meningitis alters intracranial physiology, causing:
- cerebral edema.
 - increased permeability of the blood-brain barrier.
 - raised intracranial pressure.
 - all of the above changes.
9. A brain abscess is a collection of pus within the substance of the brain and is caused by:
- direct invasion of the brain.
 - spread of infection from nearby sites.
 - spread of infection by other organs.
 - all of the above mechanisms.
10. The clinical manifestations of Parkinson's disease (bradykinesia, rigidity, and tremors) is directly related to a decreased level of:
- acetylcholine.
 - dopamine.
 - serotonin.
 - phenylalanine.
11. The most effective pharmacologic agent for the treatment of Parkinson's disease is:
- Levodopa.
 - Permax.
 - Selegilene.
 - Symmetrel.
12. Clinical manifestations of Huntington's disease include:
- abnormal involuntary movements (chorea).
 - emotional disturbances.
 - intellectual decline.
 - all of the above.
13. A surgical intervention that can cause substantial remission of myasthenia gravis is:
- esophagostomy.
 - myomectomy.
 - thymectomy.
 - splenectomy.
14. The normal life expectancy for 50% of patients with amyotrophic lateral sclerosis (ALS) is:
- 3 years.
 - 5 years.
 - 10 years.
 - 20 years.
15. Nursing care for a patient who is experiencing a convulsive seizure includes all of the following *except*:
- loosening constrictive clothing.
 - opening the patient's jaw and inserting a mouth gag.
 - positioning the patient on his or her side with head flexed forward.
 - providing for privacy.
16. A seizure characterized by loss of consciousness and tonic spasms of the trunk and extremities, rapidly followed by repetitive generalized clonic jerking, is classified as a:
- focal seizure.
 - generalized seizure.
 - Jacksonian seizure.
 - partial seizure.
17. The majority of lumbar disc herniations occur at the level of:
- L1 to L2.
 - L3 to L4.
 - L4 to L5.
 - S1 to S2.
18. Tic douloureux is a(n) _____ cranial nerve disorder characterized by paroxysms of pain and burning sensations.
- third
 - fifth
 - seventh
 - eighth
19. Bell's palsy is a _____ cranial nerve disorder characterized by weakness or paralysis of the facial muscles.
- third
 - fifth
 - seventh
 - eighth

20. The initial neurological symptom of Guillain-Barré syndrome is:
- absent tendon reflexes.
 - dysrhythmias.
 - paresthesia of the legs.
 - transient hypertension.

Read each statement carefully. Write your response in the space provided.

1. Migraine headaches are directly related to the abnormal metabolism of the neurotransmitter _____

2. Brain tumors infiltrate tissue, resulting in five types of activity:

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | |

3. The three classic signs of increased intracranial pressure (ICP) are:

- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | |

4. The primary pathology of multiple sclerosis is damage to the _____

5. The three cardinal signs of Parkinson's disease are:

- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | |

6. Myasthenia gravis is considered an autoimmune disease in which antibodies are directed against _____

7. Another name for amyotrophic lateral sclerosis (ALS) is _____

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case studies. Circle the correct answer.

CASE STUDY: Multiple Sclerosis

Toni, a 32-year-old mother of two, has had multiple sclerosis for 5 years. She is currently enrolled in a school of nursing. Her husband is supportive and helps with the care of their preschool sons. Toni has been admitted to the clinical area for diagnostic studies related to symptoms of visual disturbances.

- The nurse is aware that multiple sclerosis is a progressive disease of the central nervous system characterized by:
 - axon degeneration.
 - demyelination of the brain and the spinal cord.
 - sclerosed patches of neural tissue.
 - all of the above.
- During the physical assessment, the nurse recalls that the areas most frequently affected by multiple sclerosis are the:
 - lateral, third, and fourth ventricles.
 - optic nerve and chiasm.
 - pons, medulla, and cerebellar peduncles.
 - above areas.

3. During the nursing interview, Toni minimizes her visual problems, talks about remaining in school to attempt advanced degrees, requests information about full-time jobs in nursing, and mentions her desire to have several more children. The nurse recognizes her emotional responses as being:
 - a. an example of inappropriate euphoria characteristic of the disease process.
 - b. a reflection of coping mechanisms used to deal with the exacerbation of her illness.
 - c. indicative of the remission phase of her chronic illness.
 - d. realistic for her current level of physical functioning.
4. Toni's disease process involves a sacral plexus. Assessment should include:
 - a. bladder problems or urinary tract infections.
 - b. bowel management.
 - c. sexual activity.
 - d. all of the above.

CASE STUDY: Parkinson's Disease

Charles is a 76-year-old retired professional golfer. He has recently been diagnosed as having Parkinson's disease.

1. The nurse knows that Parkinson's disease, a progressive neurologic disorder, is characterized by:
 - a. bradykinesia.
 - b. muscle rigidity.
 - c. tremor.
 - d. all of the above.
2. The nurse assesses for the characteristic movement of Parkinson's disease, which is a(n):
 - a. exaggerated muscle flaccidity that leads to frequent falls.
 - b. hyperextension of the back and neck that alters normal movements.
 - c. pronation-supination of the hand and forearm that interferes with normal hand activities.
 - d. combination of all of the above.
3. Charles is started on chemotherapy, which is aimed at restoring dopaminergic activities. An example of such a drug is:
 - a. Artane.
 - b. Benadryl.
 - c. Elavil.
 - d. Dopar.
4. Nutritional considerations as part of the nursing care plan would include all of the following *except* that:
 - a. the diet should be semisolid to facilitate the passage of food.
 - b. calcium should be avoided.
 - c. the patient should be sitting in an upright position during feeding.
 - d. thick fluids should be encouraged to provide additional calories.

Develop nursing care plans for three case studies.

CASE STUDY: Huntington's Disease

Develop a nursing care plan for Mike, a 49-year-old television producer who has been diagnosed as having Huntington's disease. He lives alone in a penthouse apartment and is extremely busy and successful in his business. He has no living relatives. He is experiencing uncontrollable movements and difficulties feeding himself. He recently started chemotherapy with haloperidol (Haldol). Share your care plan with your instructor for comments.

Nursing Diagnoses: Potential for accidental injury related to abnormal involuntary movements (Example)

Goals	Nursing Actions	Rationale	Expected Outcomes
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Learner's Self-Evaluation Tool for End of Unit 14 Review

1. The most important concepts or facts I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

I will do this on _____ (date and time).

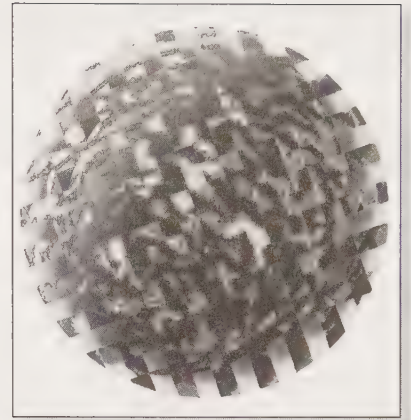
5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.



UNIT 15

Musculoskeletal Function



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Assessment
of Musculoskeletal Function

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Musculoskeletal Care
Modalities

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Management of Patients
With Musculoskeletal
Disorders

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Management of Patients
With Musculoskeletal Trauma

60

Assessment of Musculoskeletal Function

Chapter Overview

The synergistic interplay between muscles and bones provides a person with freedom of movement to perform his or her daily tasks and to participate in exercise activities. The interaction between muscles and bones can be influenced by one's genetic makeup, age, nutrition, environment, occupation, and activity levels.

When assessing musculoskeletal function, a nurse needs to be aware of the normal range of motor function and should be able to correlate symptoms of pathology to other data to diagnose and plan care.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The vertebrae can be classified as a type of _____ bone(s).
 - a. flat
 - b. irregular
 - c. long
 - d. short
2. The sternum, a bone that is a site for hematopoiesis, is classified as a _____ bone.
 - a. flat
 - b. irregular
 - c. long
 - d. short
3. The basic cells responsible only for the formation of bone matrix are:
 - a. osteoblasts.
 - b. osteoclasts.
 - c. osteocytes.
 - d. all of the above.
4. About 3 weeks postfracture, an internal bridge of fibrous material, cartilage, and immature bone join bone fragments so that ossification can occur. The building of a "fracture bridge" occurs during the stage of bone healing known as:
 - a. inflammation.
 - b. cellular proliferation.
 - c. callus formation.
 - d. ossification.
5. The hip and shoulder are examples of articular joints that are classified as:
 - a. ball-and-socket types.
 - b. hinge joints.
 - c. pivot joints.
 - d. saddle joints.
6. The primary energy source for muscle cells is:
 - a. adenosine triphosphate (ATP).
 - b. creatine phosphate.
 - c. glucose.
 - d. glycogen.

7. Isometric contraction of the vastus lateralis is part of the exercises known as:
- biceps-tightening exercises.
 - triceps-resisting exercises.
 - gluteal-setting exercises.
 - quadriceps exercises.
8. Patient education for musculoskeletal conditions for the aging is based on the understanding that bone mass peaks at age _____, after which there is a gradual loss of bone.
- 20
 - 35
 - 40
 - 50
9. By age 75, the average woman has lost about _____ % of cancellous bone and is susceptible to bone fractures.
- 15
 - 40
 - 60
 - 75
10. The removal of synovial fluid from a joint is called:
- arthrectomy.
 - arthrocentesis.
 - arthrography.
 - arthroscopy.

Match the range-of-motion term listed in Column II with its associated description listed in Column I.

Column I

- _____ pulling down toward the midline of the body
- _____ the act of turning the foot inward
- _____ the opposite movement of flexion
- _____ turning around on an axis
- _____ turning the palms down
- _____ pulling the jaw forward
- _____ moving away from the midline
- _____ conelike circular movement
- _____ turning the palm up
- _____ turning the foot outward

Column II

- supination
- extension
- circumduction
- abduction
- protraction
- eversion
- pronation
- adduction
- inversion
- rotation

Read each statement carefully. Write the best response in the space provided.

- List several general functions of the musculoskeletal system.

- The approximate percentage of total body calcium present in the bones is _____%.

- In the human body, there are _____ bones.

- The growth plate is also called the _____ located at the end of long bones.

- Name the major bones in which red bone marrow is located.

- Explain how vitamin D helps to regulate the balance between bone formation and resorption.

7. The major hormonal regulators of calcium homeostasis are _____

8. The term used to describe the grating, crackling sound heard over irregular joint surfaces like the knee is:

Unscramble the letters to answer each statement.

1. The fibrous membrane that covers the bone:

E O P T R M E S U I _____

2. These connect muscles to muscles:

A N S I G M L T E _____

3. The contractile unit of skeletal muscle:

O E S E A R M R C _____

4. These attach muscles to bone:

N T S O E D N _____

5. Loss of bone mass common in postmenopausal women:

I S S T P O O R E O O S _____

6. A lateral curving deviation of the spine:

L S O S O S I I C _____

7. Excessive fluid within a joint capsule:

N E O F I F S U _____

8. Aspiration of a joint to obtain synovial fluid:

S A I R E T T H N R E O C _____

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Musculoskeletal Care Modalities

Chapter Overview

Assistive orthopedic devices are used to treat musculoskeletal dysfunctions. Nurses need to be familiar with the various devices to make sure that they are performing their intended function. Nurses need to assure patients that the devices are necessary for recovery, seldom cause pain, can be uncomfortable, and will be removed when recovery is complete. Some joint replacements are permanent and may initially cause pain, but the patient should eventually be pain-free. Nursing care plans must include the maintenance of any orthopedic device, since proper functioning is vital to the healing process.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- Choose the *incorrect* statement about a plaster cast. After a plaster cast has been set, it:
 - will take 1 to 3 days to dry.
 - may be dented with pressure from the fingers of the hands when being moved.
 - should be covered with a blanket to promote quick drying.
 - will not have maximum strength until it is dry.
- A patient with an arm cast complains of pain. The nurse should do all of the following *except*:
 - assess the fingers for color and temperature.
 - administer a prescribed analgesic to promote comfort and allay anxiety.
 - suspect that the patient may have a pressure sore.
 - determine the exact site of the pain.
- The nurse suspects "compartment syndrome" for a casted extremity. She would assess for characteristic symptoms such as:
 - decreased sensory function.
 - excruciating pain.
 - loss of motion.
 - all of the above.
- The nurse assesses for peroneal nerve injury by checking the patient's casted leg for the primary symptom(s) of:
 - burning.
 - numbness.
 - tingling.
 - all three indicators.
- The nurse is very concerned about the potential debilitating complication of peroneal nerve injury, which is:
 - permanent paresthesia.
 - footdrop.
 - deep vein thrombosis.
 - infection.

6. A common pressure problem area for a long leg cast is the:
- dorsalis pedis.
 - peroneal nerve.
 - popliteal artery.
 - posterior tibialis.
7. Choose the *incorrect* statement about turning a patient in a hip spica cast.
- A minimum of three persons are needed so that the cast can be adequately supported by their palms.
 - Points over body pressure areas need to be supported to prevent the cast from cracking.
 - The abduction bar should be used to ensure that the lower extremity can be moved as a unit.
 - The patient should be encouraged to use the trapeze or side rail during repositioning.
8. The nurse who assesses bone fracture pain expects the patient to describe the pain as:
- a dull, deep, boring ache.
 - sharp and piercing.
 - similar to "muscle cramps."
 - sore and aching.
9. After removal of a cast, the patient needs to be instructed to do all of the following *except*:
- apply an emollient lotion to soften the skin.
 - control swelling with elastic bandages, as directed.
 - gradually resume activities and exercise.
 - use friction to remove dead surface skin by rubbing the area with a towel.
10. Skin traction is usually limited to a weight between:
- 1 to 3 lbs.
 - 4 to 8 lbs.
 - 10 to 12 lbs.
 - 13 to 15 lbs.
11. A patient in pelvic traction needs his or her circulatory status assessed. The nurse should check for a positive (+) Homans' sign by asking the patient to:
- extend both hands while the nurse compares the volume of both radial pulses.
 - extend each leg and dorsiflex each foot to determine if pain or tenderness is present in the lower leg.
 - plantar flex both feet while the nurse performs the blanch test on all of the patient's toes.
 - squeeze the nurse's hands with his or her hands to evaluate any difference in strength.
12. Nursing assessment of a patient in traction should include:
- lung sounds and bowel sounds.
 - circulation, sensation, and motion of the extremities in traction.
 - the patient's level of anxiety and apprehension.
 - all of the above interventions.
13. The nurse expects that up to ____ lbs of weight can be used for a patient in skeletal traction.
- 10
 - 25
 - 40
 - 60
14. When a patient is in continuous skeletal leg traction, it is important for the nurse to remember to do all of the following *except*:
- encourage the patient to use the trapeze bar.
 - maintain adequate countertraction.
 - remove the weights when pulling the patient up in bed to prevent unnecessary pulling on the fracture site.
 - use a fracture bedpan to prevent soiling and to maintain patient comfort.
15. The surgical procedure in which damaged knee joint fibrocartilage is excised is called:
- arthroplasty.
 - fasciectomy.
 - meniscectomy.
 - open reduction.
16. Preoperative nursing measures that are appropriate for an orthopedic patient should include:
- encouraging fluids to prevent a urinary tract infection.
 - teaching isometric exercises and encouraging active range of motion.
 - discouraging smoking to improve respiratory function.
 - all of the above interventions.

- 17.** Postoperative nursing concerns when caring for an orthopedic patient should include:
- a. determining that the patient's pain is controlled by administering prescribed analgesics.
 - b. observing for signs of shock, such as hypotension and tachycardia.
 - c. preventing infection by using aseptic technique when giving wound care.
 - d. all of the above interventions.
- 18.** An artificial joint for total hip replacement involves an implant that consists of:
- a. an acetabular socket.
 - b. a femoral shaft.
 - c. a spherical ball.
 - d. all of the above.
- 19.** The recommended leg position to prevent prosthesis dislocation after a total hip replacement is:
- a. abduction.
 - b. adduction.
 - c. flexion.
 - d. internal rotation.
- 20.** Postoperatively a patient with a total hip replacement is allowed to turn:
- a. 45 degrees onto his or her unoperated side if the patient keeps the affected hip abducted.
 - b. from the prone to the supine position only, and the patient must keep the affected hip extended and abducted.
 - c. to any comfortable position as long as the affected leg is extended.
 - d. to the operative side if his or her affected hip remains extended.
- 21.** One of the most dangerous of all postoperative complications is:
- a. atelectasis.
 - b. hypovolemia.
 - c. pulmonary embolism.
 - d. urinary tract infection.
- 22.** After a total hip replacement, stair climbing and stooping are to be avoided for:
- a. 1 to 3 months
 - b. 3 to 4 months.
 - c. 6 months.
 - d. 8 to 9 months.
- 23.** After a total hip replacement, the patient is usually able to resume daily activities after:
- a. 3 months.
 - b. 6 months.
 - c. 9 months.
 - d. 1 year.

Read each statement carefully. Write your response in the space provided.

- 1.** List four purposes for applying a cast.

1. _____	3. _____
2. _____	4. _____

- 2.** The advantages of a fiberglass cast compared to a plaster cast are:

- 3.** Name several indicators of neurovascular status that the nurse should assess to determine circulatory status for a casted extremity.

- 4.** List seven danger signs of possible circulatory constriction for a casted extremity.

1. _____	5. _____
2. _____	6. _____
3. _____	7. _____
4. _____	

5. List three major complications of a casted extremity.

1. _____

2. _____

3. _____

6. Name four purposes for traction application.

1. _____

2. _____

3. _____

4. _____

7. List two examples of straight or running traction.

1. _____

2. _____

8. Name four possible complications of a total knee replacement.

1. _____

2. _____

3. _____

4. _____

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: Buck's Traction

Bernadette is a 32-year-old bank secretary who was admitted to the hospital for unilateral Buck's extension traction to the left leg following a hip injury. Bernadette is the single parent of three children under age 12.

1. Based on her knowledge of running traction, the nurse knows to expect that:

a. the patient's leg will be flat on the bed to allow for a straight pulling force.

b. the patient's leg will be flexed at the knee to allow for mobility without disruption of the pulling force.

c. the traction will be applied directly to the bony skeleton to maintain a constant pulling force.

d. the traction will allow the patient's leg to be suspended off the bed so no further damage can occur to the hip.

2. The nurse knows that countertraction must be considered whenever traction is applied. Countertraction for Buck's traction is provided by:

_____ and _____.

3. In preparing the patient's skin for Buck's traction application, the nurse knows that it is necessary to:

_____ and _____.

4. The nurse makes certain that the weights applied will not exceed ____ lbs.

a. 0.5

b. 1

c. 2

d. 3

5. The nurse consistently assesses neurovascular status when traction is in place. List seven indicators that the nurse would evaluate.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

6. On assessment, the nurse notes a positive Homans' sign. Explain what this means.
-

CASE STUDY: Total Hip Replacement

Tom is a 62-year-old athletic coach at a high school. Sports activities, especially baseball, have been the focus of his energies since he was in high school and college. Because of prior hip joint injuries and degenerative joint disease, he is scheduled for a total hip replacement.

1. Preoperatively, the nurse assesses the status of the cardiovascular system based on the knowledge that mortality for patients over 60 years is directly related to the complications of: _____ and _____.
2. As part of preoperative teaching, the nurse makes the patient aware of four major potential complications of hip replacement:
 1. _____
 2. _____
 3. _____
 4. _____
3. Based on the knowledge that limited hip flexion decreases hip prosthesis dislocation, the nurse knows to:
 - a. keep the patient flat in bed with the leg extended.
 - b. *gatch* the knees to decrease the effect of pulling force on the hip.
 - c. raise the head of the bed between 30 and 45 degrees.
 - d. maintain the patient in semi-Fowler's position.
4. The nurse teaches Tom how to minimize hip extension during transfers and while sitting. The nurse should encourage him to:
 - a. rotate the hip inward slightly during sitting to prevent pressure on the external border of the hip.
 - b. hyperextend the leg during transfers so the hip socket will not "pop-out."
 - c. maintain adduction and flexion when moving around to minimize strain at the surgical site.
 - d. always pivot on the unoperated leg to protect the operated leg from unnecessary work.
5. A dislocated prosthesis is evidenced by any of the following five indicators:
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
6. In assessing postoperative wound drainage, the nurse knows that Tom's drainage of _____ ml in the first 24 hours is within normal range.
 - a. 150
 - b. 350
 - c. 600
 - d. 1,000
7. The nurse is careful to assess for evidence of deep vein thrombosis (3% mortality), which occurs in approximately _____ of patients.
 - a. 20% to 30%
 - b. 45% to 70%
 - c. 75% to 85%
 - d. >85%

62

Management of Patients With Musculoskeletal Disorders

Chapter Overview

Two major nursing considerations for patients with musculoskeletal disorders are the chronicity of symptoms and the course of progressive deterioration that tends to characterize such conditions. Nurses need to address these two areas to help patients have a positive attitude toward acceptable levels of functioning. When dealing with musculoskeletal disorders, the nurse needs to call on his or her knowledge of pharmacotherapy, nutrition, and physical medicine to implement and evaluate planned care.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. The intervertebral disks that are subject to the greatest mechanical stress and greatest degenerative changes are:
 - a. C3 to C4.
 - b. L1 to L2.
 - c. L2 to L3.
 - d. L4 to L5.
2. Back pain is classified as "chronic" when the pain lasts longer than _____ without improvement.
 - a. 4 weeks
 - b. 3 months
 - c. 6 months
 - d. 1 year
3. The best position to ease low back pain is:
 - a. high Fowler's to allow for maximum hip flexion.
 - b. supine with the knees slightly flexed and the head of the bed elevated 30°.
 - c. prone with a pillow under the shoulders.
 - d. supine with the bed flat and a firm mattress in place.
4. When lifting objects, patients with low back pain should be encouraged to maximize the use of the:
 - a. gastrocnemius.
 - b. latissimus dorsi.
 - c. quadriceps.
 - d. rectus abdominis.
5. The nurse should encourage a patient with low back pain to do all of the following *except*:
 - a. lie prone with legs slightly elevated.
 - b. strengthen abdominal muscles.
 - c. avoid prolonged sitting or walking.
 - d. maintain appropriate weight.

6. Carpal tunnel syndrome is a neuropathy characterized by:
- bursitis and tendonitis.
 - flexion contracture of the fourth and fifth fingers.
 - median nerve compression at the wrist.
 - pannus formation in the shoulder.
7. The term for *onychocryptosis*, a common foot condition, is:
- callus.
 - bunion.
 - flatfoot.
 - ingrown toenail.
8. An overgrowth of the horny layer of epidermis on the foot is called a:
- bunion.
 - clawfoot.
 - corn.
 - hammer toe.
9. The average 75-year-old woman who suffers with osteoporosis has lost about _____ of her cortical bone.
- 5%
 - 10%
 - 25%
 - 40%
10. The estimated intake of calcium to prevent bone loss for a postmenopausal woman is _____ mg/day. The actual intake is about _____ mg/day.
- 600/200
 - 900/300
 - 1,200/400
 - 1,500/600
11. Bone formation is enhanced by:
- calcium intake.
 - muscular activity.
 - weight-bearing.
 - all of the above.
12. The most common symptoms of osteomalacia are:
- bone fractures and kyphosis.
 - bone pain and tenderness.
 - muscle weakness and spasms.
 - softened and compressed vertebrae.
13. Most cases of osteomyelitis are caused by:
- Proteus*.
 - Pseudomonas*.
 - Salmonella*.
 - Staphylococcus aureus*.
14. Signs and symptoms of osteomyelitis may include all of the following *except*:
- pain, erythema, and fever.
 - leukopenia, swelling, and purulent drainage.
 - elevated erythrocyte sedimentation rate and increased white blood cell count.
 - positive wound cultures and localized discomfort.
15. The specific treatment for chronic osteomyelitis would probably be:
- antibiotic therapy.
 - drainage of localized foci of infection.
 - immobilization.
 - surgical removal of the sequestrum.
16. The most common benign bone tumor is a(n):
- enchondroma.
 - giant cell tumor.
 - osteochondroma.
 - osteoid osteoma.
17. The multiple myeloma tumor has its origin and principal location in the:
- bone marrow.
 - liver.
 - lymph nodes.
 - spleen.
18. Appropriate nursing actions when caring for a patient with a primary malignant bone tumor would include all of the following *except*:
- allowing the patient to independently plan his or her daily routine.
 - estimating the size and location of the mass daily by vigorously palpating the affected area.
 - assuring the patient receiving chemotherapy that alopecia, if it occurs, is temporary.
 - encouraging range-of-motion exercises to prevent atrophy of unaffected muscles.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Fill in the blanks or circle the correct answer.

CASE STUDY: Osteoporosis

Emily is a 49-year-old administrative assistant at a community college who has just been diagnosed with osteoporosis. The physician has asked you to answer some of Emily's questions and explain the physician's directions for her level of activity and her nutritional needs.

1. Emily asks the nurse to explain why she is losing her bone mass. The nurse's explanation is based on the physiologic rationale that bone mass loss occurs when _____.
2. What two reasons could the nurse use to explain why women develop osteoporosis more frequently than men? _____
3. The nurse advises Emily that about _____ % of Caucasian women over age 50 have some degree of osteoporosis.
 - a. 10
 - b. 25
 - c. 50
 - d. 80
4. The nurse advises Emily that the development of osteoporosis is significantly dependent on:
 - a. decreased estrogen, which inhibits bone breakdown.
 - b. increased calcitonin, which enhances bone resorption.
 - c. increased vitamin D use, which interferes with calcium use.
 - d. increased parathyroid hormone, which decreases with aging.
5. Part of Emily's teaching plan includes nutritional information about dietary calcium and vitamin D. The nurse advises Emily that she needs _____ mg of calcium a day.
 - a. 500
 - b. 1,000
 - c. 1,200
 - d. 1,500
6. Emily is told that her x-ray results indicated bone radiolucency. The nurse knows that Emily has probably already exhibited _____ % of demineralization.
 - a. 5
 - b. 10
 - c. 20
 - d. 30

63

Management of Patients With Musculoskeletal Trauma

Chapter Overview

Any break in bone integrity causes pain and dysfunction and often causes loss of motion. The pain and blood loss associated with a fracture can be so overwhelming that a person may experience shock and die. All fractures are considered serious, because fracture complications, such as thromboembolism, may cause death or disability.

Another type of musculoskeletal trauma is amputation. Whether amputation is therapeutic or traumatic, it causes many physiologic and psychosocial adjustments. Nursing care for patients who are suffering musculoskeletal trauma must address priority patient needs, such as pain relief, rehabilitation to achieve a functional level of activity and locomotion, and assistance to adjust to an altered body image.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A muscle tear that is microscopic and due to overuse is called a:
 - a. contusion.
 - b. dislocation.
 - c. sprain.
 - d. strain.
2. The acute inflammatory stage of a strain or sprain usually lasts:
 - a. less than 24 hours.
 - b. between 24 and 48 hours.
 - c. about 72 hours.
 - d. at least 1 week.
3. After arthroscopic surgery for a rotator cuff tear, a patient can usually resume full activity in:
 - a. 3 to 4 weeks.
 - b. 8 weeks.
 - c. 3 to 4 months.
 - d. 6 to 12 months.
4. A patient who has a meniscectomy by arthroscopic surgery needs to know that normal athletic activities can usually be resumed after:
 - a. 2 weeks.
 - b. 3 weeks.
 - c. 2 months.
 - d. 6 months.
5. Shock, as an immediate complication of fractures, is usually classified as:
 - a. cardiogenic.
 - b. hypovolemic.
 - c. neurogenic.
 - d. septicemic.

6. As a complication of fractures, fat emboli:
 - a. represents the major cause of death in fracture patients.
 - b. result in symptoms of decreased mental alertness.
 - c. may compromise the patient's respiratory status, necessitating ventilator support.
 - d. are characterized by all of the above.
7. The femur fracture that commonly leads to aseptic necrosis or nonunion because of an abundant supply of blood vessels in the area is a fracture of the:
 - a. condylar area.
 - b. neck.
 - c. shaft.
 - d. trochanteric region.
8. Emergency management of a fracture should include:
 - a. covering the area with a clean dressing, if the fracture is open.
 - b. immobilizing the affected site.
 - c. splinting the injured limb.
 - d. all of the above nursing interventions.
9. The most serious complication of an open fracture is:
 - a. infection.
 - b. muscle atrophy caused by loss of supporting bone structure.
 - c. necrosis of adjacent soft tissue caused by blood loss.
 - d. nerve damage.
10. Patients who experience a fracture of the humeral neck are advised that healing will take an average of _____ weeks, with restricted vigorous activity for an additional _____ weeks.
 - a. 6; 2
 - b. 10; 4
 - c. 10; 6
 - d. 16; 2
11. After an arm fracture, pendulum exercises are begun:
 - a. as soon as tolerated.
 - b. in 2 to 3 weeks, when callus ossification prevents easy movements of bony fragments.
 - c. in about 4 to 5 weeks, after new bone is well established.
 - d. in 2 to 3 months, after normal activities are resumed.
12. Nursing assessment for a pelvic fracture includes:
 - a. checking the urine for hematuria.
 - b. palpating peripheral pulses in both lower extremities.
 - c. testing the stool for occult blood.
 - d. all of the above.
13. The two most serious complications of pelvic fractures are:
 - a. paresthesias and ischemia.
 - b. hemorrhage and shock.
 - c. paralytic ileus and a lacerated urethra.
 - d. thrombophlebitis and infection.
14. An acetabular fracture of the femur involves the:
 - a. neck of the femur.
 - b. shaft of the femur.
 - c. supracondylar area of the femur.
 - d. trochanteric region of the femur.
15. The most common complication of a hip fracture in the elderly is:
 - a. avascular necrosis.
 - b. infection.
 - c. nonunion.
 - d. pneumonia.
16. An immediate nursing concern for a patient who has suffered a femoral shaft fracture is assessment for:
 - a. hypovolemic shock.
 - b. infection.
 - c. knee and hip dislocation.
 - d. pain resulting from muscle spasm.
17. The longest immobilization time necessary for fracture union occurs with a fracture of the:
 - a. intratrochanteric area of the femur.
 - b. midshaft of the humerus.
 - c. pelvis.
 - d. tibial shaft.
18. The major indicator of lower extremity amputation is:
 - a. congenital deformity.
 - b. malignant tumor.
 - c. peripheral vascular disease.
 - d. trauma.

20. A nurse can foster a positive self-image in a patient who has had an amputation by all of the following *except*:
- encouraging the patient to care for the residual limb.
 - allowing the expression of grief.
 - introducing the patient to local amputee support groups.
 - encouraging family and friends to refrain from visiting temporarily because this may increase the patient's embarrassment.

Matching Items

Match the type of fracture in Column II with its descriptive terminology listed in Column I.

Part I

Column I

- _____ A break occurs across the entire section of the bone.
- _____ A fragment of the bone is pulled off by a ligament or tendon.
- _____ Bone is splintered into several fragments.
- _____ One side of a bone is broken and the other side is bent.

Column II

- avulsion
- comminuted
- complete
- epiphyseal
- greenstick

Part II

Column I

- _____ A fracture occurs at an angle across the bone.
- _____ Fragments are driven inward.
- _____ The fractured bone is compressed by another bone.
- _____ The fracture extends through the skin.

Column II

- compressed
- depressed
- oblique
- open
- pathologic

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Read the following case study. Circle the correct answers.

CASE STUDY: Above-the-Knee Amputation

William, a 70-year-old Catholic priest, lives in a center city rectory. He is scheduled to have an above-the-knee amputation of his left leg because of peripheral vascular disease.

- Preoperatively the nurse knows that the circulatory status of the affected limb should be evaluated by assessing for:
 - color and temperature.
 - palpable pulses.
 - positioning responses.
 - all of the above.
- The level of William's amputation was determined after assessing:
 - the circulatory status of the affected limb.
 - the type of prosthesis to be used.
 - William's ability to understand and use the prosthetic device.
 - all of the above.

3. Preoperatively the nurse needs to assist William in exercising the muscles needed for crutch walking. The major muscle to be strengthened is the:
 - a. pectoralis major.
 - b. gastrocnemius.
 - c. quadriceps femoris.
 - d. triceps brachii.
4. Postoperatively William experiences phantom limb sensations. The most appropriate nursing response is to:
 - a. agree with his statements, recognizing that he is expressing a psychological need.
 - b. consistently stress the absence of the lower leg.
 - c. disagree with him and reorient him to reality.
 - d. keep him as active as possible and encourage self-expression.
5. William's amputation is treated with a soft compression dressing. Nursing care would include all of the following *except*:
 - a. keeping the residual limb slightly elevated on a pillow to decrease edema.
 - b. monitoring vital signs to detect any indication of bleeding.
 - c. placing the residual limb in an extended position, with brief periods of elevation.
 - d. keeping a tourniquet nearby in case of hemorrhage.
6. Preprosthetic nursing care should attempt to avoid any problem that can delay prosthetic fitting, such as:
 - a. abduction deformities of the hip.
 - b. flexion deformities.
 - c. nonshrinkage of the residual limb.
 - d. all of the above.
7. The nurse who is preparing to apply a bandage to William's residual limb knows that she should:
 - a. anchor the bandage on the posterior surface of the residual limb.
 - b. begin the vertical turns on the anterior surface of the residual limb.
 - c. maintain the residual limb in a position of flexion while bandaging.
 - d. use circular turns that run in a horizontal plane from the proximal to the distal segment.
8. The nurse teaches William to massage his residual limb to:
 - a. decrease local tenderness.
 - b. improve vascularity.
 - c. mobilize the scar.
 - d. accomplish all of the above.

Learner's Self-Evaluation Tool for End of Unit 15 Review

1. The most important concepts or facts that I have learned from this unit are:

1. _____
2. _____
3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

I will do this on _____ (date and time).

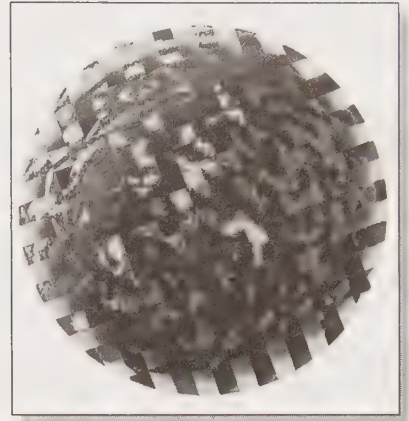
5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.



UNIT 16

Other Acute Problems



64
Management of Patients
With Infectious Diseases

65
Emergency Nursing

64

Management of Patients With Infectious Diseases

Chapter Overview

Diseases of an infectious nature are potentially life-threatening and are managed with chemotherapy or isolation measures, or both. Nurses should be aware of the mechanisms of disease incubation and transmission and follow expected protocols of disease control. The patient needs to understand the severity of his or her disease and its potential for harm. In addition, the nurse should assure the patient that he or she is not “dirty” and that isolation measures are used to protect the patient and others from the disease, not to isolate or ignore him or her.

When a new infectious disease surfaces and knowledge about the organism is insufficient to determine medical management (e.g., AIDS), protective isolation measures are instituted. Again, nursing interventions are directed toward meeting the psychosocial needs associated with strict isolation procedures and helping family members deal with their fears and anxieties.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

- The single most important means of preventing the spread of infection is:
 - antibiotic therapy.
 - gowning and gloving.
 - handwashing.
 - isolation measures.
- Each year nosocomial infections affect about _____ patients.
 - 250,000
 - 500,000
 - 1 million
 - 2 million
- The bacterium with significant nosocomial potential that is gram-positive, spore-forming, and highly resistant to antimicrobial therapy is:
 - Clostridium difficile*.
 - methicillin-resistant staphylococcus aureus (MRSA).
 - Staphylococcus aureus*.
 - vancomycin-resistant enterococcus (VRE).
- MRSA is a common nosocomial infection caused by _____, the most frequently occurring pathogen identified with this disorder.
 - Escherichia coli*.
 - Proteus*.
 - Pseudomonas aeruginosa*.
 - Staphylococcus aureus*.

5. A gram-positive organism that is less virulent than a gram-negative organism is:
 - a. *Escherichia coli*.
 - b. *Pseudomonas aeruginosa*.
 - c. *Proteus*.
 - d. *Staphylococcus aureus*.
6. A common bacterial cause of diarrhea that has been linked recently to the ingestion of undercooked beef is:
 - a. *Escherichia coli*.
 - b. *Campylobacter*.
 - c. *Salmonella*.
 - d. *Shigella*.
7. The rehydration goal for a 70-kg patient who has moderate dehydration would be _____ ml over 4 hours.
 - a. 3,000
 - b. 5,000
 - c. 7,000
 - d. 9,000
8. A person diagnosed with Legionnaire's disease would have a primary infection in his or her:
 - a. bloodstream.
 - b. central nervous system.
 - c. gastrointestinal tract.
 - d. lungs.
9. The antibiotic of choice for the medical management of Legionnaire's disease is:
 - a. Augmentin.
 - b. Erthromycin.
 - c. Methicillin.
 - d. Penicillin.
10. Acquired immunodeficiency syndrome (AIDS) is a:
 - a. condition of unknown cause.
 - b. disorder of immunoregulation.
 - c. syndrome associated with high mortality.
 - d. condition consistent with all of the above.
11. The transmission route for HIV is through:
 - a. contaminated blood.
 - b. semen and vaginal secretions.
 - c. maternal-fetal blood.
 - d. all of the above.
12. Latent syphilitic lesions may still be treated with penicillin G benzathine up to:
 - a. 2 to 3 months.
 - b. 3 to 6 months.
 - c. 6 to 9 months.
 - d. 1 year.
13. A *chancre* initially appears 2 to 3 weeks after inoculation with the spirochete, *Treponema pallidum*, in the sexually transmitted disease known as:
 - a. chlamydia.
 - b. gonorrhoea.
 - c. HIV/AIDS.
 - d. syphilis.
14. Gonorrhoea is a sexually transmitted infection that involves the mucosal surface of the:
 - a. genitourinary tract.
 - b. pharynx.
 - c. rectum.
 - d. areas mentioned above.
15. The primary site for gonorrhoea in women is the:
 - a. urethra.
 - b. kidney.
 - c. vagina.
 - d. uterine cervix.

Read each statement carefully. Write your response in the space provided.

1. In the United States today, the decrease in the incidence of infections can be directly correlated to: _____

2. The most recent infectious disease eradicated because of vaccination therapy was _____ in _____ (year).

3. Presently there are more than _____ vaccines available and licensed in the United States.

4. The newest vaccine introduced in the United States in 1996 was _____.

5. Name four emerging infectious diseases that have increased within the past 20 years.

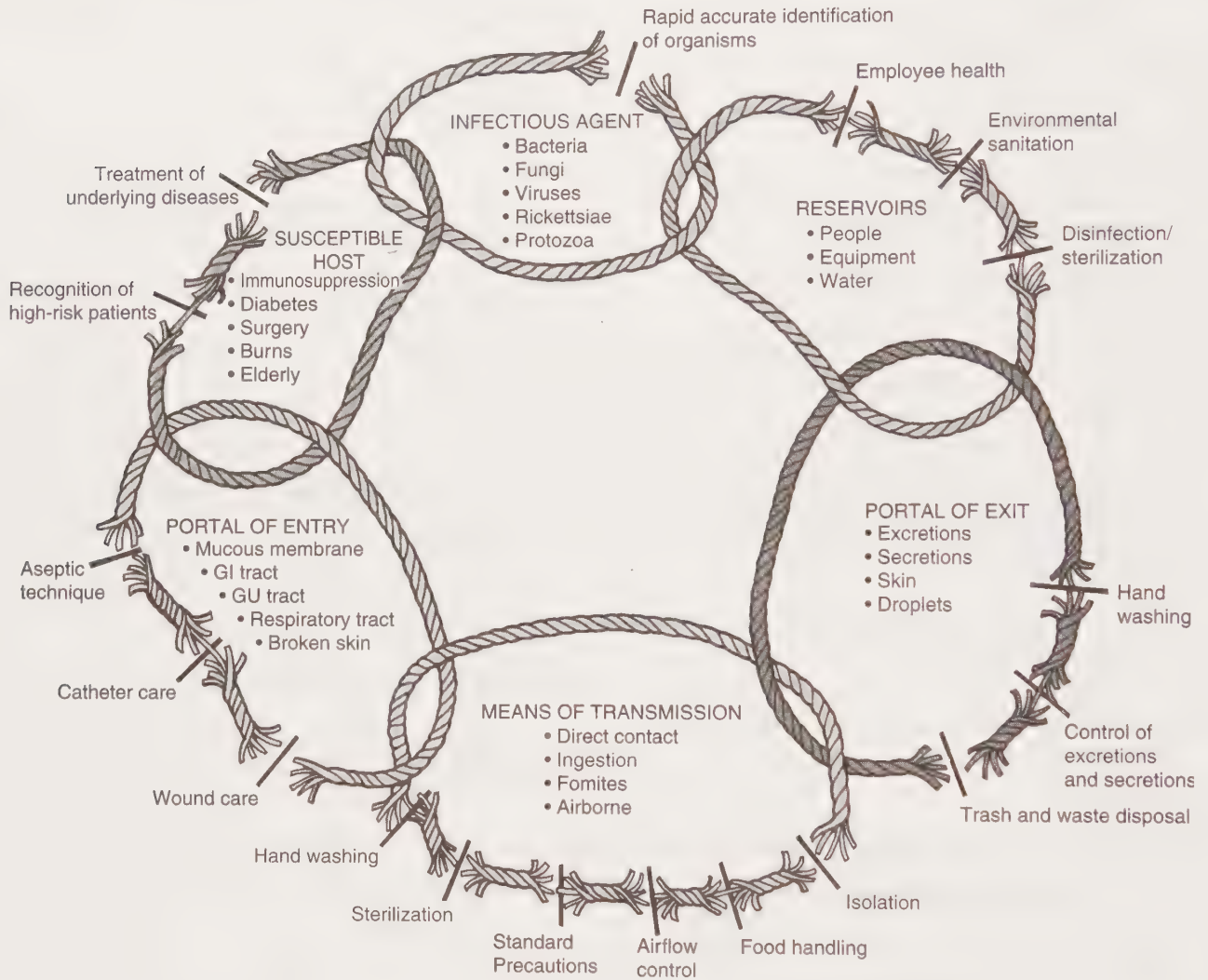
- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

6. The current estimate of the number of HIV-1 infected persons in the United States is about _____.

II. Critical Analysis Questions

Examining Associations and Applying Concepts

Examine Figure 64-1 below. For each of the six links in the infection cycle, describe specific nursing interventions that can be used to break transmission.



Specific Nursing Interventions

Link #1: Infectious Agent

1. Patient education about immunization (Example)

2. _____

3. _____

Link #2: Reservoirs

1. _____
2. _____
3. _____

Link #3: Portal of Exit

1. _____
2. _____
3. _____

Link #4: Means of Transmission

1. _____
2. _____
3. _____

Link #5: Portal of Entry

1. _____
2. _____
3. _____

Link #6: Susceptible Host

1. _____
2. _____
3. _____

65

Emergency Nursing

Chapter Overview

Emergency management for injuries and trauma requires a collaborative effort of the physician, nurse, and emergency team. Nursing care depends on constant assessment of a patient's changing status.

Specifics of nursing interventions will depend on the injury. Nursing care should be provided in a calm, efficient manner, and the patient and his or her family should be kept informed with concise, simple statements. Explanations may need to be given repeatedly because of the high level of anxiety that emergency departments tend to create.

I. Comprehension and Interpretation

Read each question carefully. Circle your answer.

1. A triage nurse in the emergency department determines that a patient with dyspnea and dehydration is not in a life-threatening situation. The triage category that the nurse would choose is:
 - a. delayed.
 - b. emergent.
 - c. immediate.
 - d. urgent.
2. A nurse at the scene of an industrial explosion uses "field triage" to categorize victims for treatment. A patient in need of emergent care would be tagged using the color:
 - a. blue.
 - b. green.
 - c. red.
 - d. yellow.
3. The elderly, who are major consumers of emergency health care, account for about _____ million visits to the emergency room.
 - a. 20
 - b. 50
 - c. 100
 - d. 150
4. John, 16 years old, is brought to the emergency department after a vehicular accident. He is pronounced dead on arrival (DOA). When his parents arrive at the hospital, the nurse should:
 - a. ask them to sit in the waiting room until she can spend time alone with them.
 - b. speak to both parents together and encourage them to support each other and express their emotions freely.
 - c. speak to one parent at a time in a private setting so that each can ventilate feelings of loss without upsetting the other.
 - d. ask the emergency physician to medicate the parents so that they can handle their son's unexpected death quietly and without hysteria.

5. The first priority in treating any patient in the emergency department is:
 - a. controlling hemorrhage.
 - b. establishing an airway.
 - c. obtaining consent for treatment.
 - d. restoring cardiac output.
6. An oropharyngeal airway should be inserted:
 - a. at an angle of 90 degrees.
 - b. upside down and then rotated 180 degrees.
 - c. with the concave portion touching the posterior pharynx.
 - d. with the convex portion facing upward.
7. Clinical indicators for emergency endotracheal intubation include:
 - a. airway obstruction.
 - b. respiratory arrest.
 - c. respiratory insufficiency.
 - d. all of the above.
8. The initial nursing measure for the control of hemorrhage caused by trauma is to:
 - a. apply a tourniquet.
 - b. apply firm pressure over the involved area or artery.
 - c. elevate the injured part.
 - d. immobilize the area to control blood loss.
9. Indicators of hypovolemic shock associated with internal bleeding include all of the following *except*:
 - a. bradycardia.
 - b. cool, moist skin.
 - c. hypotension.
 - d. thirst.
10. The most common cause of shock in emergency situations is:
 - a. cardiac failure.
 - b. decreased arterial resistance.
 - c. hypovolemia.
 - d. septicemia.
11. The *leading cause* of death in children and adults under age 44 is:
 - a. cancer.
 - b. drowning.
 - c. pneumonia.
 - d. trauma.
12. Nursing measures for a penetrating abdominal injury would include:
 - a. assessing for manifestations of hemorrhage.
 - b. covering any protruding viscera with sterile dressings soaked in normal saline solution.
 - c. looking for any associated chest injuries.
 - d. all of the above actions.
13. A patient has experienced blunt abdominal trauma from a motor vehicle crash. The nurses assess the patient with the knowledge that the most frequently injured solid abdominal organ is the:
 - a. duodenum.
 - b. large bowel.
 - c. liver.
 - d. spleen.
14. Nursing management for a crushing lower extremity wound includes:
 - a. applying a clean dressing to protect the wound.
 - b. elevating the site to limit the accumulation of fluid in the interstitial spaces.
 - c. splinting the wound in a position of rest to prevent motion.
 - d. all of the above measures.
15. Identify the sequence of medical or nursing management for a patient who experiences multiple injuries.
 - a. Assess for head injuries, control hemorrhage, establish an airway, prevent hypovolemic shock.
 - b. Control hemorrhage, prevent hypovolemic shock, establish an airway, assess for head injuries.
 - c. Establish an airway, control hemorrhage, prevent hypovolemic shock, assess for head injuries.
 - d. Prevent hypovolemic shock, assess for head injuries, establish an airway, control hemorrhage.
16. Nursing measures for an extremity fracture would include:
 - a. assessing for manifestations of shock.
 - b. immobilizing the fracture site.
 - c. palpating peripheral pulses.
 - d. all of the above actions.
17. Progressive deterioration of body systems occurs when hypothermia lowers the body temperature to:
 - a. 98° F
 - b. 97° F
 - c. 96° F
 - d. 95° F

18. Near-drowning is the third leading cause of unintentional death in about _____ of children under 4 years of age.
- a. 10%
 - b. 25%
 - c. 40%
 - d. 75%
19. Rose, a 19-year-old student, has been sexually assaulted. When assisting with the physical examination, the nurse should do all of the following *except*:
- a. have the patient shower or wash the perineal area before the examination.
 - b. assess and document any bruises and lacerations.
 - c. record a history of the event, using the patient's own words.
 - d. label all torn or bloody clothes and place each item in a separate brown bag so that any evidence can be given to the police.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

For each of the following situations, identify a nursing action with supporting rationale.

Condition	Action	Rationale
Heimlich maneuver for standing or sitting conscious patient	1. _____ 2. _____ 3. _____	_____ _____ _____
Heimlich maneuver with patient lying unconscious	1. _____ 2. _____ 3. _____	_____ _____ _____
Finger sweep	1. _____ 2. _____ 3. _____	_____ _____ _____
Chest thrusts with conscious patient standing or sitting	1. _____ 2. _____ 3. _____	_____ _____ _____
Chest thrusts with patient lying (unconscious)	1. _____ 2. _____ 3. _____	_____ _____ _____

For each of the following situations, supply nursing diagnoses, nursing interventions, and supporting rationales for intervention.

1. Consider a patient who has experienced blunt, abdominal trauma. Formulate nursing diagnoses and nursing interventions for the patient in the emergency department. Cite a rationale for each nursing action. List interventions in order of priority.

Nursing Diagnoses	Nursing Interventions	Rationale
-------------------	-----------------------	-----------

2. List the emergency nursing measures you would carry out if you were present when someone experienced an anaphylactic reaction to a bee sting. Formulate nursing diagnoses, list nursing interventions, and cite supporting rationales for your actions.

Nursing Diagnoses	Nursing Interventions	Rationale
-------------------	-----------------------	-----------

3. Ann is admitted to the emergency department because she ingested approximately 30 diet capsules 1 hour before admission. The nurse is to assist with gastric lavage. State nursing diagnoses, with nursing interventions and supporting rationale for each action.

Nursing Diagnoses	Nursing Interventions	Rationale
-------------------	-----------------------	-----------

4. List specific nursing interventions that can be used for drug abuse with each of the following drugs. It is assumed that the patient is presenting to the emergency department for treatment.

Drug	Nursing Interventions
-------------	------------------------------

Cocaine

Dexedrine

(continued)

Drug

Nursing Interventions

Valium

Aspirin

5. Compare nursing actions for psychiatric emergencies in dealing with the following patients.

Psychiatric Patients

Nursing Actions

An overactive patient

A violent patient

A depressed patient

A suicidal patient

Learner's Self-Evaluation Tool for End of Unit 16 Review

1. The most important concepts or facts that I have learned from this unit are:

- 1. _____
- 2. _____
- 3. _____

2. The most important reference page numbers for test review and clinical concepts are pages:

3. The concepts or facts that I do not fully understand are:

4. I will get the answer(s) to my questions by:

I will do this on _____ (date and time).

5. I believe my mastery of this unit will be:

- a. 100% Great job! Good luck!
- b. 90% 2 hours of review recommended.
- c. 80% 4 hours of review recommended.
- d. <80% Make an appointment with your instructor.

Answer Key

Chapter 1

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-------------|-----------------|------------------|
| 1. d (p. 4) | 5. b (p. 5) | 9. d (pp. 12–13) |
| 2. a (p. 4) | 6. c (p. 5) | 10. d (p.13) |
| 3. d (p. 5) | 7. a (p. 7) | |
| 4. d (p. 5) | 8. d (pp. 9–11) | |

Fill-In

- Human responses requiring nursing intervention are (b) self-image changes, (c) impaired ventilation, and (d) anxiety and fear. Answers may also include pain and discomfort, grief, and impaired functioning in areas such as rest and sleep. (p. 4)
- Legislative and sociologic changes that are impinging on nursing care are chronic illnesses, the increase in those older than 65, the shift from disease cure to health promotion, and cost control and resource management. (pp. 4–5)
- In Maslow's hierarchy of needs, needs are ranked as follows: (pp. 4–5 [Figure 1–1])

Need

Physiologic

Safety and security

Belongingness and affection

Esteem and self-respect

Self-actualization

Self-fulfillment

Knowledge and understanding

Aesthetics

Example

Food

Financial security

Companionship

Recognition by society

Achieved potential in an area

Creativity (painting)

Information and explanation

Attractive environment

- Stress, improper diet, lack of exercise, smoking, drugs, high-risk behaviors, sexual practices, and poor hygiene are all lifestyle behaviors known to have a negative effect on health. (p. 5)

5. Declining in-patient hospital days, shorter lengths of hospital stay, increased acuity of patients, expansion of ambulatory care, and an explosion of community-based care. (pp. 8–9)
6. Managed care is characterized by prenegotiated payment rates, mandatory precertification, utilization review, limited choice of provider, and fixed-price reimbursement. (pp. 8–9)
7. Case management focuses on managing the care of an entire caseload of patients and the personnel who care for the patients. The goals include quality care, appropriate and timely care delivery, and cost reduction. (p. 9)
8. Clinical pathways list the sequencing of tests, treatments, activities, medications, and such, that a patient must progress through per diagnosis, within a set time period from admission to discharge. (pp. 9–11)
9. Care mapping is more beneficial than a clinical pathway when a patient, who has a complex condition or multiple underlying illness, can be monitored for progress using phases and stages of a disease or condition rather than a specific timeframe. (pp. 9–11)
10. The role of the independent nurse practitioner is to provide nursing services in her office or in the patient's home for the purpose of health assessment, counseling, teaching, and making referrals to other health professionals and agencies. The boundaries of the independent practitioner role are determined by state nurse practice acts. (p. 11)

II. Critical Analysis Questions

Supporting Arguments

1. Share your data and discuss your response with your instructor and classmates. There are no specific right or wrong answers. The validity of your response is determined by your ability to consciously support your argument. (pp. 4–8)

Recognizing Contradictions

1. A person with chronic illness can attain a high level of wellness if he or she is successful in meeting his or her health potential within the limits of the chronic illness. (p. 5)
2. The majority of health problems today are chronic in nature. (p.6)
3. The elderly in the United States will constitute 15% of the total population by the year 2010. (p. 6)
4. A patient may refuse medical and nursing care according to the AHA's Patient Bill of Rights. (pp. 5, 7–8 [Chart 1–1])
5. Health care costs will be 15% to 22% of the GDP by 2000. (p. 9)

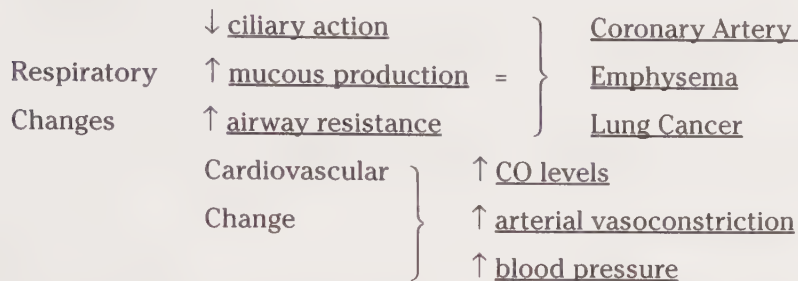
Examining Associations

1. The description should explain how a patient's medical condition is so severe that the individual can only focus on maintaining his basic physiologic needs. He is unable, either physically, mentally or emotionally, to address his need for safety and security (pp. 4–5 [Figure 1–1]).
2. The collaborative model of clinical decision making is usually found in a decentralized, organizational structure where shared participation, responsibility, and accountability are promoted (pp. 13–14 [Figure 1–3]).

Generating Solutions: Clinical Problem Solving

- Flow Chart: Smoking (pp. 9–11 and Figure 1–2 plus reference your current knowledge about anatomy and physiology)

Smoking



Illnesses

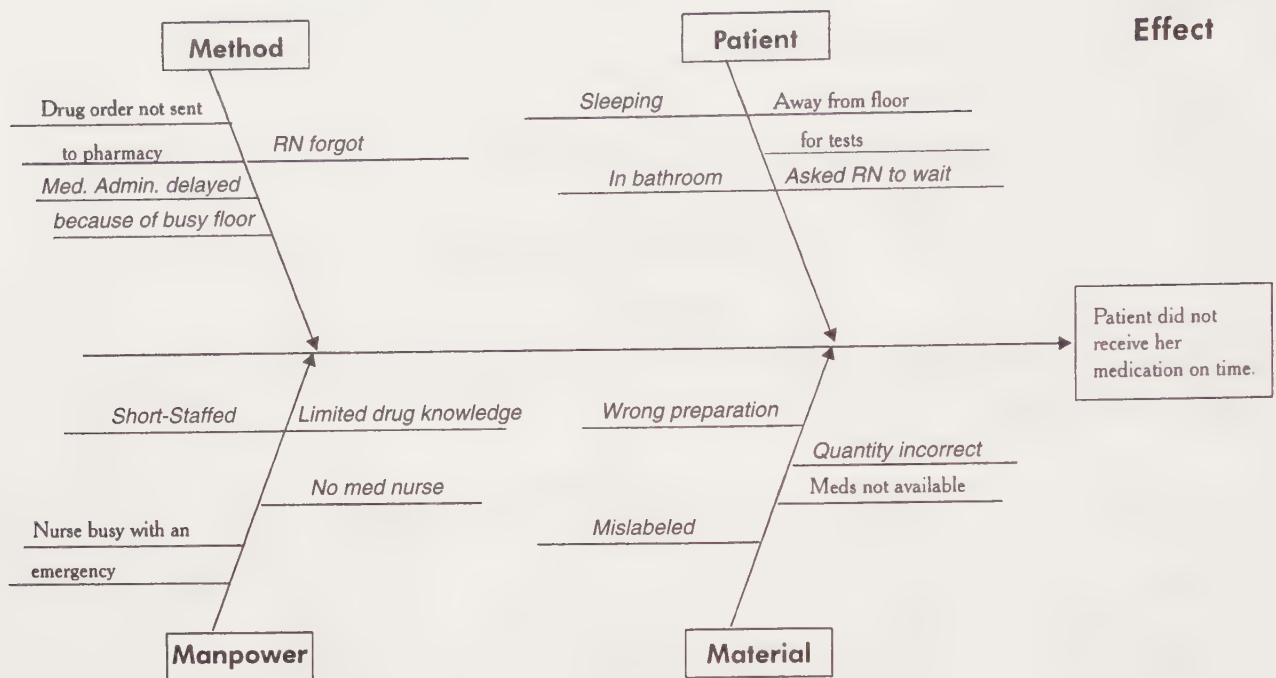
- Flow Chart: Radial pulse assessment (pp. 7–8 plus reference your knowledge of fundamental skills)

Radial Pulse Assessment

1.0	2.0	3.0	4.0	5.0
Patient ID	Explain Procedure	Identify Site	Palpate Pulse	Document Results
1.1 <u>ID Patient.</u>	2.1 <u>Give instruction at level of patient's learning.</u>	3.1 <u>Extend forearm.</u>	4.1 <u>Place pads of index and middle finger over radial artery.</u>	5.1 <u>Note rate and character.</u>
1.2 <u>Ask patient's name.</u>		3.2 <u>Locate pulse on inner thumb-side of wrist.</u>	4.2 <u>Palpate for rate, rhythm, amplitude, and symmetry.</u>	5.2 <u>Record on graphic sheet on patient's chart.</u>
1.3 <u>Check patient's name on bed.</u>			4.3 <u>Count rate for 60 seconds if irregular, 30 seconds x 2 if regular.</u>	5.3 <u>Report appropriate information.</u>
			4.4 <u>Reassess for any abnormalities.</u>	

CQI Cause and Effect Diagram: Delayed Medication

Possible Causes



Chapter 2

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------|------------------|------------------|
| 1. d (p. 16) | 3. c (p. 17) | 5. a (pp. 18–19) |
| 2. d (p. 16) | 4. c (pp. 18–19) | 6. d (p. 20) |

Fill-In

- Nurses will need to be expert, independent decision makers who are self-directed, flexible, adaptable, and competent in critical thinking, physical assessment, health education, and basic nursing care. (p. 16)
- Community-based nursing is an umbrella philosophy guiding nursing care given to individuals and families in the setting in which they live, work, play, and go to school. Community health nursing is a specific type of nursing service provided under the heading of community-based. (pp. 16–17)
- Call the patient to obtain permission for a visit, schedule the visit, and verify the address. (p. 18)
- During the initial home visit, the patient is evaluated and a plan of care is established. (pp. 18–19)
- Ambulatory health care can be provided in medical clinics, ambulatory care units, urgent care centers, cardiac rehabilitation programs, mental health, student health, and nurse-managed centers. (p. 20)
- Nurse practitioners can specialize in gerontology, midwifery, pediatrics, family planning, family, adult, and/or women's health. (p. 20)

II. Critical Analysis Questions

Recognizing Contradictions

1. The central focus of community/public health nursing is promoting health and preventing disease in the entire community. (p. 16).
2. Tertiary prevention is a level of community nursing care that focuses on rehabilitation. Secondary prevention focuses on early disease detection (p. 16).
3. The primary purpose of the initial home care visit is for the nurse to establish a trusting relationship with the patient and his/her family (pp. 18–19).

Chapter 3

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------|-------------------------------|-------------------------------|
| 1. b (p. 23) | 7. d (pp. 24–27 [Chart 3–2]) | 13. a (pp. 31–34 [Chart 3–6]) |
| 2. c (p. 23) | 8. c (pp. 24–27 [Chart 3–2]) | 14. a (pp. 34–35) |
| 3. b (pp. 24–25) | 9. b (pp. 25–26) | 15. d (pp. 31–35 [Chart 3–6]) |
| 4. d (pp. 24–25) | 10. d (pp. 28–30) | 16. b (pp. 34–35) |
| 5. a (pp. 24–25) | 11. d (pp. 28–31) | |
| 6. d (pp. 24–25) | 12. c (pp. 30–32 [Table 3–1]) | |

Fill-In

1. Critical thinking is a cognitive or mental process that involves conscious, systematic, reflective, rational, and goal-oriented examination and analysis of all available information and ideas. The formulation of logical conclusions and creative decisions are reflective of the process. (p. 23)
2. Two types of “advanced directive” are a living will and a durable power of attorney. (p. 28)
3. An “advanced directive” provides health care practitioners with information about the person’s wishes for health care before their illness. (p. 28)
4. Suggested statements include: “Please tell me what brought you to the hospital,” “Please tell me what you think your needs are,” and “Please tell me about your past history.” (pp. 28–29)
5. A nursing diagnosis identifies actual or potential health problems that are amenable to resolution by nursing actions. Collaborative problems are physiologic complications that nurses monitor, in collaboration with a physician, to detect onset or changes in a patient’s status. The nursing diagnosis and collaborative problems are the patient’s nursing problems. A medical diagnosis identifies diseases, conditions, or pathology that can be medically managed. (pp. 31–34 [Figure 3–2])
6. Expected outcomes of nursing intervention should be stated in behavioral terms and should be realistic as well as measurable. Expected behavioral outcomes serve as the basis for evaluating the effectiveness of nursing intervention. (pp. 34–36)

Nursing Diagnoses and Collaborative Problems

- | | |
|------|---|
| 1. N | 6. N |
| 2. N | 7. C |
| 3. C | 8. C |
| 4. C | 9. N |
| 5. N | 10. C (pp. 31–34 [Figure 3–2 and Table 3–1]). |

Matching (Critical Thinking)

1. e
2. g
3. f
4. d
5. a
6. c
7. b (pp. 23–24 [Chart 3–1])

Matching (Ethical Principles)

1. d
2. e
3. b
4. f
5. a
6. c (pp. 24–28 [Chart 3–2]).

II. Critical Analysis Questions

Recognizing Contradictions

1. Nursing ethics is a distinct form of applied ethics because nursing is its own separate profession. (pp. 24–25)
2. A moral problem infers no conflict of moral principle. (pp. 24–26)
3. Moral distress exists when a nurse is prevented from doing what he believes is correct. (pp. 24–26)
4. A request for withdrawal of food and hydration necessitates an evaluation of harm and may not be routinely supported even for competent patients. (pp. 27–28)
5. Living wills are not always honored because they refer to terminal illnesses and patients frequently change their perspective as they become sicker. (p. 28)

Supporting Arguments

1–3. Answers are individualized; there are no right or wrong responses. (reference pp. 24–28)

Generating Solutions: Clinical Problem Solving

Outcomes per Nursing Diagnosis

1. Patient will be able to walk from his room to the nursing station every morning with respiratory rate within normal limits.
2. Patient will move from bed to chair on second postoperative day with legs abducted.
3. Patient will achieve a balance between fluid intake and output without a weight gain > 1 lb per week.
4. Patient will eat 1800 cal/day to maintain a desired weight of 135 lb.
5. Patient will sleep 6 to 8 hours, without interruption, every evening. (reference pages 28–37)

CASE STUDY: Ethical Analysis

Assessment: Your answer should include the conflict between the nurse's professional obligation to provide treatment to all and the unpleasant outcome of choosing "the lesser of two outcomes."

Planning: You should be able to analyze the medical and political data that influences the treatment options. Because of the vast numbers of refugees relative to medical personnel, everyone cannot be cared for.

- Implementation: You need to carefully analyze the outcomes of both theories for your decision making. There is no right or wrong answer. You just need to support your decision with an ethical theory.
- Evaluation: Your evaluation needs to show logical sequencing of problem solving based on an ethical theory. There is no right or wrong response. (reference pages 24–29, Charts 3–2, 3–4)

Chapter 4

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------|------------------|-------------------|
| 1. d (p.41) | 5. a (p. 42) | 9. b (pp. 44–45) |
| 2. d (p. 41) | 6. a (p. 42) | 10. a (pp. 45–46) |
| 3. d (pp. 41–43) | 7. a (pp. 42–44) | |
| 4. b (pp. 41–43) | 8. a (p. 44) | |

Fill-In

1. People with chronic illness need as much health care information as possible to actively participate in and assume responsibility for the management of their own care. Health education can help the patient adapt to illness and cooperate with a treatment regimen. The goal of health education is to teach people to maximize their health potential. (p. 41)
2. Adherence implies that a patient assumes a more active role in determining and altering his or her health behaviors. (p. 41)
3. Factors influencing adherence include demographic variables, such as age, sex, and education, illness variables, such as the severity of illness and the effects of therapy, and psychosocial variables, such as intelligence and attitudes toward illness. (pp. 41–42)
4. The teaching–learning process requires the active involvement of teacher and learner, both striving to achieve the goal of changing patient behavior. The teacher serves as a facilitator of learning. (pp. 42–44)
5. The effects of a learning situation are influenced by a person's physical, emotional, and experiential readiness to learn. Physical readiness implies the physical ability of a person to attend to a learning situation. Basic physiologic needs are met so that higher-level needs can be addressed. Emotional readiness involves the patient's motivation to learn and can be encouraged by providing realistic goals that can be easily achieved so that self-esteem needs can be met. A person needs to be ready to accept the emotional changes (anxiety, stress) that accompany behavior modification resulting from the learning process. Experiential readiness refers to a person's past experiences that influence his or her approach to the learning process. Previous positive feedback and improved self-image reinforce experiential readiness. (pp. 42–43)
6. Both processes are cyclic and recurrent with each step related to the others. Continuous evaluation supports the processes and helps maintain accountability. (pp. 44–46 [Chart 4–1])

II. Critical Analysis Questions

Recognizing Contradictions

1. Health education is an independent function of nursing practice that is a primary responsibility of the nursing profession. (p. 41)

2. Although diseases in children and those of an infectious nature are of utmost concern, the largest group of people today who need health education are those with chronic illness. (p. 41)
3. Patients are encouraged to adhere to their therapeutic regimen. Adherence connotes active, voluntary collaborative patient efforts whereas compliance is a more passive role. (pp. 41–42)
4. Evaluation should be continuous throughout the teaching process so that the information gathered can be used to improve teaching activities. (pp. 45–46)

Chapter 5

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------|-------------------|-------------------------------|
| 1. d (p. 52) | 6. c (p. 56) | 11. d. (p. 59) |
| 2. d (p. 52) | 7. b (p. 56) | 12. a (pp. 59–60) |
| 3. d (p. 52) | 8. d (p. 57) | 13. c (pp. 60–61 [Fig. 5–6]) |
| 4. b (p. 53) | 9. b (pp. 57–58) | 14. a (pp. 62–63 [Table 5–2]) |
| 5. b (pp. 54–55) | 10. a (pp. 57–58) | 15. a. (pp. 64–66) |

Fill-In

1. The nursing database is a combination of the traditional medical history and the nursing assessment. The systems review and patient profile are expanded to include individual and family relations, lifestyle patterns, health practices, and coping strategies. (pp. 52–53)
2. When an atmosphere of mutual trust and confidence exists between an interviewer and a patient, the patient becomes more open and honest and is more likely to share personal concerns and problems. (pp. 52–54)
3. The term *chief complaint* refers to that issue that brings the patient to seek help. When documenting a patient's chief complaint, exact words should be recorded in quotation marks. (p. 53)
4. Your answer may include any of the five diseases related to dietary excess: obesity, coronary artery disease, osteoporosis, cirrhosis, diverticulitis, and eating disorders. (p. 56)
5. Upperarm and arm muscle. (pp. 60–62 [Figures 5–6, 5–7])
6. Negative nitrogen balance occurs when nitrogen output (urine, feces, perspiration) exceeds nitrogen intake (food). (pp. 62–63)

Correlation

1. inspection
2. inspection
3. palpation
4. palpation
5. percussion
6. auscultation
7. auscultation
8. palpation (pp. 57–60)

Matching

1. h
 2. c
 3. d
 4. e
 5. g
 6. b
- } (pp. 63–64 [Table 5–3])

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY

Part I: Estimate Ideal Body Weight

Mrs. Alred's Situation

1. b, medium frame, height to wrist circumference is 10.4
2. IBW = 130 lb; lose 50 lb (pp. 60–61 [Chart 5–2, 5–3])

Part II: Calculate a Balanced Diet Using the Food Guide Pyramid as a Reference

1. 50 kg
 2. 1418 cal
 3. 1985 cal (1418 + 567)
 4. 993 cal from carbohydrates
595 cal from fat
397 cal from protein
 5. 248 g of carbohydrates
66 g of fat
99 g of protein
- } (pp. 64–66 [Figure 5–9])

Chapter 6

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-------------------|-------------------|-------------------|
| 1. d (p. 72) | 11. a (pp. 74–77) | 21. d (p. 81) |
| 2. d (p. 73) | 12. b (p. 75) | 22. d (pp. 81–82) |
| 3. b (pp. 72–73) | 13. b (pp. 75–77) | 23. d (pp. 81–82) |
| 4. a (p. 73) | 14. d (pp. 76–77) | 24. d (p. 82) |
| 5. d (p. 73) | 15. d (p. 79) | 25. b (pp. 82–83) |
| 6. d (p. 73) | 16. a (pp. 79–81) | 26. a (pp. 83–84) |
| 7. d (p. 74) | 17. d (pp. 79–80) | 27. a (pp. 84–87) |
| 8. b (pp. 74–75) | 18. d (pp. 79–81) | 28. d (pp. 84–87) |
| 9. a (pp. 74–75) | 19. d (pp. 80–81) | |
| 10. c (pp. 74–77) | 20. c (p. 81) | |

Matching

1. b
 2. a
 3. a
 4. a
 5. b
 6. a
 7. b
 8. a
- } (pp. 73–77)

Fill-In

1. Hans Selye (p.75)
2. Hans Selye stated that “stress is essentially the rate of wear and tear on the body.” He also defined stress as being a “nonspecific response” of the body regardless of the stimulus producing the response. (p. 75)
3. Answer may include any of the following: traffic jam, sick child, missed appointment, car won’t start, train is late (day-to-day stressors), earthquakes, wars, terrorism, events of history (major events that affect large groups of people); and marriage, birth, death, retirement (infrequently occurring major stressors). (pp. 74–75)
4. Adolph Meyer, in the 1930s, first showed a correlation between illness and critical life events. A Recent Life Changes Questionnaire (RLCQ) was developed by Holmes and Rahe that assigned numerical values to life events that required a change in an individual’s life pattern. A correlation was seen between illness and the number of stressful events; the higher the numerical value, the greater the chance for becoming ill. (p. 75)
5. Cognitive appraisal refers to the evaluation of an event relative to what is at stake and what coping resources are available. External resources consist of money to purchase services and materials and social support systems that provide emotional and esteem support. (p. 74)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

General body arousal

↑Norepinephrine =

↑blood coagulability

↑heart rate

↑blood pressure

↑blood glucose levels

↓

Skeletal muscles

increased tension

Pupils

dilated

Ventilation

rapid and shallow

(pp. 75–77 [Table 6–1])

Rationale

vasoconstriction

↑myocardial contractility

peripheral resistance

↑glycogen breakdown

↑increased excitation

↑awareness

oxygen preservation

Generating Solutions: Clinical Problem Solving

CASE STUDY

Use the "Representative Pathophysiologic Process: Hypertensive Heart Disease" as a guide.

Selected Compensatory Mechanisms

Renal blood flow is decreased as a result of hypertensive heart disease.

Nursing Implications

Assessment

- A. Blood pressure
- B. Urinary output
 - 1. Amount
 - 2. Characteristics
 - 3. Urine chemistry values
 - a. Osmolality
 - b. Electrolytes
- C. Ability to cope with stress

Rationale

- A. Changes in the cardiovascular system are reflected in the blood pressure.
 - 1. Output decreased with decreased blood flow.
 - 2. Color changes occur with increased blood flow.
- a. Osmolality increases with heart failure
- b. Potassium increases with renal failure.
- C. Stress results in increased resistance to cardiac output.

Nursing Diagnoses/ Collaborative Problem

- A. Fluid volume excess related to renin-angiotensin stimulation

- A. Renin-angiotensin has a direct vasoconstriction effect on arterioles which leads to water retention.

Planning

- A. Plan time for assessment around patient's need for rest.
- B. Plan an individual program of stress reduction

- A. Rest lowers metabolic rate and facilitates the healing process.
- B. Compliance with a stress-management program will be higher if the program is individualized

Implementation

- A. Teach various relaxation techniques.
- B. Develop specific ways to help the patient cope with and reduce stress.
- C. Modify diet to reduce sodium intake.

- A. Stress tends to increase epinephrine secretion, which causes vasoconstriction. This, in turn, increases the heart rate and resistance to cardiac output.
- B. Stress reduction tends to reduce epinephrine secretion
- C. Lowered sodium levels tend to decrease fluid retention, which decreases the work load of the heart.

Evaluation

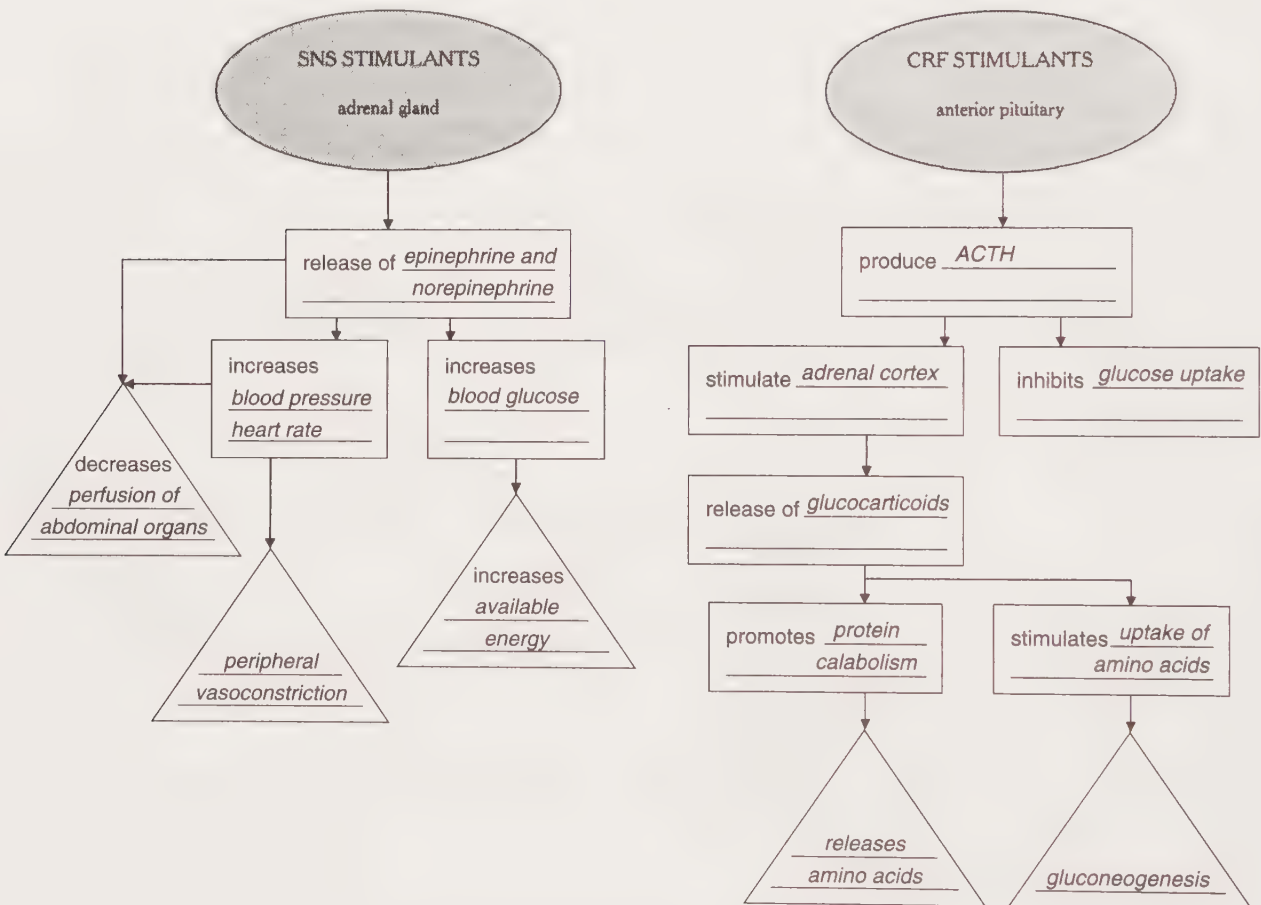
- A. Stress-reduction measures
- B. Dietary compliance relative to lowered sodium intake
- A. Blood pressure reduction may be indicative of successful stress-reduction measures.
- B. Weight estimates, serum sodium levels, and the presence of edema are indicators of fluid retention and possible excess intake of sodium.

(Refer to pp. 74–77 for help in completing this case plan.)

Generating Solutions: Clinical Problem Solving

Complete the following flow chart.

Sympathetic-Adrenal-Medullary Response



Chapter 7

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------|------------------|-------------------|
| 1. d (p. 90) | 5. b (pp. 94–96) | 9. b (pp. 97–99) |
| 2. d (pp. 90–91) | 6. b (pp. 97–99) | 10. c (pp. 97–99) |
| 3. d (pp. 90–91) | 7. a (pp. 97–99) | |
| 4. b (pp. 94–96) | 8. a (pp. 97–99) | |

Fill-In

1. The most common definition of a mental/emotional disorder is from the American Psychiatric Association: “a group of behavioral or psychological symptoms or a pattern which manifests itself in a significant distress, impaired functioning, or accentuated risk of enduring severe suffering or possible death.” (pp. 90–92 and Chart 7–3)
2. Five significant family functions are: (1) use of power, and decision making about resources and the establishment of rules; (2) boundary setting; (3) communication; (4) education, family support, and appropriate modeling skills for living; and (5) socialization of acceptable behaviors for life. (p. 92 and Chart 7–4)
3. Seven coping skills for families under stress are: (1) communication; (2) spirituality; (3) cognitive abilities; (4) emotional strength; (5) relationship capabilities; (6) use of community resources; and (7) personal talents and strengths. (pp. 92–93)
4. Five characteristics of emotional responses to PTSD are: (1) anxiety; (2) anger; (3) aggression; (4) depression; and (5) fear of being threatened. (p. 94)
5. Seven examples of life events that trigger PTSD are: (1) rape; (2) domestic violence; (3) torture; (4) earthquake; (5) terrorism; (6) fire; and (7) military combat. (p. 94)

II. Critical Analysis Questions

Recognizing Contradictions

1. Since the 1980s there has been an increase, as much as 30% participation by some groups, in the use of holistic health care (p. 90).
2. The holistic approach to health care reconnects the mind and body traditionally separated by medicine (p. 90).
3. Depression and its accompanying symptoms of sadness, anxiety, and fatigue is a common response to health problems. Clinical depression is distinguished from everyday feelings of sadness by duration and severity (pp. 94–96).
4. Almost 70% of people who were severely depressed and committed suicide had been seen by a health care practitioner four weeks prior to their deaths (pp. 94–96).
5. Depression is a medical illness that needs to be taken seriously by the individual, his family and friends, and the professional health care providers (pp. 94–96).

CASE STUDY: Hodgkin's Disease

Joan's Situation

1. a
 2. b
 3. d
- } (pp. 97–99)

CASE STUDY: Radical Mastectomy

Kathy's Situation

1. a
 2. b
 3. b
 4. d
- } (pp. 97–99)

Chapter 8

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|--------------------|---------------------------|
| 1. d (p. 103) | 5. a (p. 105) | 9. c (p. 106 [Table 8–1]) |
| 2. d (p. 103) | 6. d (p. 105) | 10. b (pp. 106–107) |
| 3. d (pp. 103–104) | 7. a (pp. 105–106) | |
| 4. d (p. 105) | 8. a (p. 106) | |

Fill-In

1. The four basic characteristics of culture are that it is learned from birth through language and socialization, it is shared by all members of the same cultural group, it is influenced by specific environmental and technical factors, and it is dynamic and ever-changing. (p. 103)
2. Subcultures can be grouped accordingly by religion, occupation, age, sexual orientation, geographic location, and race. (p. 103)
3. Four strategies include changing the subject, nonquestioning, inappropriate laughter, and nonverbal cues. (pp. 103–104)
4. The Catholics, Mormons, Buddhists, Jews, and Muslims routinely abstain from eating as part of their religious practice. (p. 106)
5. The yin and yang theory of illness proposes that the seat of energy in the body is within the autonomic nervous system where balance is maintained between the key opposing forces. Yin represents the female and negative energy, while yang represents the male positive energy. (pp. 106–107)

Chapter 9

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|---------------------------------|--------------------------------|
| 1. b (p. 111) | 3. b (pp. 111–112 [Figure 9–1]) | 5. b (pp. 114–115 [Table 9–2]) |
| 2. c (pp. 111–112) | 4. b (pp. 111–113 [Figure 9–2]) | 6. a (pp. 114–115 [Table 9–2]) |

Fill-In

1. Answer should include four of the following six causes:
 1. decreased mortality from infectious disease
 2. longer life spans due to advances in technology and pharmacology
 3. improved screening, diagnosis, early detection, and treatment of diseases
 4. aggressive management of acute conditions
 5. increased incidence of chronic conditions with aging
 6. modern habits of living such as smoking (pp. 111–113)
2. Answers may include preventing the occurrence of other chronic conditions, alleviating and managing symptoms, preventing, adapting, and managing disabilities, preventing and managing crises and complications, adapting to repeated threats and progressive functional loss, living with isolation and loneliness, and any other conditions listed on pages 114–115.
3. The Trajectory Model refers to the path or course of action taken by the ill person, his family, health professionals, and others to manage the course of the illness. (pp. 114–115 [Table 9–2])
4. Inability to shower or bathe because of a fear of falling and the inability to get to the bathroom are the two most frequent interferences with daily activities that occur in chronic illnesses. (pp. 111–113 [Figure 9–3])

II. Critical Analysis Questions

Recognizing Contradictions

1. Chronic illnesses increase in frequency with age, and the elderly often have multiple chronic illnesses. (p. 110)
2. Individuals with a chronic illness can lead a fully independent existence and others may never know that they are sick. (p. 110)
3. Multiple sclerosis is projected to be the least prevalent chronic illness in the United States. (pp. 111–113 [Figure 9–2])
4. The presence of a chronic disease can lead to other chronic conditions because of compromised or damaged organs/systems that result in related health problems. (p. 113)
5. Superimposing an “acute care framework” on a chronic condition increases the risk that medical problems will be ignored. (pp. 113–114)
6. In the Trajectory Model, medical aspects of illness and management are not separated from the social and psychological components. (pp. 114–117 [Table 9–2])

Chapter 10

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--|-----------------------------|---------------------|
| 1. d (p. 119) | 6. c (pp. 123–126 [G 10–2]) | 12. d (p. 143) |
| 2. b (pp. 119–120) | 7. d (pp. 136–137) | 13. d (pp. 143–144) |
| 3. b (p. 120) | 8. a (pp. 136–137) | 14. d (pp. 141–143) |
| 4. a (pp. 121–122) | 9. a (p. 140) | 15. d (pp. 129) |
| 5. b (pp. 126 [Table 10–1 and G 10–3]) | 10. b (pp. 140–141) | 16. a (pp. 129) |
| | 11. d (pp. 142–143) | |

Matching

1. e
 2. a
 3. b
 4. d
 5. f
- } (p. 126 [Chart 10–1])

Fill-In

1. The term physiatrist is used to describe a physician specialist in physical medicine and rehabilitation. (p. 120)
2. Weakened muscles, joint contractures, and deformity are common complications associated with prolonged immobility. (p. 123)
3. External rotation of the hip and plantar flexion of the foot (footdrop) (pp. 124–126)
4. Prolonged bed rest, lack of exercise, incorrect positioning in bed, and the weight of the bedding (p. 126)
5. 3 (p. 126)
6. Right; right (pp. 132–134 [Chart 10–2])
7. Braces, splints, collars, corsets, supports, and calipers (p. 125)
8. sepsis, osteomyelitis, pyarthrosis, and septic shock (p. 137)
9. does not permit free drainage of the tissue (p. 140)
10. Calcium loss (p. 140)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Clinical Situation: Impaired Skin Integrity

1. Pressure ulcers are localized areas of infarcted soft tissue that occur when pressure applied to the skin over time is greater than normal capillary closure pressure, approximately 32 mm Hg.
2. erythema; reactive hyperemia
3. sacrum and heels
4. c
5. b
6. As the body sinks into the fluid, more surface area becomes available for weight-bearing, thus decreasing body weight per unit area. (Pascal's law)
7. Increased elevation increases the downward-pulling force of body weight, which increases pressure on the skin, which results in localized blood flow reduction. (pp. 135–141 [Figures 10–3, 10–4])

CASE STUDY: Traumatic Amputation-Psychosocial Perspective

Oliver's Situation

1. c
 2. c
 3. b
 4. d
- } (pp. 119–123)

CASE STUDY: Buck's Extension Traction

Patricia's Situation

1. b
 2. a
 3. a
- (pp. 126–130 [Table 10–1])

Chapter 11

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|---------------------|----------------------------------|
| 1. b (p. 149) | 7. b (p. 151) | 13. d (pp. 164–165) |
| 2. b (pp. 149–150) | 8. a (p. 153) | 14. b (pp. 164–165 [Table 11–4]) |
| 3. d (pp. 149–150) | 9. c (p. 153) | 15. a (pp. 165–167) |
| 4. b (p. 150) | 10. a (pp. 154–155) | 16. a (p. 169) |
| 5. b (pp. 150–151) | 11. b (p. 155) | |
| 6. d (p. 151) | 12. d (pp. 155–156) | |

Fill-In

1. 30 years; 22%; 21% (p. 148)
2. chronic disease (p. 149)
3. Heart disease, cancer, and stroke (pp. 149–150 [Table 11–1])
4. 70 (p. 151)
5. memory, abstract reasoning, judgment, and language (pp. 168–169)
6. Pneumonia, urinary tract infections, tuberculosis, gastrointestinal infections, and skin infections (p. 168)

II. Critical Analysis Questions

Interpreting Data

1. 4.7%
 2. 13.8%; double
 3. greater rate; 16.2%
 4. 9%; 1960–1980; 1980–2000
 5. 70 million
- (p. 149 [Figure 11–1])

Recognizing Contradictions

1. The muscles, composed of postmitotic cells, diminish in size and lose strength, flexibility, and endurance with decreased activity and advanced age. (pp. 154–155)
2. Osteoporosis can be arrested or prevented, but not reversed. (pp. 154–155)

3. If the symptoms of delirium go untreated and the underlying cause is not treated, permanent, irreversible brain damage or death can occur. (p. 157)
4. It is a myth that older people should avoid vigorous activity. Activity is a desired state in older adults. (p. 162)
5. In the older person, the baseline body temperature is usually one degree Fahrenheit higher than a younger person. Therefore a temperature elevation should be considered serious. (pp. 168–169)

Generating Solutions: Clinical Problem Solving

CASE STUDY: Loneliness

Suzanne's Situation

- | | | |
|------|---|----------------------------|
| 1. d | } | (pp. 149–157 [Table 11–1]) |
| 2. d | | |
| 3. a | | |
| 4. d | | |
| 5. d | | |

CASE STUDY: Dehydration

Vera's Situation

- | | | |
|------|---|---|
| 1. d | } | (pp. 151–155 [Table 11–2, Figure 11–2]) |
| 2. c | | |
| 3. d | | |
| 4. d | | |

CASE STUDY: Alzheimer's Disease

Thomas' Situation

- | | | |
|------|---|----------------------------|
| 1. a | } | (pp. 157–162 [Chart 11–3]) |
| 2. c | | |
| 3. d | | |
| 4. d | | |

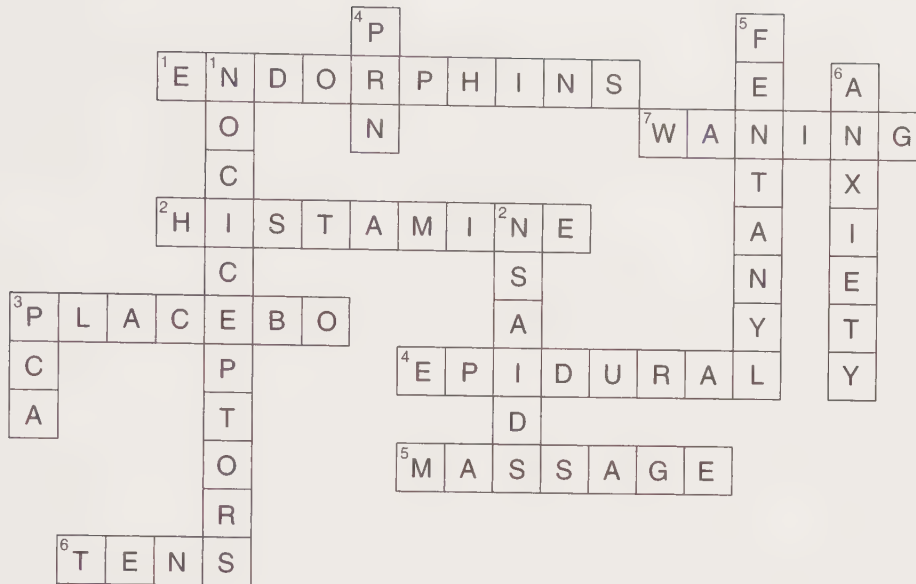
Chapter 12

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|---------------------|------------------------------|
| 1. d (pp. 176–177) | 8. a (pp. 181–182) | 15. d (pp. 189–190) |
| 2. b (p. 176) | 9. a (pp. 181–182) | 16. d (pp. 189–191, 194–195) |
| 3. d (pp. 176–177) | 10. a (pp. 183–184) | 17. c (pp. 189–191, 194–195) |
| 4. c (p. 179) | 11. d (p. 184) | 18. b (p. 192) |
| 5. b (p. 177) | 12. c (p. 185) | 19. d (p. 195) |
| 6. c (pp. 177–179) | 13. c (p. 185) | 20. d (pp. 189–192) |
| 7. b (p. 179) | 14. d (pp. 185–186) | |

Crossword Puzzle



II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Pain Experience

Courtney's Situation

1. a (pp. 176–177)
2. c (pp. 183–185)
3. d (pp. 195–197)
4. d (pp. 197–199)

Chapter 13

I. Comprehension and Interpretation

Multiple-Choice

1. d (pp. 204–205 [Table 13–2])
2. b (pp. 205–206 [Table 13–3])
3. a (pp. 210–212 [Table 13–5])
4. a (pp. 208–210)
5. b (pp. 215–217)
6. a (pp. 215–217)
7. b (pp. 215–217)
8. b (pp. 217–218)
9. c (pp. 217–218)
10. c (pp. 217–218)
11. c (pp. 218–220)
12. c (pp. 222–223)
13. a (pp. 219–220)
14. b (pp. 220–222)
15. b (pp. 223–224)
16. b (pp. 226–227)
17. c (p. 226)
18. d (pp. 229–230)
19. c (pp. 229–230)
20. a (pp. 229–230)
21. c (pp. 229–230)
22. b (pp. 230–231)
23. a (pp. 231–232)

Fill-In

1. potassium; sodium (pp. 203–204 [Table 13–1])
2. Colloidal osmotic pressure refers to the pressure exerted by plasma proteins to hold fluid within vessels. The osmotic pressure is a pulling force. (pp. 204–205)
3. kidney (pp. 218–219)
4. Calcium levels are primarily regulated by the combined actions of parathyroid hormone and vitamin D. (pp. 221–222)
5. 7.35 to 7.45 (p. 229)
6. Blood pH levels incompatible with life are about 6.8 on the lower range and 7.8 on the upper range. (pp. 229–230)
7.

a. Low	}	(pp. 225–226)
b. High		
c. Low		
d. Low		
e. Low		
8.

a. Low	}	(p. 227)
b. High		
c. Low		
d. Low		
e. High		
9.

a. High	}	(pp. 222–223)
b. Low		
c. High		
d. High		
e. Low		
f. High		
g. Low		
h. Low		
10.

a. Low	}	(pp. 218–220)
b. High		
c. Low		
d. Low		
e. High		
f. Low		
g. Low		
h. Low		
i. Low		
j. High		
k. Low		
l. High		

- 11. a. Low
 - b. Low
 - c. High
 - d. High
 - e. High
 - f. Low
 - g. High
 - h. Low
 - i. Low
 - j. High
 - k. High
 - l. Low
- } (pp. 215–216)

- 12. a. R-acid
 - b. M-acid
 - c. M-acid
 - d. R-acid
 - e. R-alka
 - f. R-acid
 - g. M-acid
 - h. M-alka
 - i. M-alka
 - j. R-alka
- } (pp. 229–232)
- } (Reference Table 13–6, pp. 214–215 for all)

- 13. Intense supervision is required because only small volumes are needed to elevate the serum sodium from dangerously low levels. (pp. 233–234)
- 14. dyspnea, cyanosis, a weak pulse, hypotension, and unresponsiveness (p. 240)
- 15. infection (pp. 240–241)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Congestive Heart Failure

George's Situation

- 1. b
 - 2. d
 - 3. d
 - 4. b
- } (pp. 212–213)

CASE STUDY: Extracellular Fluid Volume Deficit

Harriet's Situation

- 1. b
 - 2. b
 - 3. a
 - 4. b
- } (pp. 208–212)

CASE STUDY: Diabetes Mellitus

Isaac's Situation

- 1. a
 - 2. a
 - 3. a
 - 4. c
- } (pp. 229–230)

Chapter 14

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|---------------------|---------------------|
| 1. d (p. 245) | 8. d (pp. 255–256) | 15. d (p. 253) |
| 2. c (pp. 246–247 [Chart 14–1]) | 9. d (p. 255) | 16. b (pp. 253–254) |
| 3. b (pp. 247–248) | 10. a (pp. 255–256) | 17. c (pp. 255–257) |
| 4. d (pp. 247–248) | 11. d (p. 256) | 18. a (pp. 256) |
| 5. d (pp. 248–249) | 12. d (p. 256) | 19. d (p. 260) |
| 6. b (pp. 248–249) | 13. a (p. 257) | 20. d (pp. 260–261) |
| 7. d (p. 250) | 14. a (p. 257) | |

Scramblegram

1. shock (p. 245)
2. ATP (p. 245)
3. renin (pp. 246–247)
4. ADH (pp. 246–247)
5. hypoxemia (p. 249)
6. preload (pp. 249–255)
7. oliguria (p. 249)
8. albumin (p. 251)
9. dopamine (p. 256)
10. septic (pp. 257–259)
11. CVP (p. 257)
12. pulmonary edema (pp. 253–254)
13. colloids (p. 253)
14. lungs (p. 260)
15. Nipride (p. 252 [Table 14–1])

D	A ⁸	O	L	E	R	P ¹²	B	D	F	H	R ⁶
B	L	C	F	I	L	U	M	P	R	E	T
C	B	A	J	A	R	L	D	G	N ¹⁵	H	G
Y	U	D	K	S	E	M	J	I	L	F	K
L	M	G	W	F	B	O	N	E	D	N	O ⁷
M	I	S	P	T	G	N	S	G	N	U	L ⁴
A	N	D	T	C	R	A	R	M	I	H	I
I	V	I	A ²	D ⁹	H	R	I	R	P	D	G
M	L	O	R	O	C	Y	P	J	R	K	U
E	A	L	T	P	X	E	L	S	I	O	R
X	C	L	B	A	I	D	M	N	D	M	I
O	S	O	K	M	W	E	S ¹	O	E	P	A
P	V	C ¹⁰	O	I	L	M	A	H	K	I	F
Y	R	A	Q	N	F	A	N	T	O	C	P
H ⁵	T	R	C	E	S ¹⁰	E	P	T	I	C	J
C	K	G	P	N	W	T	U	C	M	B	K
F	H	J	M	E	S	B	M	E	D	I	A
H	A	D	G	K	O	R	H	L	O	B	F

Matching

1. c
2. a
3. a
4. e
5. f
6. d
7. c
8. b
9. b
10. e

All answers can be found on pp. 252–260.

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Hypovolemic Shock

Mr. Mazda's Situation

1. c
2. 20
3. rise, decline
4. 90
5. 30
6. a. colloids, Ringer's lactate, and normal saline
b. elevating the lower extremities at a 20-degree angle
c. keeping the patient warm
d. providing supplemental oxygen therapy as ordered
e. maintaining strict intake and output measurements

All answers can be found on pp. 252–254.

Chapter 15

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|----------------------------------|---------------------|
| 1. b (p. 264) | 8. c (p. 273) | 15. a (p. 277) |
| 2. d (pp. 268–269) | 9. b (p. 273) | 16. a (p. 280) |
| 3. d (pp. 268–269) | 10. c (pp. 274–276) | 17. d (p. 280) |
| 4. d (p. 269) | 11. b (pp. 274–276) | 18. d (pp. 291–292) |
| 5. c (p. 269) | 12. a (p. 275) | 19. a (pp. 292–293) |
| 6. a (p. 272) | 13. d (pp. 276–277) | 20. a (p. 297) |
| 7. d (pp. 272–273) | 14. b (pp. 277–279 [Table 15–6]) | |

Matching

- | | |
|------|------------------------------|
| 1. b | } (pp. 266–267 [Table 15–2]) |
| 2. a | |
| 3. a | |
| 4. b | |
| 5. b | |

Fill-In

1. Men: lung and bronchus, prostate, and colorectal area Women: lung and bronchus, breast, and colorectal area (pp. 264–265 [Figure 15–1])
2. Invasion: The growth of the primary tumor into surrounding host tissues in a variety of ways. Metastasis: direct spread of tumor cells to body cavities or through lymphatic and blood circulation. (pp. 266–267)
3. carcinoembryonic antigen (CEA) and prostate specific antigen (PSA) (pp. 267–268)

4. 85 (p. 268)
5. Answer may include cabbage, broccoli, cauliflower, brussels sprouts, and kohlrabi. (p. 269)
6. Primary prevention is concerned with reducing the risk or preventing the development of cancer in healthy people.

Example:

Teaching people the importance of stopping smoking to decrease the incidence of lung cancer

Secondary prevention involves detection and screening efforts to achieve early diagnosis and prompt intervention to halt the cancerous process.

Example:

Teaching principles of breast self-examination to facilitate the early detection of breast cancer (p. 270)

7. Cure implies complete eradication of malignant disease. Control strives for prolonged survival with the presence of malignancy. Palliation implies relief of symptoms associated with the cancerous disease. (p. 272)
8. Skin: alopecia, erythema, desquamation; Oral mucosal membrane: xerostomia, stomatitis, decreased salivation, loss of taste; Stomach or colon: anorexia, nausea, vomiting, diarrhea; and Bone marrow producing sites: anemia, leukopenia, and thrombocytopenia (pp. 275–276)
9. Cell cycle-specific agents destroy cells in specific phases of the cell cycle by interfering with DNA and RNA synthesis or by halting mitosis. Cell cycle-nonspecific agents exert prolonged effects on cells, independent of cell cycle phases, which lead to cell damage or death. (pp. 276–278 [Table 15–6])
10. An extravasation of an infusion of a cancer chemotherapeutic agent is believed to have occurred if redness, pain, swelling, a mottled appearance, phlebitis, loss of blood return, resistance to flow, tissue necrosis, and damage to underlying tendons, nerves, and blood vessels. (pp. 277–280)
11. Hyperthermia, the generation of temperatures greater than physiologic fever range, elicits tumoricidal effects by irreparably damaging the DNA and cell membranes, by increasing cellular metabolic demands to which the cancer cells are not able to respond, and by stimulating the body's immune system. (pp. 291–292)
12. Interferons are biological response modifiers (BRMs), with antiviral and antitumor properties that stimulate an immune response. It is believed that the stimulated immune system will eradicate the malignant growth. (pp. 291–293)

Matching

- | | | |
|---|---|----------------------------|
| <ol style="list-style-type: none"> 1. e 2. c 3. a 4. f 5. a 6. b 7. d 8. a 9. c 10. e | } | (pp. 277–280 [Table 15–6]) |
|---|---|----------------------------|

II. Critical Analysis Questions

Analyzing Comparisons

1. care and rehabilitation after diagnosis and treatment (p. 270)
2. tumor cell classification (p. 273)
3. a donor from an identical twin (pp. 281, 290–291)
4. the thinning or complete loss of hair (pp. 296–298)
5. appetite failure resulting in a wasting syndrome (pp. 296–298)

Generating Solutions: Clinical Problem Solving

CASE STUDY: Cancer of the Breast

Kim's Situation

- | | |
|--------------------|----------------------------|
| 1. b (p. 268) | 6. c (pp. 274–276) |
| 2. d (p. 297) | 7. a (p. 276 [Table 15–6]) |
| 3. a (p. 302) | 8. d (pp. 296–299) |
| 4. d (pp. 297–299) | 9. b (p. 303) |
| 5. d (pp. 274–276) | |

Chapter 16

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------------|---------------------|---------------------|
| 1. a (p. 322) | 9. c (p. 320) | 17. d (p. 324) |
| 2. a (p. 316 [Table 16–1]) | 10. d (p. 320) | 18. c (pp. 324–326) |
| 3. a (pp. 317–318) | 11. a (p. 321) | 19. a (pp. 324–326) |
| 4. a (pp. 317–318) | 12. a (p. 321) | 20. a (p. 326) |
| 5. d (p. 319) | 13. c (pp. 321–322) | 21. c (p. 326) |
| 6. d (p. 319) | 14. d (p. 322) | 22. c (p. 326) |
| 7. d (p. 321 [Table 16–3]) | 15. a (p. 322) | |
| 8. d (p. 320) | 16. d (p. 322) | |

Fill-In

For assistance in completing this chart, see textbook page 322.

Matching

Sample

Column I: Nursing Activity

Restriction of nutrition and fluids

Column II: Nursing Goal

Prevent aspiration

See textbook pages 320–322 for assistance in completing this chart.

II. Critical Analysis Questions

Recognizing Contradictions

1. About 70% of surgeries are performed on an outpatient basis despite the use of advanced technology. (p. 316)
2. The intraoperative phase of perioperative nursing ends when the patient is admitted to the recovery area or PACU. (p. 316)
3. Cosmetic surgery is based on personal choice and is, therefore, classified as optional. (p. 318 [Table 16-1])
4. Vitamin C is needed for collagen synthesis; vitamin K is used for clotting and prothrombin production. (pp. 320-321 [Table 16-3])
5. Corticosteroids should never be abruptly discontinued before surgery because cardiovascular collapse may occur. (p. 322)

Applying Concepts to Health Teaching

1. Lean forward slightly from a sitting position. Interlace fingers together. Place hands across the incisional site to supply a splint-like support.
2. Breathe with the diaphragm
3. Open mouth slightly and breathe in fully
4. "Hack" out sharply using three short breaths
5. Keep the mouth open, take in a quick deep breath and immediately cough strongly once or twice. (page 325 [Figure 16-1.2])

Chapter 17

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|---------------------------------|-----------------------------------|
| 1. b (pp. 330-331) | 6. b (p. 334) | 11. b (pp. 340-341 [Table 17-6]) |
| 2. d (pp. 330-331) | 7. c (pp. 338-339 [Table 17-4]) | 12. b (pp. 341-342 [Figure 17-3]) |
| 3. a (pp. 331-332 [Table 17-1]) | 8. a (pp. 338-339 [Table 17-4]) | 13. c (p. 343) |
| 4. d (pp. 330-331) | 9. d (pp. 338-339) | 14. d (pp. 343-344) |
| 5. d (pp. 334-335) | 10. d (pp. 340-341) | |

Fill-In

1. Anesthesia is reduced with age because the percentage of fatty tissue increases. Fatty tissue has an affinity to anesthetic agents. (pp. 330-331)
2. Answer should include four of these five: handling tissue, providing exposure at the operative field, using instruments, suturing, and providing hemostasis. (pp. 331)
3. thiopental sodium (Pentothal), respiratory depression (p. 334)
4. the subarachnoid space at the lumbar level (usually at L-2) (pp. 338-339)
5. Complete return of sensation in the patient's toes, in response to a pinprick, indicates recovery. (pp. 338-339)

II. Critical Analysis Questions

Recognizing Contradictions

1. The circulating nurse controls the environment, coordinates the activities of other personnel, and monitors aseptic techniques. (p. 330)
2. Whenever sterility is in question, an item is considered unsterile. (pp. 331–332)
3. Only the top of a table that is draped is considered sterile. Drapes hanging over the edge are clean but not sterile. (pp. 331–332)
4. The unsterile arm of the circulating nurse should never extend over a sterile area. (pp. 331–332)
5. Older patients require less anesthesia and take longer to eliminate anesthetic drugs. (pp. 330–334)

Generating Solutions: Clinical Problem Solving

CASE STUDY: General Anesthesia

Anne's Situation

1. b
 2. b
 3. b
- (pp. 334–336)

CASE STUDY: Intravenous Anesthesia

Brian's Situation

1. d
 2. a
 3. b
- (pp. 336–338 [Table 17–3])

Chapter 18

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------------------|-----------------------------------|-----------------------------------|
| 1. c (p. 349) | 9. a (p. 358) | 17. c (pp. 363–364 [Table 18–3]) |
| 2. d (pp. 349–350) | 10. c (pp. 358–359) | 18. c (pp. 363–365 [Figure 18–7]) |
| 3. d (pp. 350–351) | 11. b (pp. 358–361) | 19. d (pp. 363–364 [Figure 18–7]) |
| 4. a (p. 350) | 12. a (pp. 361–362 [Figure 18–6]) | 20. d (p. 365 [Table 18–4]) |
| 5. d (pp. 351–352) | 13. d (pp. 361–362) | 21. d (p. 367 [Figure 18–9]) |
| 6. c (pp. 351–353 [Figure 18–3]) | 14. d (p. 362) | 22. c (pp. 367–368) |
| 7. a (pp. 352–353 [Figure 18–3]) | 15. d (pp. 362–363) | 23. a (p. 367) |
| 8. d (p. 358) | 16. c (p. 362 [Table 18–2]) | |

Fill-In

1. The answer may include any of the following:
 - Medical diagnosis
 - Type of surgery performed
 - Patient's general condition: age, airway patency, vital signs

Anesthetic and other medications used

Any intraoperative problems that might influence postoperative care (shock, hemorrhage, cardiac arrest)

Any pathology encountered

Fluid administered, blood loss and replacement

Tubing, drains, catheters, or other supportive aids

Specific information about which surgeon or anesthesiologist wishes to be notified. (pp. 348–351)

2. Respiratory function and patency of the airway (pp. 349–350)
3. Primary hemorrhage occurs at the time of the operation. Intermediary hemorrhage occurs within the first few hours after an operation and is due to the return of blood pressure to its normal level. Secondary hemorrhage occurs some time after the operation as a result of the slipping of a ligature, which may happen because of infection, insecure tying, or erosion of a vessel by a drainage tube. (pp. 350–351, Table 18–1)
4. Respiratory (p. 354)
5. Self-perception, personality, learning, ethnic and cultural factors, and environment (pp. 355–356)
6. Patient-controlled analgesia refers to self-administration of pain medication by way of intravenous or epidural routes within prescribed time/dosage limits. (pp. 356–357)
7. Absence of nausea, absence of vomiting, and presence of bowel sounds (p. 358)
8. Atelectasis and hypostatic pneumonia are reduced with early ambulation because ventilation is increased and the stasis of bronchial secretions in the lungs is reduced. (pp. 358–359)
9. The correct way to apply adhesive tape is to place the tape at the center of the dressing and then press the tape down on both sides, applying tension evenly away from the midline. Adhesive should be removed by pulling it parallel with the skin surface and in the direction of the hair growth, not at right angles. (pp. 363–366 [Figure 18–8])
10. Bowel sounds and the passage of flatus (pp. 367–368)

II. Critical Analysis Questions

Supporting Arguments

Pain stimulates the stress response

which increases muscle tension

and

local vasoconstriction

Noxious impulses stimulate

sympathetic activity

which increases myocardial demand

and

oxygen consumption

Hypothalamic stress responses increase

Which can lead to phlebothrombosis

and

platelet aggregation

and

Pulmonary embolism

Benedetti (1992) found that cardiovascular insufficiency can be three times more frequent and infection five times greater with inadequate postoperative control. (pp. 355–357)

Generating Solutions: Clinical Problem Solving

CASE STUDY: Hypopharyngeal Obstruction

Daena's Situation

1. d
 2. b
 3. d
 4. c
- } (pp. 349–350 [Figure 18–2])

CASE STUDY: Wound Healing

Elizabeth's Situation

1. b
 2. a
 3. d
 4. b
- } (pp. 262–266 [Table 18–3])

ILLUSTRATION INTERPRETATION (Figure 18–6): Phlebothrombosis (reference pp. 361–362)

1. The nurse is gently palpating the calf muscle for tenderness.
2. To assess for the presence of Homans' sign, the nurse would ask the patient to flex his knee and dorsiflex his foot. Calf pain is an early sign of phlebothrombosis.
3. Phlebothrombosis is blood clotting in a vein without marked inflammation.
4. The nurse assesses for calf swelling in the affected leg by measuring calf circumference in both legs and comparing the results.

Chapter 19

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-----------------------------|----------------------------------|----------------------------------|
| 1. b (p. 377) | 10. b (pp. 378–379) | 19. a (pp. 384–385) |
| 2. b (p. 377) | 11. d (pp. 378–379) | 20. d (p. 385) |
| 3. c (p. 376 [Figure 19–3]) | 12. c (pp. 378–379 [Chart 19–2]) | 21. a (p. 386) |
| 4. a (p. 376 [Figure 19–3]) | 13. a (pp. 380–382 [Chart 19–4]) | 22. a (pp. 390–392 [Table 19–4]) |
| 5. c (p. 375) | 14. a (p. 377 [Table 19–1]) | 23. b (p. 394) |
| 6. d (p. 375) | 15. d (pp. 382–383) | 24. b (p. 394) |
| 7. a (pp. 376–377) | 16. d (p. 384) | 25. c (p. 394) |
| 8. b (p. 377) | 17. d (p. 384) | 26. d (p. 396) |
| 9. d (p. 378) | 18. d (p. 384) | 27. d (pp. 396–397) |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Bronchoscopy

Mr. Kecklin's Situation

1. c
 2. d
 3. b
 4. d
 5. a
- } (pp. 396–397 [Figure 19–5])

CASE STUDY: Thoracentesis

Mrs. Lomar's Situation

- 1. d
 - 2. b
 - 3. b
 - 4. d
 - 5. c
- } (pp. 397–399 [Guidelines 19–1])

Interpreting Data

Reference pages for an explanation of the Oxyhemoglobin Dissociation Curve can be found in pages 381–383, Chart 19–4.

Chapter 20

I. Comprehension and Interpretation

Multiple-Choice

- 1. a (pp. 402–403)
- 2. a (pp. 402–403 [Chart 20–1])
- 3. c (p. 402 [Chart 20–1])
- 4. d (pp. 403–404)
- 5. a (pp. 403–404)
- 6. d (pp. 405–406)
- 7. a (pp. 406–407)
- 8. d (pp. 406–407)
- 9. d (pp. 406–407)
- 10. a (p. 407)
- 11. c (pp. 407–408)
- 12. d (p. 409)
- 13. a (p. 409)
- 14. a (pp. 409–410)
- 15. d (pp. 412–413)
- 16. b (pp. 412–413)
- 17. d (p. 413)
- 18. b (p. 413 [Guidelines 20–1])
- 19. a (p. 414)
- 20. b (p. 414)
- 21. d (p. 415)
- 22. d (pp. 417–420)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Epistaxis

Gilberta's Situation

- 1. Gilberta should sit upright with her head tilted forward to prevent swallowing and aspiration of blood. She should also pinch the soft outer portion of the nose against the midline spectrum for 5 to 10 continuous minutes.
 - 2. d
 - 3. b
 - 4. d
- } (pp. 411–412)

CASE STUDY: Tonsillectomy and Adenoidectomy

Isabel's Situation

- 1. d
 - 2. c
 - 3. a
 - 4. c
- } (pp. 407–409)

CASE STUDY: Laryngectomy

Jerome's Situation

1. b
 2. d
 3. d
 4. d
 5. d
- } (pp. 414–420)

Chapter 21

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|---------------------|-----------------------------|
| 1. d (p. 425) | 12. b (p. 451) | 23. c (p. 467 [Chapter 22]) |
| 2. c (p. 426) | 13. a (p. 452) | 24. b (p. 471) |
| 3. d (pp. 428–430 [Table 21–1]) | 14. d (p. 453) | 25. c (p. 473) |
| 4. d (pp. 436–438) | 15. d (p. 453) | 26. b (p. 474) |
| 5. a (pp. 437–438) | 16. b (p. 453) | 27. a (p. 475) |
| 6. d (p. 443) | 17. d (p. 455) | 28. a (pp. 477–478) |
| 7. d (p. 444) | 18. c (pp. 460–461) | 29. d (pp. 477–478) |
| 8. d (p. 444) | 19. d (p. 461) | 30. b (p. 479) |
| 9. d (pp. 446–447) | 20. d (pp. 465–466) | 31. b (pp. 482–483) |
| 10. b (pp. 446–447) | 21. a (p. 467) | 32. c (p. 484) |
| 11. d (pp. 447–448) | 22. d (p. 467) | |

Fill-In

1. Answer should include at least 10 possible causes found on pp. 422–423.
2. Answer should include at least 10 pathogenic mechanisms found on p. 424, Figure 21–1.
3. Reduced alveolar ventilation impedes the passage of air into and from the alveoli. Trapped air is absorbed into the bloodstream and additional/replacement air cannot be absorbed. Therefore an isolated portion of the lung shrinks (p. 423).
4. Cough, sputum production, low grade fever, dyspnea, tachycardia, tachypnea, pleural pain, and central cyanosis (p. 424).
5. Frequent turning, early mobilization, deep breathing maneuvers, assistance with the use of spirometry, suctioning, postural drainage, aerosol nebulizer treatments, and chest percussion (p. 425).

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Bacterial Pneumonia

Theresa's Situation

1. b
 2. b
 3. d
 4. d
 5. b
 6. d
- } (pp. 427–436 [Table 21–1])

CASE STUDY: Emphysema

Lois' Situation

1. c
 2. b
 3. a
 4. d
 5. b
 6. d
- (pp. 453–460 [Figures 21–6, 7, and 8; PNC 21–1])

CASE STUDY: Adult Respiratory Distress Syndrome (ARDS)

Anne's Situation

1. d
 2. d
 3. c
 4. d
 5. d
- (pp. 467–469 [Figure 21–9 and Chart 21–2])

CASE STUDY: Pulmonary Embolism

Sandy's Situation

1. c
 2. a
 3. b
 4. b
 5. c
 6. d
- (pp. 471–475 [Figure 21–10])

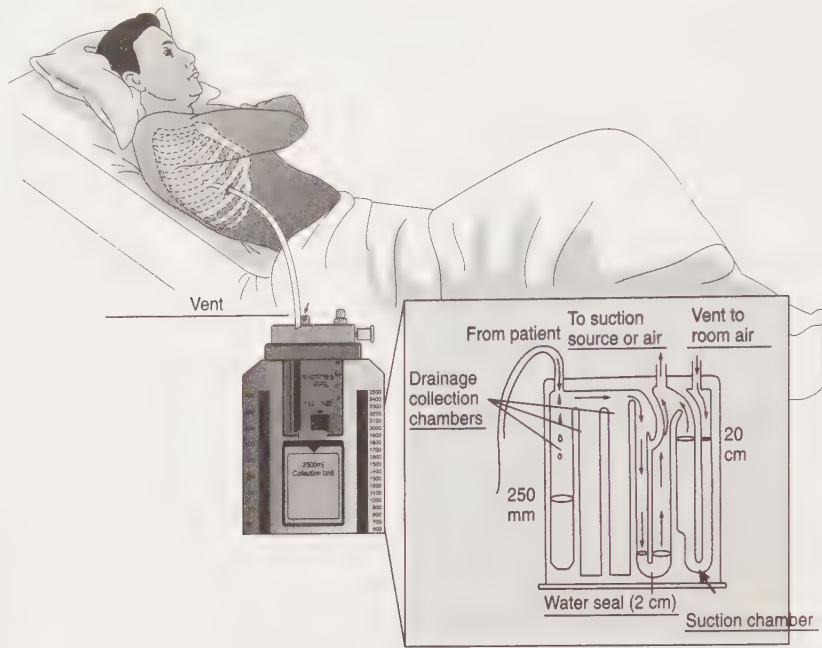
Chapter 22

I. Comprehension and Interpretation

Multiple-Choice

1. a (p. 491)
2. b (pp. 491–492 [Chart 22–1])
3. a (pp. 491–492 [Chart 22–1])
4. b (pp. 491–492 [Chart 22–1])
5. d (pp. 492–494)
6. d (pp. 492–494)
7. b (pp. 492–494 [Table 22–1])
8. c (pp. 492–494 [Table 22–1])
9. d (pp. 492–494 [Table 22–1])
10. a (p. 494)
11. c (pp. 494–495)
12. d (pp. 495–496)
13. d (pp. 496–498 [Figure 22–2])
14. d (pp. 497–498)
15. a (pp. 497–498 [Figure 22–3])
16. c (pp. 497–498 [Figure 22–3])
17. a (p. 498)
18. d (pp. 498–499)
19. a (pp. 498–500 [Guidelines 22–1])
20. d (pp. 499–502 [Guidelines 22–2])
21. c (pp. 502–504 [Guidelines 22–4])
22. a (pp. 502–504 [Guidelines 22–4])
23. c (pp. 503–505 [Chart 22–3])
24. d (pp. 504–505)
25. c (pp. 505–506)
26. b (p. 514 [Chart 22–4])
27. d (p. 515)
28. d (pp. 515–518 [Guidelines 22–6])

Complete the chart on a disposable chest drainage system.



II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Pneumonectomy: Preoperative Concerns

Mrs. Miley's Preoperative Situation

1. d
 2. a
 3. d
 4. a
- (pp. 513–515 [Chart 22–4])

CASE STUDY: Pneumonectomy: Postoperative Concerns

Mrs. Miley's Postoperative Situation

1. a
 2. b
 3. d
 4. a
- (pp. 515–519)

CASE STUDY: Ventilator Patient

Mr. Brown's Situation

1. d
 2. a
 3. d
 4. d
- (pp. 505–508 [Figures 22–5 and 22–6; Guidelines 22–5])

CASE STUDY: Weaning from Ventilator

Mr. O'Day's Situation

1. d
 2. d
 3. d
- (pp. 511–513)

Chapter 23

I. Comprehension and Interpretation

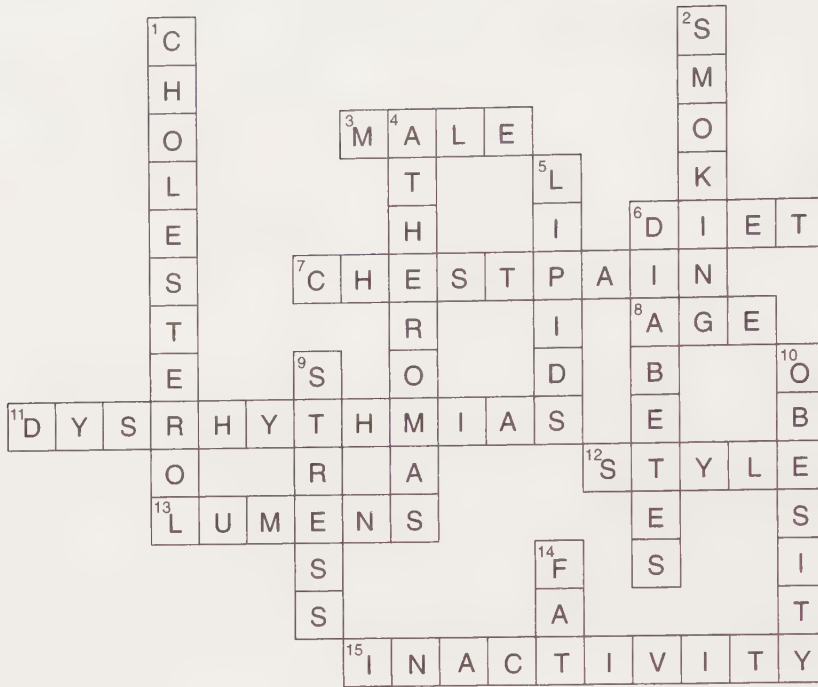
Multiple-Choice

- | | | |
|----------------------------------|--------------------|---------------------|
| 1. a (pp. 533–534 [Figure 23–2]) | 5. d (pp. 534–536) | 9. a (p. 545) |
| 2. d (pp. 534–535 [Figure 23–3]) | 6. d (p. 537) | 10. b (pp. 548–549) |
| 3. d (pp. 534–535) | 7. c (pp. 537–539) | 11. d (pp. 554–555) |
| 4. c (pp. 535–536) | 8. a (p. 545) | 12. d (pp. 557–558) |

Fill-In

1. The atrioventricular valves separate the atria from the ventricles. The tricuspid separates the right atrium and ventricle; the bicuspid separates the left atrium and ventricle. The AV valves permit blood to flow from the atria into the ventricles. The semilunar valves are situated between each ventricle and its corresponding artery. The pulmonic valve is between the right ventricle and the pulmonary artery; the aortic valve is between the left ventricle and the aorta. These valves permit blood to flow from the ventricles into the arteries. (pp. 533 [Figure 23–1])
2. Depolarization is said to have occurred when the electrical difference between the inside and the outside of the cell is reduced. The inside of the cell becomes less negative, membrane permeability to calcium is increased, and muscle contraction occurs. (p. 535 [Figure 23–4])
3. Cardiac output would equal 5320 ml. (p. 536)
4. Starling's law of the heart refers to the relation between increased stroke volume and increased ventricular end-diastolic volume for a given intrinsic contractility. (p. 537)
5. Physiologic effects of the aging process may include reduction in the size of the left ventricle, decreased elasticity and widening of the aorta, thickening and rigidity of cardiac valves, and increased connective tissue in the sinoatrial and atrioventricular nodes and bundle branches. (p. 551)
6. Creatine Kinase (CK) and isoenzyme CK-MB; troponin I (cTnI) (pp. 551–553)
7. Cardiac catheterization is used most frequently to assess the patency of the patient's coronary arteries and to determine readiness for coronary bypass surgery. It is also used to measure pressures in the various heart chambers and to determine oxygen saturation of the blood by sampling specimens. (pp. 557–558)
8. Selective angiography refers to a technique of injecting a contrast medium into the vascular system to outline a particular heart chamber or blood vessel. (pp. 557–558)
9. A lowered central venous pressure reading indicates a patient is hypovolemic. Serial measurements are more reflective of a patient's condition and should be correlated with the patient's clinical status. (p. 560)
10. Complications of pulmonary artery monitoring may include infection, pulmonary artery rupture, pulmonary thromboembolism, pulmonary infarction, catheter kinking, dysrhythmias, and air embolism. (pp. 560–561)

Crossword Puzzle



Reference pp. 533–535, 539–541, 551–553

II. Critical Analysis Questions

Analyzing Comparisons

1. the remainder of the body (pp. 532–534 [Figure 23–1])
2. myocardium (p. 532)
3. third intercostal space (p. 547 [Figure 23–7])
4. the aortic and pulmonic valves (pp. 548–549 [Figures 23–9 and 23–10])
5. abrasion of the pericardial surfaces (p. 549)

Generating Solutions: Clinical Problem Solving

Assessment

Myocardial Infarction

Substernal pain or pain over precordium. May spread widely throughout chest. Painful disability of shoulders and hands may be present.

Pain > 15 minutes

Angina Pectoris

Substernal or retrosternal pain spreading across chest. May radiate to inside of arm, neck or jaws.

Pain 5 to 10 minutes

Precipitating events	Occurs spontaneously but may be sequelae of unstable angina	Usually related to exertion, emotion, eating or cold
Nursing intervention	Morphone sulfate, successful reperfusion of blocked coronary artery	Rest, nitroglycerin, oxygen

Table 23-2, pp. 540-541

Chapter 24

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------------------|---|-------------------------------|
| 1. d (pp. 565-566) | 6. a (pp. 575-576 [Figure 24-16]) | 11. d (pp. 583-584) |
| 2. d (pp. 569-570 [Figure 24-6]) | 7. d (pp. 575-576 [Figure 24-17]) | 12. d (p. 589 [Figure 24-32]) |
| 3. c (p. 571) | 8. c (pp. 577-578 [Figure 24-20]) | 13. d (pp. 589-590) |
| 4. d (p. 572-573 [Figure 24-11]) | 9. c (pp. 580-582) | |
| 5. b (p. 574-575) | 10. a (pp. 580-583 [Figures 24-24 and 24-25]) | |

Fill-In

- Electrical conduction through the heart begins in the sinoatrial node (SA), travels across the atria to the atrioventricular node (AV), and then travels down the right and left bundle branches and Purkinje fibers to the ventricular muscle. (p. 565)
- Sinus tachycardia can be caused by any of the following: fever, hypovolemia, anemia, exercise, pain, congestive heart failure, anxiety, and sympathomimetic or parasympatholytic drugs. (p. 570)
- The standard procedure is to place one paddle to the right of the upper sternum below the right clavicle and the other paddle just to the left of the cardiac apex. (pp. 580-582 [Figures 24-24, 24-25, and 24-26])
- A demand pacemaker is set for a specific rate and stimulates the heart when normal ventricular depolarization does not occur; the fixed rate pacemaker stimulates the ventricle at a preset constant rate, independently of the patient's rhythm. (p. 583 [Figures 24-27 and 24-28])

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Graph Analysis

- | | |
|---|-------------------------------|
| 1. a. T wave
b. P-R interval
c. P wave
d. QRS complex
e. ST segment | } (pp. 567-569 [Figure 24-3]) |
| 2. a. Q wave is larger.
b. ST segment is elevated.
c. T wave is inverted. | } (pp. 567-569 [Figure 24-3]) |

Graphic Recordings

1. Premature atrial complexes (PACs)
P waves come early in cycle and close to T wave of previous heartbeat. (pp. 571–572 [Figure 24–9])
2. Premature ventricular complexes (PVCs)
QRS complex is bizarre. P waves are hidden in QRS complexes. (pp. 574–575 [Figure 24–15])
3. Ventricular Tachycardia
Three or more PVCs in a row, occurring at a rate >100 beats/minute (pp. 575–576 [Figure 24–16])

Chapter 25

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|----------------------------------|-------------------------------------|
| 1. b (p. 594) | 11. d (p. 601) | 20. d (pp. 611–615
[Table 25–2]) |
| 2. d (pp. 594–595) | 12. b (p. 602) | 21. b (p. 619) |
| 3. d (p. 596) | 13. d (pp. 602–603 [Table 25–1]) | 22. a (p. 619) |
| 4. a (p. 597) | 14. a (pp. 602–603 [Table 25–1]) | 23. b (p. 626) |
| 5. d (p. 598) | 15. d (p. 604) | 24. d (p. 626) |
| 6. c (p. 598) | 16. b (p. 605) | 25. c (pp. 627–628) |
| 7. a (p. 598) | 17. c (p. 607) | 26. d (p. 628) |
| 8. b (p. 598) | 18. c (pp. 611–615 [Table 25–2]) | 27. c (p. 629) |
| 9. d (pp. 600–601) | 19. a (pp. 611–615 [Table 25–2]) | |
| 10. c (p. 601) | | |

Fill-In

1. cardiovascular disease (p. 593)
2. Chest pain (p. 595)
3. Age, >50% are over age 65. (p. 595)
4. Four modifiable risk factors are: abnormal cholesterol levels, cigarette smoking, hypertension, and diabetes mellitus. (pp. 595–597)
5. Blood cholesterol should be <200mg/dL and the LDL to HDL ratio should be 3.5:1.0. The LDL level should be under 160 mg/dL and the HDL level >35mg/dL. (pp. 595–596)
6. 30% (p. 596)
7. severe and incapacitating (p. 597 [Chart 25–1])
8. Transmyocardial laser revascularization (TLM) diverts blood flow into temporary channels, thus decreasing ischemia and creating new blood vessels. (pp. 603–604)
9. Transient perceptual illusions, visual and auditory hallucinations, disorientation, and paranoid delusions. (pp. 609–610)
10. Answer should include five of the following: fever, pericardial pain, pleural pain, dyspnea, pericardial effusion, pericardial friction rub, and arthralgia. (p. 618)

II. Critical Analysis Questions

Identifying Patterns

1. Arterial lumen narrowing begins with the deposit of fatty streaks (lipids) on the intima (inner vessel wall). Some develop into advanced lesions as atherosclerosis advances. An inflammatory response occurs and T-lymphocytes and monocytes infiltrate area and ingest lipids and die. Smooth muscle cells then proliferate, and form a fibrous cap around a dead fatty core. These deposits narrow and obstruct blood flow. (pp. 594–595)
2. An atheroma is a fatty thickening or degeneration of the walls of the arteries resulting from an atherosclerotic response to lipid deposits. (pp. 594–595)
3. The formation of a thrombus (p. 594)
4. A thrombus can obstruct blood flow, cause an acute myocardial infarction, or result in sudden death. (p. 594)

Supporting Arguments

1. (a) Hemoglobin combines more readily with CO than with O₂, thereby limiting the oxygen being supplied to the heart. (b) Nicotine triggers the release of catecholamines, which cause arterial constriction and decreased oxygenation. (c) Smoking increases platelet adhesion, which increases thrombus formation. (p. 596)
2. Calcium ion blockers increase myocardial oxygen supply (a) by dilating the smooth muscle wall of the coronary arterioles, (b) by decreasing myocardial oxygen demands, and (c) by decreasing systemic arterial pressure. (pp. 598–599)

Generating Solutions: Clinical Problem Solving

CASE STUDY: Angina Pectoris

Ermelina's Situation

- | | | |
|------|---|---------------|
| 1. b | } | (pp. 599–603) |
| 2. c | | |
| 3. b | | |
| 4. c | | |

CASE STUDY: Decreased Myocardial Tissue Perfusion

Mr. Lillis' Situation

- | | | |
|------|---|------------------------|
| 1. c | } | (pp. 594–597, 619–630) |
| 2. a | | |
| 3. a | | |
| 4. b | | |
| 5. a | | |
| 6. d | | |

Chapter 26

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|--------------------|---------------------|
| 1. d (p. 638) | 6. c (p. 644) | 10. a (p. 650) |
| 2. c (p. 640) | 7. a (pp. 645–646) | 11. d (p. 650) |
| 3. a (pp. 640–641) | 8. c (p. 646) | 12. a (p. 653) |
| 4. a (p. 641) | 9. a (p. 650) | 13. a (pp. 653–655) |
| 5. d (pp. 641–643) | | |

Fill-In

1. Mitral valve prolapse syndrome is a dysfunction of the mitral valve leaflets, resulting in valve incompetency and regurgitation. Valve dysfunction progresses, and symptoms of heart failure ensue. (pp. 638–640)
2. Left ventricular hypertrophy develops with mitral valve insufficiency because incomplete valve closure allows a regurgitation of blood from the left ventricle to the atrium during ventricular systole. This regurgitated blood is returned to the left ventricle, increasing the volume of blood that the left ventricle must handle. Hypertrophy of the left atrium and left ventricle develops. (p. 640)
3. An inflamed endothelium causes a fibrin clot to form (vegetation), which converts to scar tissue that thickens, contracts, and causes deformities. (pp. 650–652)
4. Myocarditis is an inflammatory process that usually results from an infection. The infectious process can cause heart dilation, thrombi formation, infiltration of blood cells around the coronary vessels and between the muscle fibers, and eventual degeneration of the muscle fibers themselves. (pp. 652–654)
5. Listen at the left sternal edge of the thorax in the fourth intercostal space where the pericardium comes in contact with the left chest wall. (p. 654)
6. Cardiomyopathy, ischemic heart disease, congenital heart disease, valvular disease, and rejection of previously transplanted hearts. (pp. 648–649)
7. Less than 12 months, 60%–70% (p. 648)

Matching

1. a
 2. e
 3. d
 4. b
 5. c
- (pp. 638–641)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Infective Endocarditis

Mr. Fontana's Situation

1. toxicity of the infection, heart valve destruction, or embolization of fragments of vegetative growth on the heart
 2. a
 3. headache, transient cerebral ischemia, focal neurologic lesions, and strokes
 4. total eradication of the invading organism
 5. c
 6. congestive heart failure, strokes, valvular stenosis, and myocardial erosion
 7. d
- (pp. 651–652)

Chapter 27

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------------------------|----------------------------------|----------------------------|
| 1. a (p. 657) | 8. d (p. 662) | 15. b (pp. 672–673) |
| 2. d (pp. 657–658) | 9. b (p. 662) | 16. a (p. 673) |
| 3. d (pp. 657–658) | 10. b (pp. 662–664) | 17. c (p. 675) |
| 4. a (p. 568) | 11. c (p. 665) | 18. c (pp. 43–45) |
| 5. a (p. 658) | 12. d (pp. 665–666) | 19. b (pp. 43–45) |
| 6. d (pp. 658–661 [Guidelines 27–1]) | 13. a (pp. 666–668) | 20. c (p. 47 [Table 27–5]) |
| 7. d (p. 658) | 14. d (pp. 666–667 [Chart 27–2]) | |

Matching

- | | |
|-------|-----------------|
| 1. a | } (pp. 662–669) |
| 2. b | |
| 3. a | |
| 4. b | |
| 5. b | |
| 6. a | |
| 7. a | |
| 8. b | |
| 9. a | |
| 10. b | |

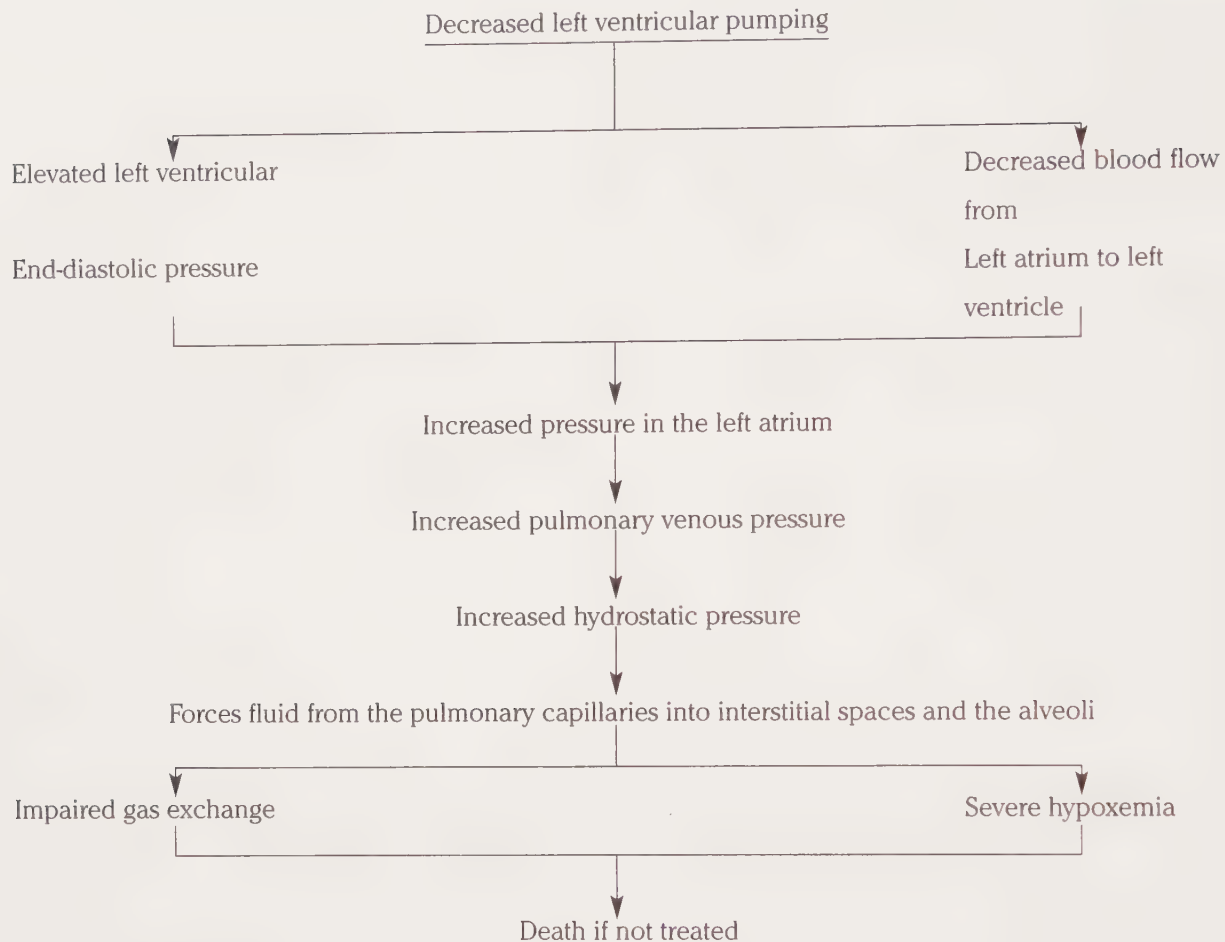
Fill-In

1. Preload is the pressure created by the volume of blood within the ventricle before contraction. Afterload refers to the amount of resistance to the ejection of the blood. (p. 658 [Table 27–1])
2. Cardiac output equals the heart rate times the stroke volume (the amount of blood pumped out with each contraction). (p. 657)
3. Answer should include ten of the following: decreased oxygenation, restlessness, anxiety, breathlessness, a sense of suffocation, cyanotic nail beds, cold and moist hands, ashen skin color, a weak and rapid pulse, distended neck veins, incessant coughing, and increased quantities of mucoid sputum. (pp. 657–658)
4. Improving the pumping ability of the left ventricle, reducing the total circulating blood volume, and improving respiratory exchange (pp. 658–661)
5. Pulmonary congestion; congestion of the viscera and peripheral tissues (pp. 664–665)
6. Reduce the workload on the heart, increase the force and efficiency of myocardial contraction, and eliminate the excessive accumulation of body water. (pp. 665–666)

II. Critical Analysis Questions

Identifying Patterns

Pathophysiology of Pulmonary Edema



Chapter 28

I. Comprehension and Interpretation

Multiple-Choice

1. d (p. 683)
2. b (pp. 683–685 [Table 28–2])
3. b (p. 684)
4. a (p. 690)
5. b (p. 690)
6. b (p. 699)
7. c (p. 699)
8. b (pp. 700–701)
9. d (p. 701)
10. d (pp. 701–702)
11. b (p. 702)
12. b (pp. 705–706)
13. d (p. 706 [Chart 28–3])
14. d (p. 706)
15. a (pp. 707–708)
16. c (pp. 707–708)
17. c (p. 709)
18. d (p. 710)
19. b (p. 712 [Figure 28–18])
20. a (pp. 713–714)

Matching

1. a
 2. b
 3. a
 4. a
 5. b
 6. b
 7. a
 8. a
- (pp. 683–685 [Table 28–2])

II. Critical Analysis Questions

Analyzing Comparisons

1. $\text{Flow} = P/R$. The pressure difference between the two ends of the vessel (arterial and venous) provides the impetus for the forward propulsion of blood. The rate of blood flow is determined by dividing the pressure difference by the resistance. (p. 682)
2. $R = 8 \text{ nL}/\text{pr}^4$. Resistance to blood flow is proportional to the thickness of the blood and the length of the vessel; it is inversely proportional to the fourth power of the vessel radius. (p. 683)
3. Answer may include angiotensin, histamine, bradykinin, or prostaglandin. (p. 683)
4. systemic venous congestion (p. 683)
5. the accumulation of lipids, fibrous tissue, and such (p. 688)

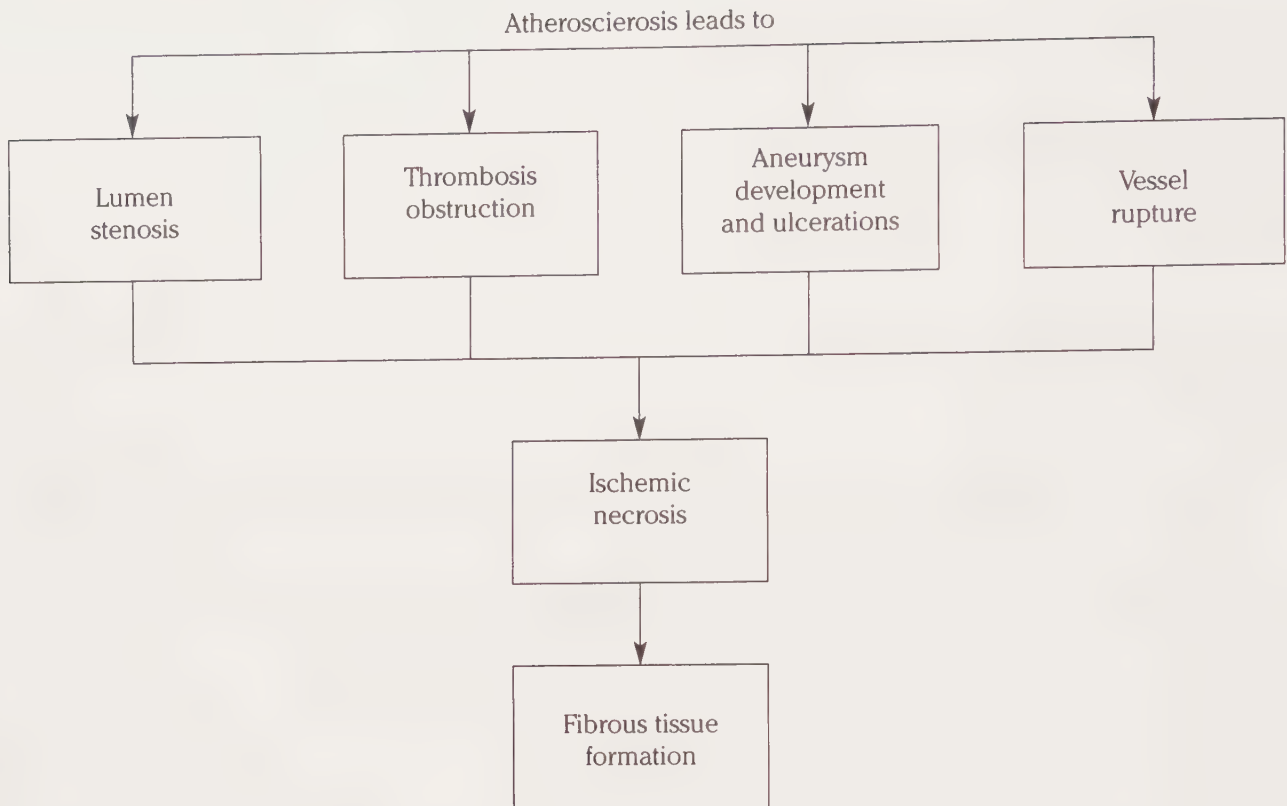
Generating Solutions: Clinical Problem Solving

CASE STUDY: Peripheral Arterial Occlusive Disease

Fred's Situation

1. a
 2. a
 3. d
 4. d
- (pp. 695–698)

Pathophysiology of Atherosclerosis



See textbook pages 688–690 for assistance in this assignment.

Chapter 29

I. Comprehension and Interpretation

Multiple-Choice

1. d (p. 717)
2. c (p. 717)
3. b (p. 717)
4. b (p. 717)
5. c (p. 719 [Figure 29–2])
6. d (p. 720)
7. b (p. 720)
8. c (p. 725)
9. c (p. 725)
10. b (p. 725)

Fill-In

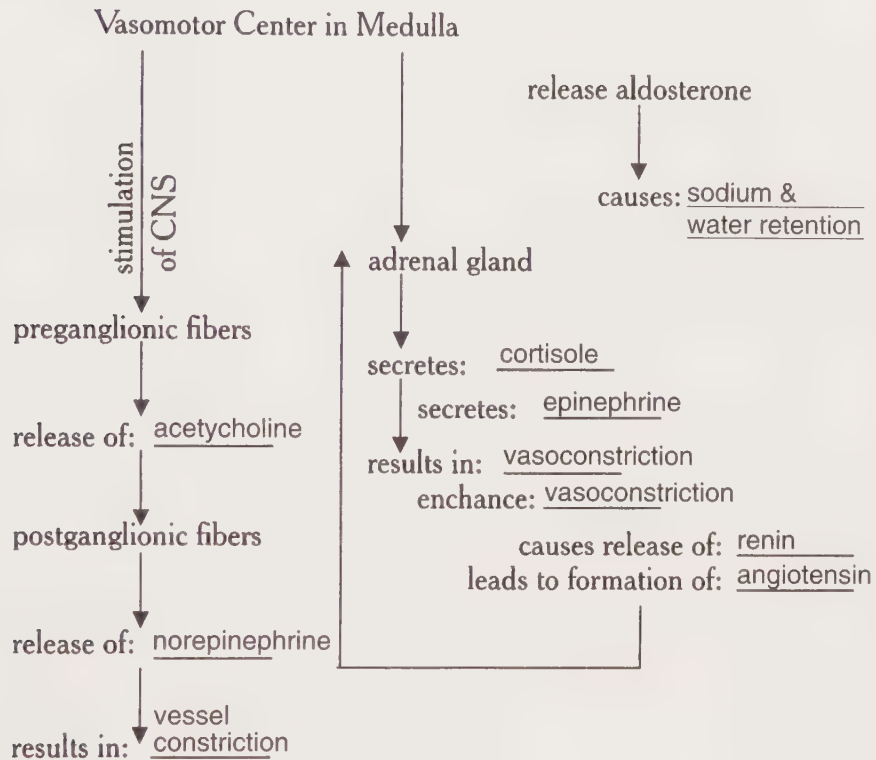
1. cardiac output; peripheral resistance (p. 716)
2. heart rate; stroke volume (p. 716)
3. 90% – 95% (p. 717)
4. heart, kidneys, brain and eyes (p. 718)

5. myocardial infarction, cardiac failure, renal failure, stroke, impaired vision, and left ventricular hypertrophy (p. 718)
6. accumulation of atherosclerotic plaques, fragmentation of arterial elastins, increased collagen deposits, and impaired vasodilation (p. 718)

II. Critical Thinking Activities

Identifying Patterns

Pathophysiology of Essential Hypertension



Generating Solutions: Clinical Problem Solving

CASE STUDY: Secondary Hypertension

Georgia's Situation

1. b
 2. d
 3. c
 4. d
- (pp. 717-719)

Chapter 30

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|--------------------|---------------------|----------------|
| 1. a (pp. 736–738) | 9. a (p. 740) | 17. d (p. 756) |
| 2. d (p. 739) | 10. b (pp. 741–742) | 18. b (p. 766) |
| 3. b (pp. 738–739) | 11. d (p. 747) | 19. c (p. 767) |
| 4. d (pp. 743–744) | 12. d (p. 746–747) | 20. c (p. 768) |
| 5. d (p. 744) | 13. d (p. 747) | 21. d (p. 770) |
| 6. c (pp. 738–742) | 14. d (p. 753) | 22. d (p. 772) |
| 7. a (p. 742) | 15. b (p. 755) | 23. b (p. 780) |
| 8. b (p. 744) | 16. d (p. 755) | 24. c (p. 780) |

Fill-In

5. (p. 729)
- bone marrow and the lymph nodes (p. 730)
- ribs, vertebrae, pelvis, and sternum (p. 730)
- transport of oxygen between the lungs and the tissues (p. 730)
- 15 (pp. 730–733)
- 120 (p. 733)
- protect the body from invasion by bacteria and other foreign entities (p. 733)
- sebumin and globulins (p. 734)
- the sternum and the iliac crest (p. 736)
- Primary polycythemia or polycythemia vera is a proliferative disorder in which all cells are nonresponsive to normal control mechanisms; secondary polycythemia is due to excessive production of erythropoietin. (pp. 753–754)

Scramblegram

F	I	B	R	I	N	O	G	E	N	A	N	O	E	L
B	D	H	E	M	O	S	T	A	S	I	S	P	R	M
F	R	S	S	C	M	P	R	H	S	G	T	H	Y	I
I	E	W	C	V	R	T	C	E	L	L	S	A	T	P
B	E	A	B	B	T	L	D	E	F	I	J	G	H	R
R	S	W	A	O	H	O	A	S	V	T	S	O	R	K
I	F	T	P	N	R	K	L	B	J	N	M	C	O	L
N	E	U	T	R	O	P	H	I	L	S	K	Y	C	B
F	W	O	D	C	M	F	N	K	G	H	A	T	Y	O
A	H	B	E	R	B	S	J	C	T	C	B	O	T	N
H	E	M	A	T	O	P	O	I	E	S	I	S	E	E
E	M	N	E	E	C	F	M	F	G	P	S	I	S	M
M	O	N	O	C	Y	T	E	S	P	L	A	S	M	A
O	S	C	G	D	T	K	L	A	I	E	L	K	A	R
G	T	O	A	H	E	E	I	J	B	E	B	A	J	R
L	A	G	P	E	S	F	R	M	C	N	U	L	B	O
O	S	G	T	I	J	D	S	A	N	M	M	S	L	W
B	I	H	E	O	A	G	H	H	D	O	I	I	T	L
I	S	D	A	U	O	U	L	M	E	S	N	P	U	M
N	A	S	E	L	Y	M	P	H	O	C	Y	T	E	S

Definition of Terms

- | | | |
|--------------------------|-----------------------------------|--|
| 1. plasma (p. 729) | 8. monocytes (p. 733) | 14. lymphocytes (p. 730
[Table 30-1]) |
| 2. thrombocytes (p. 729) | 9. fibrinogen (p. 734) | 15. erythrocyte (p. 729) |
| 3. neutrophils (p. 729) | 10. albumin (p. 734) | 16. RES (p. 729) |
| 4. hematopoiesis (729) | 11. spleen (p. 735) | 17. Hemostasis (p. 730) |
| 5. bone marrow (p. 730) | 12. hemostasis (p. 735) | 18. T cells (p. 733) |
| 6. hemoglobin (p. 730) | 13. fibrin (p. 735 [Figure 30-4]) | |
| 7. phagocytosis (p. 733) | | |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Hodgkin's Disease

Ian's Situation

- | | |
|------|-----------------|
| 1. a | } (pp. 763-764) |
| 2. b | |
| 3. c | |
| 4. d | |

CASE STUDY: Transfusion

Jerry's Situation

- 1. d
 - 2. b
 - 3. b
 - 4. b
- } (pp. 779–785)

Chapter 31

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|---------------------|--------------------------------------|
| 1. b (p. 792) | 8. c (p. 795) | 15. d (pp. 800–801) |
| 2. c (pp. 792–795 [Table 31–1]) | 9. b (pp. 795–796) | 16. c (pp. 801–802) |
| 3. a (p. 794) | 10. d (pp. 796–797) | 17. b (pp. 801–802
[Figure 31–7]) |
| 4. b (p. 794) | 11. a (p. 796) | 18. d (pp. 803–804) |
| 5. d (p. 795) | 12. a (p. 796) | 19. d (p. 804) |
| 6. b (p. 795) | 13. d (pp. 796–797) | 20. b (pp. 802–804) |
| 7. d (pp. 794–795 [Table 31–2]) | 14. b (pp. 799–800) | |

Matching

- 1. f
 - 2. a
 - 3. e
 - 4. c
 - 5. b
 - 6. d
- } (pp. 792–794 [Table 31–2])

Fill-In

1. a. low-residue diet 1–2 days prior to test
b. clear liquids the day before
c. a laxative the evening before
d. NPO after midnight
e. cleansing enema until returns are clear in the AM (p. 799)
2. a. NPO 8–12 hours before the procedure
b. no medications affecting gastric secretions 24–48 hours before test
c. no smoking in AM before test (pp. 799–800)
3. a. NPO 6–12 hours before the procedure
b. spraying or gargling with a local anesthetic
c. administering IV Versed before the scope is introduced (pp. 798–799)
4. a. liquids 24–72 hours before the examination
b. laxative 48 hours before procedure
c. laxatives until clear the AM of test
d. clear liquids 18–20 hours before test (pp. 801–803)
5. a. NPO 6–12 hours before test (pp. 803–804)

Chapter 32

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|---------------------|---------------------|
| 1. d (p. 809 [Table 32-1]) | 7. b (pp. 812-813) | 13. a (p. 824) |
| 2. b (p. 808 [Table 32-1]) | 8. b (pp. 812-813) | 14. a (pp. 826-827) |
| 3. a (pp. 808-809 [Table 32-1]) | 9. d (p. 813) | 15. a (p. 828) |
| 4. d (p. 810) | 10. b (p. 813) | 16. a (pp. 828-829) |
| 5. d (p. 810) | 11. a (pp. 813-814) | 17. a (pp. 829-831) |
| 6. b (p. 811) | 12. a (p. 824) | |

Matching

- | | |
|------|------------------------------|
| 1. f | } (pp. 808-809 [Table 32-1]) |
| 2. g | |
| 3. e | |
| 4. a | |
| 5. d | |
| 6. b | |
| 7. c | |
| 8. h | |

II. Critical Analysis Questions

Applying Concepts

1. local-regional metastasis (p. 817)
2. shoulder drop and poor cosmesis (visible neck depression) (p. 817)
3. pectoralis major (p. 817)
4. altered respiratory status, wound infection, and hemorrhage (p. 818)
5. hemorrhage and nerve injury (p. 818)
6. d (pp. 818-822 [NCP 32-1])
7. c (p. 819)
8. b (p. 819)
9. b (p. 822)
10. b (p. 823)

Generating Solutions: Clinical Problem Solving

CASE STUDY: Mandibular Fracture

William's Situation

1. The latest treatment for mandibular fractures involves the placement of metal plates and screws into the bone to approximate and stabilize the bone. The lower jaw is no longer wired to the upper jaw.
2. b
3. b
4. Nasogastric suctioning is needed to remove stomach contents, thereby reducing the danger of aspiration.
5. c
6. b
7. c
8. a wire cutter

(pp. 811–812)

Chapter 33

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|---------------------|--------------------------------------|
| 1. c (p. 835 [Figure 33–1]) | 7. a (p. 837) | 13. a (pp. 845–847) |
| 2. a (p. 835) | 8. a (pp. 838–839) | 14. b (p. 847) |
| 3. b (p. 836) | 9. b. (p. 839) | 15. b (p. 848 [Figure 33–8]) |
| 4. a (pp. 835–837 [Table 33–1]) | 10. c (p. 840) | 16. b (p. 849) |
| 5. d (p. 836) | 11. d (pp. 842–843) | 17. c (pp. 849–851) |
| 6. d (pp. 834–836 [Table 33–1]) | 12. d (pp. 842–843) | 18. d (pp. 852–853
[Table 33–5]) |

Matching

- | | |
|------|------------------------------|
| 1. g | } (pp. 834–837 [Table 33–1]) |
| 2. h | |
| 3. a | |
| 4. c | |
| 5. d | |
| 6. f | |
| 7. b | |
| 8. c | |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Cantor Tube

Martin's Situation

1. d
 2. d
 3. c
 4. d
 5. a
- } (pp. 836–840)

CASE STUDY: The Dumping Syndrome

Nancy's Situation

1. (a) zinc deficiency, (b) contaminated formula, (c) malnutrition, and (d) medication therapy
2. a. Cleocin
b. digitalis
c. Inderal
d. Lincocin (pp. 841–843 [Table 33–3])
e. theophylline
f. quinidine
3. a
4. d

Applying Concepts

1. a. Risk for impaired skin integrity at tube site
a. Risk for infection related to the presence of the wound and tube
b. Body image disturbance related to the presence of a tube
 2. a. wound infection
b. gastrointestinal bleeding
c. premature removal of tube
 3. leakage of fluid
 4. seepage of gastric acid and spillage of feedings
 5. 30–60 seconds
 6. gently apply pressure with the bulb top of the syringe or elevate the syringe so the tubing is less curved
 7. increasing the height increased the pressure of gravity which could result in too much force on the incisional area and the outlet
 8. An upright position facilitates digestion and decreases the risk for aspiration
- (pp. 847–849, Figure 33–8)

Chapter 34

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------|---------------------------------|----------------------------|
| 1. d (p. 858) | 3. b (pp. 861–863 [Table 34–1]) | 5. d (p. 861 [Table 34–1]) |
| 2. a (p. 860) | 4. d (pp. 860–862) | 6. c (pp. 860–861) |

- | | | |
|--|---------------------|---------------------|
| 7. d (pp. 860–861) | 11. a (pp. 865–866) | 15. b (p. 867) |
| 8. d (pp. 861–862) | 12. d (pp. 866–867) | 16. d (p. 868) |
| 9. c (pp. 862–864) | 13. d (pp. 866–867) | 17. c (pp. 871–873) |
| 10. a (pp. 864–865 [Table 34–3 and Figure 34–3]) | 14. d (p. 867) | 18. b (pp. 871–873) |

Fill-In

- Dilute and neutralize the corrosive acid by using common antacids such as milk and aluminum hydroxide. (p. 859)
- Patients with gastritis due to a vitamin deficiency exhibit antibodies against intrinsic factor, which interferes with vitamin B₁₂ absorption. (p. 859)
- Hypersecretion of acid pepsin and a weakened gastric mucosal barrier predispose to peptic ulcer development. (pp. 860–861)
- Helicobacter pylori* is the bacillus commonly associated with ulcer formation. (pp. 860–861)
- Answer may include hypersecretion of gastric juice, multiple duodenal ulcers, an increase in parietal cell mass, hypertrophied duodenal glands, and gastrinomas. (pp. 860–861)
- Stress ulcer refers to acute mucosal ulceration of the duodenal or gastric area that occurs after a stressful event. (pp. 861–862)
- Cushing's ulcers, which are common in patients with brain trauma, usually occur in the esophagus, stomach or duodenum. Curling's ulcers occur most frequently after extensive burns and usually involve the antrum of the stomach and duodenum. (p. 862)
- The objective of the ulcer diet is to avoid oversecretion and hypermotility in the gastrointestinal tract. Extremes of temperature should be avoided, as well as overstimulation by meat extractives, coffee, alcohol, and diets rich in milk and cream. Current therapy recommends three regular meals per day. (p. 864)
- Hemorrhage, perforation, and pyloric obstruction. (pp. 865–866)
- When peptic ulcer perforation occurs, the patient experiences severe upper abdominal pain, vomiting, collapse, and an extremely tender abdomen that can be boardlike in rigidity; signs of shock will be present. (pp. 866–867)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Extracting Inferences

Outline needs to include content found on pp. 861–862.

Chapter 35

I. Comprehension and Interpretation

Multiple-Choice

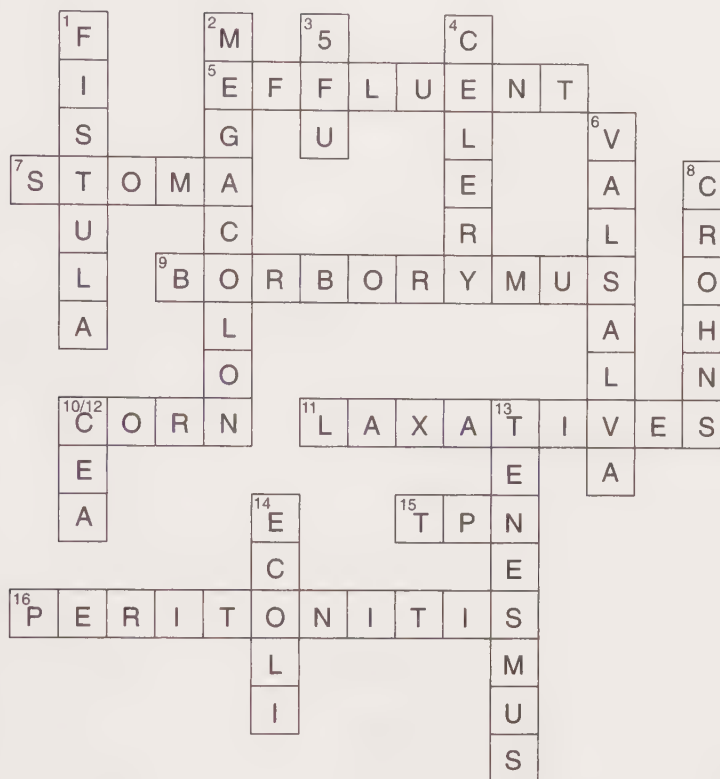
- | | | |
|--------------------|--------------------|-------------------|
| 1. d (p. 876) | 4. c (pp. 877–878) | 7. d (p. 884) |
| 2. b (p. 877) | 5. a (pp. 878–879) | 8. d (p. 884–885) |
| 3. c (pp. 877–878) | 6. b (pp. 882–884) | 9. a (p. 888) |

- 10. d (p. 888)
- 11. d (pp. 888–889)
- 12. d (p. 889)
- 13. a (pp. 890–891)
- 14. c (pp. 894–895)

- 15. c (pp. 897–898)
- 16. c (p. 903)
- 17. d (pp. 904–906)
- 18. b (pp. 909–911
[Guidelines 35–3])

- 19. c (pp. 909–911
[Guidelines 35–3])
- 20. b (pp. 909–911
[Guidelines 35–3])

Crossword Puzzle



Answers are found throughout chapter

II. Critical Analysis Questions

Recognizing Contradictions

1. Diarrhea refers to more than 3 bowel movements per day. (pp. 877–879)
2. Appendicitis, the most common cause of emergency abdominal surgery, occurs in about 7% of the population. (p. 882)
3. Perforation, the major complication of appendicitis occurs in 10% to 32% of cases. (p. 883)
4. The distal ileum and colon are the most common areas affected by Crohn's disease. (p. 888)
5. Change in bowel habits is the most common symptom of colon cancer. (p. 903)

Generating Solutions: Clinical Problem Solving

CASE STUDY: Appendicitis

Rory's Situation

1. c
 2. c
 3. d
 4. d
- } (pp. 881–884)

CASE STUDY: Peritonitis

Sharon's Situation

1. d
 2. a
 3. a
 4. a
- } (pp. 886–888)

Chapter 36

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|----------------------------------|-----------------------------------|
| 1. d (p. 920) | 10. a (pp. 931–942 [Chart 36–1]) | 19. d (pp. 948–951 [Figure 36–8]) |
| 2. c (pp. 920–921) | 11. b (pp. 940–942) | 20. c (pp. 948–951) |
| 3. d (p. 921) | 12. a (pp. 942–944) | 21. d (pp. 948–951) |
| 4. c (p. 922) | 13. d (pp. 942–944) | 22. b (pp. 948–951) |
| 5. b (p. 922) | 14. d (p. 945) | 23. d (p. 958) |
| 6. d (p. 924) | 15. d (pp. 945–946) | 24. d (pp. 962–963) |
| 7. d (pp. 924; 933–934) | 16. d (pp. 947–948) | 25. a (pp. 962–964) |
| 8. b (p. 935) | 17. d (p. 947) | |
| 9. a (pp. 939–942 [Chart 36–1]) | 18. d (pp. 947–948) | |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Liver Biopsy

Veronica's Situation

1. d
 2. b
 3. c
 4. b
 5. d
- } (p. 926 and Guideline 36–1)

CASE STUDY: Paracentesis

Wendy's Situation

1. c
 2. d
 3. a
- } (pp. 935–936 and Guideline 36–2)

CASE STUDY: Alcoholic or Nutritional Cirrhosis

Nathan's Situation

1. c
 2. d
 3. c (1 kg = 2.2 lb)
 4. c (normal protein intake is 0.8 to 1 g/kg)
 5. c (normal sodium intake is 3 to 6 g/24 hr without ascites; sodium restriction is minimal rather than severe)
- } (pp. 925, 946–951 and Table 36–1)

CASE STUDY: Liver Transplant

Denise's Situation

1. d
 2. d
 3. c
 4. a
- } (pp. 959–961)

CASE STUDY: Cholecystectomy

Brenda's Preoperative Situation

1. d
2. b
3. d

Brenda's Postoperative Situation

1. a
2. d
3. c

(pp. 966–970)

Chapter 37

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---------------------------------|--|-----------------------------|
| 1. c (pp. 974–977 [Table 37–1]) | 7. d (pp. 977–979) | 12. d (pp. 984–985) |
| 2. c (p. 974) | 8. c (pp. 970–978 [Table 37–1]) | 13. d (pp. 985–986) |
| 3. d (p. 977) | 9. c (p. 979) | 14. a (p. 987 [Table 37–3]) |
| 4. d (p. 977) | 10. a (p. 979) | 15. c (p. 987 [Table 37–3]) |
| 5. a (p. 979) | 11. a (pp. 980–982, use 15 to 20 kcal/kg for IBW) | 16. d (pp. 992–993) |
| 6. d (p. 979) | | 17. d (p. 993) |

- 18. d (p. 995)
- 19. a (pp. 998–1000)
- 20. c (pp. 998–1000 [Chart 37–3])
- 21. a (pp. 1002–1003)
- 22. b (pp. 1002–1006)
- 23. d (pp. 1006–1007)

- 24. d (p. 1011)
- 25. d (pp. 1011–1012)
- 26. d (pp. 1012–1014)
- 27. d (pp. 1012–1014
[Table 37–9])
- 28. c (pp. 1012–1014
[Table 37–9])

- 29. d (pp. 1015–1017)
- 30. d (pp. 1015–1017)
- 31. d (pp. 1017–1018)
- 32. c (pp. 1018–1019)

Fill-In

- 1. 2
 - 2. 2
 - 3. 1
 - 4. 1
 - 5. 1
 - 6. 2
 - 7. 1
 - 8. 2
 - 9. 2
 - 10. 1
- } (pp. 974–978 [Table 37–1])

Matching

- 1. c
 - 2. a
 - 3. b
 - 4. e
 - 5. d
- } (pp. 977–980; 1012–1015)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Type 1 Diabetes

Albert's Situation

- 1. b
 - 2. c
 - 3. b
- } (pp. 980–982)

CASE STUDY: Hypoglycemia

Betty's Situation

- 1. a
 - 2. d
 - 3. d
 - 4. d
- } (pp. 977–979; 1009–1010)

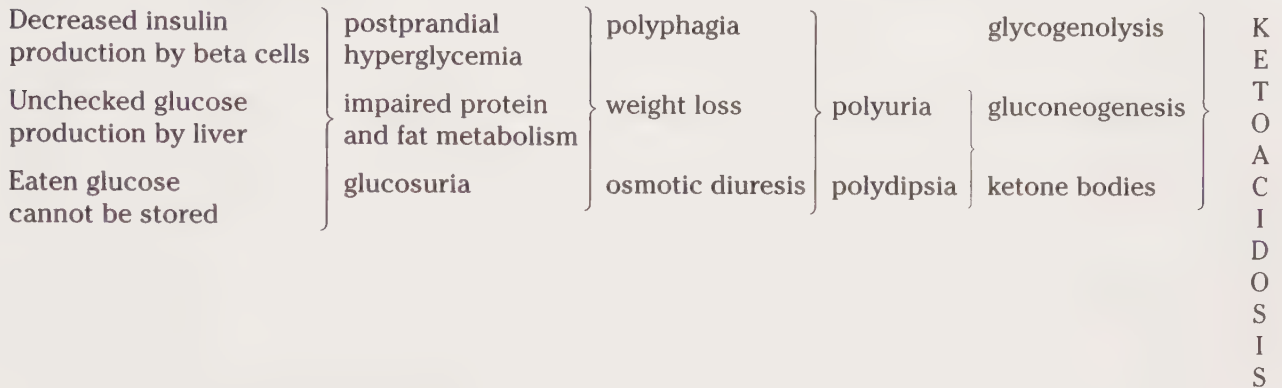
CASE STUDY: Diabetic Ketoacidosis

Christine's Situation

1. d
 2. a
 3. d
 4. a
 5. b
 6. d
- } (pp. 1004–1007)

Identifying Patterns

Illustrate in diagram format the pathophysiologic sequence of changes that occur with type I diabetes. (pp. 977–979)



Applying Concepts

1. Sensory neuropathy causes loss of sensation to pain and pressure; autonomic neuropathy causes an increase in skin dryness and the formation of skin fissures; and motor neuropathy results in muscular atrophy.
2. 50%
3. Inadequate and compromised lower extremity circulation interferes with the ability to get nutrients to the wound to promote healing and prevent the development of gangrene.
4. Hyperglycemia impairs the ability of specialized leukocytes to destroy bacteria thus lowering the resistance to infection.
5. Soft-tissue injury; formation of a fissure, and formation of a callus
6. 1. bathe, dry, and lubricate the feet. 2. Inspect both feet. 3. Look for fissures on dry skin or between the toes. 4. Report any redness, swelling, or drainage. 5. Wear well-fitting, closed-toe shoes.
7. Peripheral vascular disease may prevent oxygen, nutrients, and antibiotics from reaching the injured tissue. (pp. 1015–1017)

Chapter 38

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------|-----------------------|---------------------------------------|
| 1. a (p. 1041) | 10. c (p. 1053) | 19. a (pp. 1065–1066
[Table 38–5]) |
| 2. d (p. 1041) | 11. d (pp. 1054–1055) | 20. a (pp. 1067–1068) |
| 3. b (pp. 1044–1046) | 12. d (p. 1054) | 21. a (pp. 1067–1068) |
| 4. b (pp. 1044–1046) | 13. a (p. 1055) | 22. d (p. 1069) |
| 5. a (pp. 1046) | 14. d (p. 1055) | 23. d (pp. 1075–1076) |
| 6. d (p. 1046) | 15. c (pp. 1058–1059) | 24. d (p. 1077) |
| 7. d (p. 1046) | 16. d (pp. 1060–1061) | 25. a (p. 1078) |
| 8. a (pp. 1052–1053) | 17. d (pp. 1060–1061) | |
| 9. d (p. 1053) | 18. a (p. 1065) | |

Matching

- | | |
|-------|--------------------------------|
| 1. h | } (pp. 1028–1031 [Table 38–1]) |
| 2. g | |
| 3. i | |
| 4. d | |
| 5. a | |
| 6. c | |
| 7. f | |
| 8. e | |
| 9. j | |
| 10. b | |

Fill-In

- | | |
|---|------------------------------------|
| 1. vasopressin and oxytocin (p. 1031) | 5. Grave's disease (p. 1041) |
| 2. Cushing's disease (p. 1031) | 6. Trousseau or Chvostek (p. 1064) |
| 3. Diabetes Insipidus (p. 1033) | |
| 4. Thyroxine, triiodothyronine,
and calcitonin (pp. 1034–1035) | |

Unscrambled Words

- | | |
|--|---------------------------|
| 1. Pituitary (p. 1031) | 4. Iodine (pp. 1034–1035) |
| 2. Somatotropin (p. 1031) | 5. Exophthalmos (p. 1041) |
| 3. SIADH (syndrome of inappropriate
antidiuretic hormone) (p. 1034) | 6. Tetany (p. 1054) |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Primary Hypothyroidism

Connie's Situation

1. d
 2. d
 3. b
 4. d
 5. b
- } (pp. 1038–1044 [NCP 38–1])

CASE STUDY: Subtotal Thyroidectomy

Darrell's Situation

1. d
 2. d
 3. d
 4. a
 5. b
 6. a
- } (pp. 1045–1046)

Chapter 39

I. Comprehension and Interpretation

Multiple-Choice

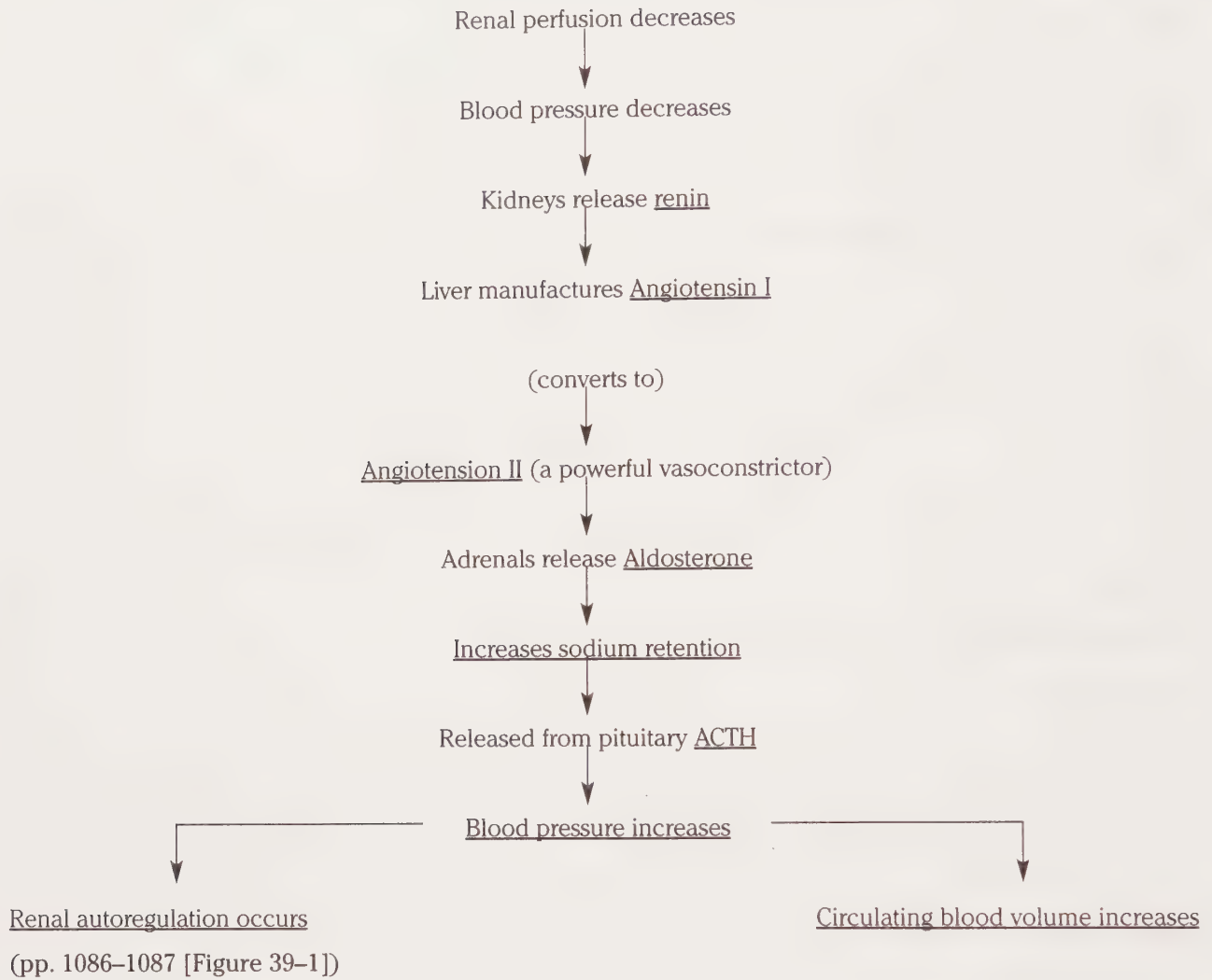
- | | | |
|------------------------------------|------------------------------------|-----------------------|
| 1. b (p. 1086) | 6. b (p. 1089) | 11. b (pp. 1094–1095) |
| 2. b (pp. 1085–1086 [Figure 39–3]) | 7. c (pp. 1089–1092 [Table 39–2]) | 12. d (p. 1096) |
| 3. c (pp. 1086–1087 [Figure 39–3]) | 8. a (pp. 1089–1092 [Table 39–2]) | 13. d (pp. 1096–1097) |
| 4. a (p. 1088) | 9. d (p. 1092) | 14. d (pp. 1096–1097) |
| 5. d (pp. 1088–1089) | 10. a (pp. 1093–1094 [Table 39–4]) | |

Fill-In

1. nephron (p. 1084)
2. 300 mOsm/kg and 1100 mOsm/kg (p. 1088)
3. creatine clearance (p. 1089)
4. the antidiuretic hormone (ADH) (pp. 1087–1088)
5. the loss of the ability of the kidney to concentrate and dilute urine (pp. 1087–1089)

II. Critical Analysis Questions

Identifying Patterns



Chapter 40

I. Comprehension and Interpretation

Multiple-Choice

1. d (p. 1102)
2. b (p. 1105)
3. d (p. 1107)
4. b (p. 1108)
5. b (p. 1107)
6. d (p. 1108)
7. d (p. 1108)
8. c (pp. 1108–1109)
9. c (pp. 1110–1111)
10. d (p. 1112)
11. d (pp. 1115–1116)
12. b (p. 1119)
13. d (p. 120)
14. b (pp. 1120–1121
[1 liter = 1 kg = 2.2 lbs])
15. b (p. 1125)
16. d (pp. 1126–1127)

Matching

- | | | |
|-------|---|-----------------------------|
| 1. a | } | (pp. 1102–1103, Table 40–1) |
| 2. b | | |
| 3. c | | |
| 4. e | | |
| 5. d | | |
| 6. j | | |
| 7. h | | |
| 8. f | | |
| 9. g | | |
| 10. i | | |

Fill-In

- allow drainage in patients with neurogenic bladder dysfunction
 - to bypass an obstruction that blocks urine flow
 - to provide postoperative drainage following urologic and other surgeries
 - to monitor hourly urinary output in critically ill patients (p. 1108)
- Escherichia coli, Klebsiella, Proteus, Pseudomonas, Enterobacteriaceae, Serratia, and Candida (p. 1108)
- Signs and symptoms seen in catheter-induced urinary tract infections may include cloudy urine, hematuria, fever, chills, anorexia, and malaise. (pp. 1108–1109)
- Arteriosclerotic cardiovascular disease is the leading cause of death. (pp. 1112–1113)
- Answer may include: hypotension, air embolism, chest pain, dysrhythmias, pruritus, dialysis disequilibrium, painful muscle cramping, nausea, vomiting, and exsanguination. (pp. 1114–1115)
- Peritonitis is the most common and most serious complication of CAPD. (p. 1121)
- Abdominal distention and paralytic ileus are common complications of renal surgery. (p. 1125)

II. Critical Analysis Questions

Recognizing Contradictions

- About 13 million adults in the United States suffer from urinary incontinence. (p. 1104)
- Greater than 50% of nursing home residents suffer from urinary incontinence. (pp. 1104–1105)
- Almost 50% of patients with a closed drainage system will experience bacteriuria within a 2-week period. (p. 1108)
- Hemodialysis does not cure or reverse renal disease; it prevents death. (p. 1112)
- CAPD is done on an ongoing, 24-hour schedule, usually in the patient's home. (pp. 1122–1123)

Generating Solutions: Clinical Problem Solving

CASE STUDY: CAPD

Edward's Situation

- | | | |
|------|---|-----------------|
| 1. d | } | (pp. 1122–1124) |
| 2. a | | |
| 3. a | | |
| 4. d | | |
| 5. c | | |

Chapter 41

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-----------------------|-----------------------|---|
| 1. a (p. 1136) | 12. d (pp. 1147–1148) | 22. a (pp. 1163–1166) |
| 2. d (pp. 1136–1137) | 13. a (pp. 1148–1149) | 23. d (pp. 1163–1164) |
| 3. b (p. 1137) | 14. b (p. 1150) | 24. b (pp. 1169–1170) |
| 4. d (pp. 1138–1139) | 15. d (pp. 1151–1152) | 25. c (pp. 1169–1170) |
| 5. d (p. 1142) | 16. d (p. 1154) | 26. b (p. 1171) |
| 6. d (p. 1143) | 17. a (p. 1153) | 27. a (p. 1171) |
| 7. b (p. 1143) | 18. a (p. 1154) | 28. d (pp. 1172–1174
[Figure 41–10]) |
| 8. b (p. 1143) | 19. d (pp. 1155–1160) | 29. c (p. 1183) |
| 9. a (p. 1144) | 20. d (pp. 1160–1162) | 30. d (pp. 1184–1185) |
| 10. c (p. 1145) | 21. d (p. 1163) | |
| 11. c (pp. 1146–1147) | | |

Fill-In

1. *Escherichia coli* (80% frequency). (pp. 1136–1137)
2. Cystitis, from an uncomplicated lower UTI, is usually associated with feelings of urgency, burning, and pain on urination, nocturia, incontinence, pelvic pain, and sometimes hematuria and back pain. (pp. 1137–1138)
3. chills, fever, lower back or flank pain, costovertebral angle (CVA) tenderness, bacteriuria, pyuria, and leukocytosis (p. 1142)
4. The urine in the early stages of acute glomerulonephritis is characteristically cola-colored. (p. 1143)
5. proteinuria
hypoalbuminemia
edema
hypercholesterolemia } (p. 1145)
6. Prerenal conditions: hemorrhage and sepsis
Intrarenal conditions: crush injuries and infections
Postrenal conditions: obstruction distal to kidney(s) } (pp. 1146–1149)
7. Clinical manifestations seen in chronic renal failure include lethargy, headache, muscle twitching, seizures, nausea, vomiting, and diarrhea. There is also dehydration and the odor of urine on the breath. (p. 1148)
8. Threatened graft rejection is suspected in a patient who evidences oliguria, edema, fever, apprehension, increased blood pressure, weight gain, and swelling or tenderness over the graft or kidney. (pp. 1160–1161)
9. Urinary tract stones are formed by calcium oxalate, calcium phosphate, and uric acid. (p. 1162)
10. (1) wound infection (2) wound dehiscence (3) urinary leakage (4) ureteral obstruction (5) hyperchloremic acidosis (6) small-bowel obstruction and ileus and (7) stomal gangrene (pp. 1172–1173)

II. Critical Analysis Questions

Recognizing Contradictions

1. The majority of nosocomial infections in the hospital are caused by instrumentation of the urinary tract or catheterization (p. 1136)

2. Urethrovesical reflux refers to the backward flow of urine from the urethra into the bladder (p. 1137)
3. Today, two diagnostic studies, computerized tomography (CT) and ultrasonography are the preferred methods for diagnosing UTI (p. 1138)
4. Glomerulonephritis is primarily a disease of children usually older than 2 years of age (p. 1143)
5. Hyperkalemia, secondary to decreased glomerular filtration and oliguria, is the most immediate life-threatening imbalance in acute renal failure (p. 1148)
6. Hematuria is the most common manifestation of renal trauma (pp. 1167–1169)

Generating Solutions: Clinical Problem Solving

CASE STUDY: Acute Renal Failure

Fran's Situation

- | | | |
|--|---|-----------------|
| <ol style="list-style-type: none"> 1. c 2. d 3. b 4. b 5. b 6. d | } | (pp. 1147–1151) |
|--|---|-----------------|

Chapter 42

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-----------------------------------|------------------------------------|-----------------------|
| 1. a (pp. 1195–1196) | 6. b (pp. 1207–1209 [Chart 42–2]) | 11. b (pp. 1212–1213) |
| 2. a (pp. 1199–1202 [Table 42–3]) | 7. a (pp. 1208–1210) | 12. c (pp. 1214–1215) |
| 3. c (p. 1202 [Table 42–3]) | 8. a (p. 1209) | 13. d (p. 1217) |
| 4. d (pp. 1202–1203) | 9. c (p. 1210) | 14. c (pp. 1219–1220) |
| 5. c (pp. 1203–1204) | 10. a (pp. 1207–1209 [Chart 42–2]) | 15. b (pp. 1219–1221) |

Fill-In

1. 45 to 52, with a median age of 51 years (p. 1195)
2. irregular or excessive vaginal bleeding, abnormal discharge, bleeding after menopause, painful intercourse (dysparenia), bleeding after intercourse, urinary disturbances, and painful menstruation (pp. 1195–1197)
3. endometrial biopsy (pp. 1202–1203)
4. Answer may include headache, fatigue, low back pain, engorged or painful breasts, abdominal fullness, mood swings, general irritability, fear of loss of control, binge eating, crying spells. (pp. 1207–1208)
5. The pill blocks the stimulation of the ovary by preventing the release of follicle-stimulating hormone (FSH) from the anterior pituitary. (pp. 1211–1212)
6. Risk factors would include a history of thromboembolic disorders, cerebrovascular disease, breast cancer, pregnancy, liver tumors, congenital hyperlipidemia, and abnormal vaginal bleeding (p. 1212)
7. Depo-Provera, a long-acting progestin that is injected IM, effectively inhibits ovulation for 3 months. (p. 1213)
8. An emergency dose of estrogen or estrogen and progesterone, properly timed, can prevent pregnancy by inhibiting or delaying ovulation. (p. 1215)

9. A highly hygroscopic seaweed tent is placed into the cervix; it swells to four to five times its original size and dilates the cervix. (pp. 1217–1218)
10. ovarian, tubal, cervical, uterine, and seminal conditions can cause infertility (pp. 1217–1218)
11. For in vitro fertilization, at an appropriate time, the egg is recovered by transvaginal ultrasound retrieval. Sperm and egg are coincubated for up to 36 hours so that fertilization can occur. Forty-eight hours after retrieval, the embryo is transferred to the uterine cavity by means of a transcervical catheter. Implantation should occur in 3 to 5 days. (p. 1219)

II. Critical Analysis Questions

Recognizing Contradictions

1. Nurses conducting a health assessment need to know that more than 20% of women are incest survivors. (p. 1196)
2. Women born to mothers who took DES during their pregnancy have a higher than average chance of developing cancer of the cervix. (p. 1198)
3. A biopsy excision of an inverted cone of tissue is done when a Pap smear is “suspicious.” The patient must be anesthetized for this procedure. (pp. 1202–1203)
4. Magnetic resonance imaging uses a magnetized field to produce an image. Radiation is not necessary. (p. 1204)
5. Progesterone is the most important hormone for preparing the endometrium for the fertilized ovum. (pp. 1194–1195 [Table 42–1])
6. Painful cramps result from an excessive production of prostaglandins. (p. 1209)
7. More than 3 million yearly pregnancies in the United States are unintended and one-third of these occur in teenagers. (p. 1210)
8. Mifepristone (RU-486) is a recently approved drug used for elective abortions (p. 1217 [Chart 42–4]).

Extracting Inferences

1. A fertilized ovum implants in tissue other than the uterine area.
 2. Possible causes may be salpingitis, peritubal adhesions, structural abnormalities of the fallopian tube, previous ectopic pregnancy or tubal surgery, the presence of an IUD, and multiple previous abortions.
 3. Abdominal tenderness, sharp, colicky pain, some bleeding, gastrointestinal symptoms, and abnormal bleeding.
 4. The tube can be resected (salpingostomy) or removed (salpingectomy) along with an ovary (salpingo-oophorectomy).
 5. Determine whether any tissue remained.
 6. The second leading cause of maternal death in the U.S.
- (pp. 1219–1222 [Figure 42–9])

Chapter 43

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-----------------------------------|----------------------|----------------------|
| 1. d (pp. 1227–1228 [Table 43–1]) | 4. c (pp. 1231–1234) | 7. b (pp. 1242–1243) |
| 2. d (pp. 1227–1228 [Table 43–1]) | 5. a (p. 1234) | 8. c (pp. 1242–1243) |
| 3. d (pp. 1228–1230) | 6. a (pp. 1238–1240) | 9. d (p. 1242) |

- 10. d (p. 1243)
- 11. c (p. 1243)
- 12. d (p. 1243)
- 13. b (pp. 1243–1246 [Table 43–2])
- 14. b (p. 1243)

- 15. d (p. 1247)
- 16. c (p. 1247)
- 17. d (pp. 1247–1248)
- 18. d (pp. 1248–1249)
- 19. d (p. 1249)

- 20. a (pp. 1250–1251)
- 21. c (pp. 1250–1251 [Table 43–3])
- 22. b (pp. 1254–1256)

Scramblegram

A	E	E	T	D	A	C	Y	C	L	O	V	I	R
H	L	B	K	E	M	O	M	C	M	U	R	S	C
C	E	D	H	R	A	L	I	T	L	K	L	P	H
V	C	P	A	M	D	E	C	V	Y	L	M	R	A
P	O	A	L	O	N	G	O	S	G	B	E	O	D
B	T	P	U	I	M	D	S	C	A	R	N	L	S
Y	S	S	T	D	Y	L	T	N	L	I	O	A	M
M	Y	M	S	N	M	F	A	B	F	L	R	P	Y
O	C	E	I	R	A	C	T	G	O	T	R	S	T
T	R	A	F	O	S	F	I	Y	E	B	H	E	I
C	E	R	T	S	C	I	N	O	J	K	A	L	R
E	W	D	R	B	D	B	E	P	I	S	G	C	A
R	B	G	B	F	C	R	A	R	M	D	I	B	P
E	R	C	L	M	D	O	I	O	E	S	A	N	I
T	D	S	E	P	T	I	C	S	H	O	C	K	L
S	H	E	R	M	H	D	R	J	R	A	T	H	L
Y	B	A	G	A	C	S	Y	A	T	B	O	L	U
H	B	H	M	D	M	T	P	C	K	T	I	D	N

- 1. vulvodynia (p. 1226)
- 7. Pap smear (p. 1243)
- 12. HRT (p. 1247)
- 2. Micostatin (p. 1227)
- 8. Hysterectomy (p. 1247 [Chart 43–2])
- 13. Kegal (p. 1238)
- 3. Flagyl (p. 1228)
- 9. menorrhagia (p. 1250)
- 14. fistula (pp. 1237–1238)
- 4. acyclovir (p. 1231)
- 10. fibroids (pp. 1241–1242)
- 15. prolapse (pp. 1238–1239)
- 5. septic shock (p. 1233)
- 11. DES (p. 1250)
- 16. dermoid (p. 1241)
- 6. cystocele (p. 1237)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Vaginal Discharge

Maryanne's Situation

- 1. a
 - 2. b
 - 3. c
 - 4. a
 - 5. a
- (pp. 1226–1230 [Table 43–1])

CASE STUDY: Toxic Shock Syndrome

Irene's Situation

1. c
 2. a
 3. b
 4. d
 5. c
- (pp. 1232–1234)

Chapter 44

I. Comprehension and Interpretation

Multiple-Choice

1. b (p. 1263)
2. b (p. 1263)
3. a (p. 1264)
4. a (p. 1264)
5. c (p. 1264)
6. b (p. 1269)
7. d (p. 1267)
8. a (p. 1269)
9. d (p. 1269)
10. c (pp. 1270–1272)
11. d (pp. 1270–1272)
12. c (p. 1272)
13. d (p. 1272)
14. b (pp. 1272–1274 [Figure 44–4 and Tables 44–2 and 44–3])
15. b (pp. 1272–1274)
16. b (pp. 1272–1274)
17. b (pp. 1272–1274)
18. c (p. 1274 [Table 44–4])
19. b (pp. 1274–1275)
20. d (pp. 1277–1279)
21. c (pp. 1275–1276)
22. a (p. 1283)
23. d (pp. 1285–1286)
24. c (p. 1292)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Simple Mastectomy

Louise's Preoperative Situation

1. c
 2. d
 3. b
 4. c
- (pp. 1270–1275;1281–1282)

Louise's Postoperative Situation

1. b
 2. c
 3. a
- (pp. 1282–1287)

Identifying Patterns

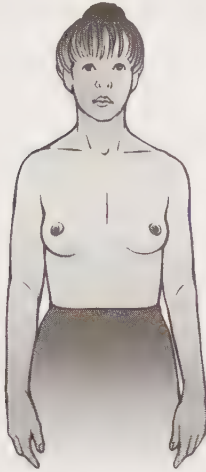


Figure 1/Step 1: Stand before a mirror. Check both breasts for anything unusual. Look for a discharge from the nipples, puckering, dimpling, or scaling of the skin.



Figure 2/Step 2: Watch closely in the mirror as you clasp your hands behind your head and press your hands forward. Note any change in the contour of your breasts.



Figure 3/Step 3: Next, press your hands firmly on your hips and bow slightly toward the mirror as you pull your shoulders and elbows forward. Note any change in the contour of your breasts.

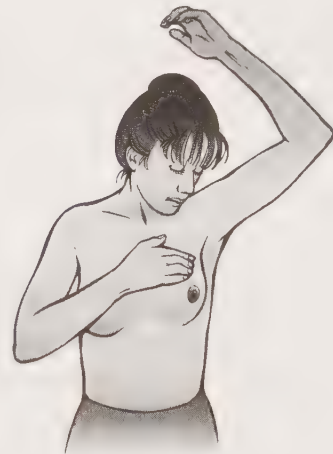


Figure 4/Step 4: Raise your left arm. Use 3 or 4 fingers of your right hand to feel your left breast firmly, carefully, and thoroughly. Beginning at the outer edge, press the flat part of your fingers in small circles, moving the circles slowly around the breast. Gradually work toward the nipple. Be sure to cover the whole breast. Pay special attention to the area between the breast and the underarm, including the underarm area itself. Feel for any unusual lump or mass under the skin. If you have any spontaneous discharge during the month—whether or not it is during your BSE—see your doctor. Repeat the examination on your right breast.



Figure 5/Step 5: Step 4 should be repeated lying down. Lie flat on your back, with your left arm over your head and a pillow or folded towel under your left shoulder. This position flattens the breast and makes it easier to check. Use the same circular motion described above. Repeat on your right breast. (pp. 1263–1266)

Chapter 45

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------|-----------------------------------|-----------------------|
| 1. b (pp. 1304–1305) | 7. d (pp. 1313–1314 [Table 45–3]) | 13. b (pp. 1319) |
| 2. d (p. 1305) | 8. a (pp. 1313–1314 [Table 45–3]) | 14. c (pp. 1319–1321) |
| 3. b (p. 1306) | 9. c (pp. 1313–1314 [Table 45–3]) | 15. b (p. 1321) |
| 4. a (pp. 1306–1307) | 10. b (p. 1315) | 16. a (p. 1322) |
| 5. d (p. 1307) | 11. a (p. 1316) | 17. c (p. 1322) |
| 6. c (p. 1307) | 12. d (pp. 1317–1318) | |

Fill-In

- Prostate-specific antigen (PSA) and Digital rectal examination (DRE) (p. 1300)
- Answer should include four of these six medications: antipsychotics, anticholinergics, antiadrenergics, thiazide diuretics, and tricyclic antidepressants (p. 1301)
- burning, urgency, perineal discomfort, frequency, and pain with or after ejaculation (pp. 1304–1305)
- frequency of urination, nocturia, urgency and a sensation that the bladder has not emptied completely, abdominal straining, and a decrease in the volume and force of the urinary stream, and recurring urinary tract infections (p. 1305)
- diethylstilbestrol (p. 1308)
- Heparin is given prophylactically because there is a high incidence of deep vein thrombosis and pulmonary embolism postprostatectomy (p. 1316)
- Epididymitis is an infection of the epididymis that usually descends from an infected prostate or urinary tract. It passes upward through the urethra and ejaculatory duct and along the vas deferens to the epididymis (pp. 1318–1319)
- Priapism is an uncontrolled, persistent erection of the penis that causes the penis to become large, hard, and often painful (p. 1322)

Chapter 46

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------------------------|------------------------------------|------------------------------------|
| 1. d (p. 1330) | 6. d (pp. 1333–1335 [Figure 46–4]) | 10. d (pp. 1335–1336 [Table 48–2]) |
| 2. d (p. 1331) | 7. a (p. 1333 [Chart 46–1]) | 11. c (p. 1337) |
| 3. c (p. 1332) | 8. c (p. 1335) | 12. d (pp. 1336–1337) |
| 4. b (pp. 1333–1334) | 9. b (pp. 1335–1336 [Figure 46–6]) | |
| 5. b (pp. 1333–1335 [Figure 46–4]) | | |

Fill-In

- Disorders arise from excesses or deficiencies of immunocompetent cells, alterations in cellular functioning, immunologic attack on self-antigens, and inappropriate or exaggerated responses to specific antigens. (p. 1331 [Table 46–1])
- Natural immunity, which is nonspecific, is present at birth. Acquired immunity is more specific and develops throughout life. Passive acquired immunity is a temporary immunity transmitted from another source that has developed immunity through previous disease or immunization. (pp. 1331–1333)
- Complement is a term used to describe circulating plasma proteins that are made in the liver and activated when an antibody couples with an antigen. (pp. 1336–1337)
- Biologic response modifiers (BMRs) suppress antibody production and cellular immunity. (pp. 1331–1335)
- Trace elements include: copper, iron, manganese, selenium, and zinc. (p. 1338)

Matching

Immunoglobulins

- | | |
|------|-------------|
| 1. c | } (p. 1335) |
| 2. e | |
| 3. c | |
| 4. d | |
| 5. a | |
| 6. b | |
| 7. a | |

Medications

- | | |
|------|--------------------------------|
| 1. d | } (pp. 1339–1340 [Table 46–4]) |
| 2. b | |
| 3. a | |
| 4. c | |
| 5. b | |
| 6. a | |
| 7. e | |

Chapter 47

I. Comprehension and Interpretation

Multiple-Choice

1. d (p. 1342)
2. d (p. 1342)
3. d (p. 1343)
4. b (pp. 1344–1345)
5. d (p. 1346)
6. c (p. 1346)
7. a (p. 1346)
8. b (pp. 1345–1347)
9. b (pp. 1345–1347)
10. d (pp. 1345–1347)

II. Critical Analysis Questions

Identifying Patterns

1. phagocytic dysfunction (p. 1343)
2. B-cell deficiency, probably CVID (pp. 1343–1344)
3. Tcell deficiency (pp. 1345–1346)
4. ataxia-telangiectasia (p. 1346)
5. a secondary immunodeficiency (pp. 1346–1348)

Chapter 48

I. Comprehension and Interpretation

Multiple-Choice

1. b (p. 1350)
2. b (p. 1350)
3. d (p. 1350)
4. c (p. 1350)
5. d (pp. 1351–1352)
6. d (p. 1354)
7. c (p. 1355)
8. c (p. 1355)
9. b (p. 1355)
10. b (pp. 1355–1356)
11. d (pp. 1357–1359 [Table 48–2])
12. a (p. 1348)

Fill-In

1. Reverse transcriptase inhibitors, zidovudine (AZT) and lamivudine (Epivir, 3TC) (p. 1352)
2. Within hours of exposure; 72 (p. 1352)
3. Pneumocystis carinii pneumonia (p. 1354)
4. 80% (p. 1356)
5. protease inhibitor and two non-nucleoside reverse transcriptase inhibitors (pp. 1361–1363 [Table 48–3]).

Matching

1. c
2. b
3. c
4. a
5. c
6. b
7. a
8. c

(pp. 1357–1358 [Table 48–1])

II. Critical Analysis Questions

Recognizing Contradictions

1. The HIV virus carries its genetic material in RNA. (p. 1350)
2. There is a substantial increase in AIDS in the heterosexual population. (pp. 1350–1353)
3. The incidence of HIV for healthcare workers is less than 1%. (p. 1352)
4. There is no information that vaccination against HIV is possible. (p. 1360)
5. Trimethoprim-sulfamethoxazole (TMP/SMZ) is the drug of choice for Pneumocystis carinii pneumonia. (p. 1364)
6. The most effective chemotherapy regimen is a combination of doxorubicin (Adriamycin), bleomycin, and vincristine. (p. 1365)

Generating Solutions: Clinical Problem Solving

CASE STUDY: AIDS

Brenden's Situation

1. risky sexual practices and intravenous drug use
2. c
3. c
4. answer may include opportunistic infections, impaired breathing or respiratory failure, wasting syndrome, fluid and electrolyte imbalance, and untoward reaction to medications.
5. d
6. d

(pp. 1366–1378 [NCP 48–1])

Chapter 49

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------|-----------------------|--|
| 1. d (p. 1382) | 7. d (p. 1391) | 13. c (pp. 1390–1392;
a minimum of 0.1 mg/kg
is recommended) |
| 2. d (p. 1384) | 8. a (pp. 1392–1393) | 14. c (pp. 1399–1400) |
| 3. a (p. 1385) | 9. b (pp. 1392–1393) | |
| 4. b (p. 1386) | 10. d (p. 1393) | |
| 5. d (pp. 1387–1389) | 11. d (pp. 1393–1395) | |
| 6. d (p. 1390) | 12. b (p. 1395) | |

Fill-In

1. an inappropriate or exaggerated antigen and antibody interaction/response that causes tissue injury (p. 1383)
2. 1. Neutralizing toxins and viruses. 2. Precipitations and agglutination. 3. Lysis of bacteria and other foreign material (p. 1383)
3. the pain and fever seen with inflammatory responses (p. 1384)
4. systemic lupus erythematosus, rheumatoid arthritis, serum sickness, certain types of nephritis, and some types of bacterial endocarditis (pp. 1385–1387 [Figure 49–2]).
5. Contact dermatitis and latex allergy (pp. 1386–1387 [Figure 49–2])
6. Avoidance of latex products (pp. 1401–1402)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Allergic Rhinitis

Chris' Situation

1. Potential ineffective breathing patterns, related to an allergic reaction; knowledge deficit about allergy and recommended modifications in lifestyle; and impaired adjustment, related to chronicity of condition and need for environmental modifications
2. Restorations of a normal breathing pattern, knowledge about the causes and control of allergic symptoms, adjustment to alternations and modifications, and absence of complications

- | | | |
|------|---|-----------------|
| 3. d | } | (pp. 1492–1398) |
| 4. d | | |
| 5. d | | |
| 6. c | | |

Chapter 50

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-----------------------------------|-------------------------------------|-------------------------------|
| 1. d (p. 1406) | 8. a (p. 1419) | 15. b (p. 1425) |
| 2. d (p. 1408) | 9. d (p. 1422 [Figure 50-3]) | 16. b (p. 1428) |
| 3. b (p. 1409) | 10. a (pp. 1422-1423) | 17. d (p. 1428 [Figure 50-6]) |
| 4. d (pp. 1410-1411 [Table 50-1]) | 11. c (pp. 1422-1423) | 18. b (pp. 1429-1430) |
| 5. c (pp. 1412-1414 [Table 50-3]) | 12. d (p. 1423) | 19. b (pp. 1430-1431) |
| 6. b (pp. 1412-1414 [Table 50-3]) | 13. d (pp. 1424-1425 [Figure 50-5]) | 20. a (pp. 1430-1431) |
| 7. a (p. 1419) | 14. d (pp. 1424-1425) | |

Matching

- | | |
|------|--------------------------------|
| 1. a | } (pp. 1410-1411 [Table 50-1]) |
| 2. d | |
| 3. e | |
| 4. a | |
| 5. f | |
| 6. b | |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Rheumatoid Arthritis

Jane's Situation

- | | |
|---|---|
| 1. b | } (pp. 1406-1408, 1422-1424 [Figures 50-1, 50-2, 50-3, and 50-4]) |
| 2. b | |
| 3. fever, anemia, fatigue, and Raynaud's phenomenon | |
| 4. HLA-DR4 | |
| 5. d | |
| 6. c | |
| 7. d | |

Interpreting Patterns

Use Figure 50-1 and 50-3 as a framework for your outline. Pages 1407 and 1422.

Chapter 51

I. Comprehension and Interpretation

Multiple-Choice

1. b (p. 1441)
2. a (pp. 1441–1442)
3. b (p. 1442)
4. a (pp. 1443–1444 [Table 51–2])
5. b (pp. 1443–1444 [Table 51–2])
6. c (pp. 1445–1446 [Chart 51–2])

II. Critical Analysis Questions

Analyzing Comparisons

1. skin coloring (p. 1439)
2. jaundice (p. 1439)
3. scurvy (p. 1442)
4. inspection (pp. 1443–1445)
5. scales (pp. 1445–1448 [Chart 51–2])

Identifying Patterns

1. telangiectasis
2. syphilis
3. ecchymosis or petechia (pp. 1439–1441 [Table 51–1])
4. urticaria
5. Kaposi's sarcoma

Identifying Patterns

Primary and Secondary Lesions: Answers to 1–8 should include any characteristics listed for each lesion in Chart 51–2, pp. 1446–1448.

Applying Concepts

1. Thinning of dermis and epidermis at their junction
 - a. appearance of wrinkles
 - b. overlapping skin folds
 - c. appearance of sags
 - d. increased vulnerability to injury
2. Loss of subcutaneous tissue of elastin, fat, and collagen
 - a. diminishes protection and cushioning of underlying organs and tissues
 - b. decreased muscle tone
 - c. decreased insulating properties
3. Decreased cellular replacement
 - a. delayed wound healing
 - b. smaller vessels decrease in number and size

4. Decrease in number and function of sweat and sebaceous glands
 - a. dry and scaly skin
5. Reduced hormonal levels of androgens
 - a. decreased sebaceous gland functioning (p. 1442 and Chart 51-1)

Chapter 52

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-----------------------------------|------------------------------|-----------------------|
| 1. c (pp. 1454-1455) | 10. d (p. 1469) | 18. d (p. 1483) |
| 2. d (pp. 1455-1456) | 11. a (p. 1471 [Table 52-6]) | 19. b (p. 1486) |
| 3. d (pp. 1455-1456) | 12. d (p. 1471 [Table 52-6]) | 20. a (p. 1486) |
| 4. b (p. 1446) | 13. d (p. 1472) | 21. c (p. 1488) |
| 5. b (p. 1463) | 14. c (pp. 1473-1474) | 22. d (pp. 1488) |
| 6. b (p. 1463 [Chart 52-2]) | 15. c (pp. 1474-1475) | 23. d (p. 1491) |
| 7. b (pp. 1463-1464) | 16. a (p. 1475) | 24. c (pp. 1492-1494) |
| 8. a (pp. 1465-1466 [Table 52-5]) | 17. d (p. 1479) | 25. d (pp. 1492-1494) |
| 9. b (pp. 1468-1469) | | |

Fill-In

1. They have a high moisture vapor transmission rate. Some dressings even have reservoirs to hold excessive exudate (pp. 1454-1455)
2. Impaired skin integrity related to changes in the barrier function of the skin (Plan of Nursing Care 52-1, pp. 1459-1561)
3. Acne vulgaris (p. 1465)
4. Impetigo and folliculitis (pp. 1467-1468)
5. *Staphylococcus aureus* (pp. 1467-1468)
6. skin; basal cell and squamous cell carcinoma (p. 1486)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Malignant Melanoma

Steve's Situation

- | | |
|------|---------------------------------|
| 1. b | } (pp. 1448-1491 [Figure 52-7]) |
| 2. d | |
| 3. c | |
| 4. c | |
| 5. a | |

Chapter 53

I. Comprehension and Interpretation

Multiple-Choice

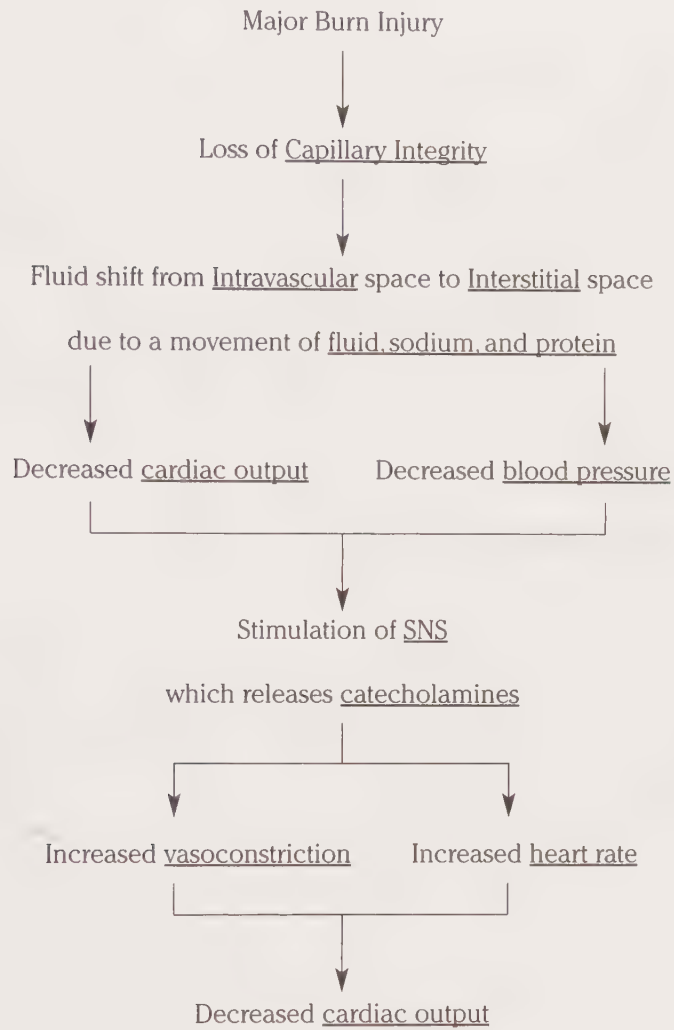
1. b (pp. 1503–1504 [Table 53–1])
2. b (pp. 1503–1504)
3. d (pp. 1504–1506 [Figure 53–3])
4. c (pp. 1504–1506 [Figure 53–3])
5. c (pp. 1504–1506 [Figure 53–3])
6. d (pp. 1504–1506 [Figure 53–3])
7. b (pp. 1504–1506 [Figure 53–3])
8. b (p. 1506)
9. c (p. 1507)
10. c (pp. 1507–1508 [Chart 53–2])
11. a (pp. 1507–1508 [Chart 53–2])
12. a (p. 1507)
13. a (pp. 1507–1508 [Chart 53–2])
14. a (pp. 1509–1510 [Table 53–3])
15. a (pp. 1509–1510 [Table 53–3])
16. d (pp. 1511 [Chart 53–4])
17. b (pp. 1511–1512 [Chart 53–4])
18. b (pp. 1509–1511)
19. b (pp. 1509–1511 [Table 53–4])
20. c (p. 1516)
21. c (pp. 1516–1517 [Table 53–5])
22. b (p. 1517)
23. c (pp. 1518–1519)
24. b (p. 1520)
25. d (protein requirement should be 3 g/kg; p. 1526)
26. b (p. 1528)

II. Critical Analysis Questions

Recognizing Contradictions

1. Survival chances are greatest for children over age 5 and young adults age 40 and younger. (p. 1502)
2. Localized responses do not exceed 20% of their body surface area. (pp. 1502–1504)
3. About 33% of all burn injuries greater than 25% of body surface area are associated with a pulmonary injury. (p. 1504)
4. During the acute phase of burn care, diuresis occurs, fluid resuscitation has been completed, and the wound nears closure. (pp. 1506–1507 [Table 53–2])
5. Fluid replacement with colloids and crystalloids usually takes 48 hours to restore normal plasma levels. (pp. 1509–1510 [Chart 53–4])

Flow Chart: Systemic Response to Burn Injury



Generating Solutions: Clinical Problem Solving

Nursing Care Plans

See Plan of Nursing Care 53–2, pp. 1522–1526 for assistance with the completion of the assignment. Sample:

Aimee's Situation

Nursing diagnosis:

Goals:	Altered comfort, related to pain resulting from a burn injury Pain relief
Nursing action:	Continue developmental growth patterns while providing for skin healing and grafting. Maintain socialization patterns consistent with Aimee's peer group. Assess Aimee's respiratory status
Rationale:	Airway compromise can occur rapidly in a significant burn injury as fluid shifts occur.
Expected outcome:	Aimee has a patent airway and does not exhibit any respiratory distress

Chapter 54

I. Comprehension and Interpretation

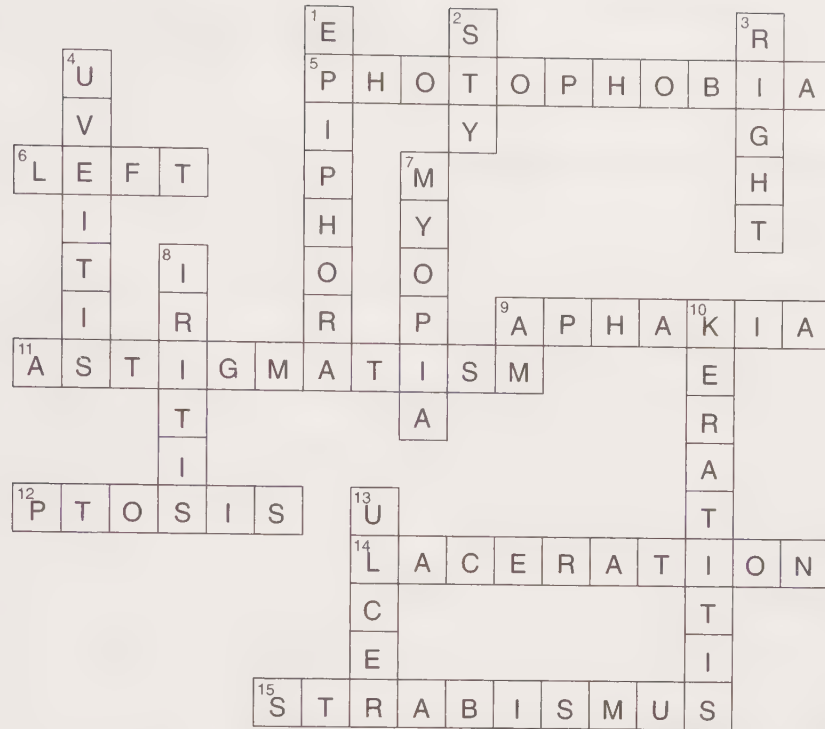
Multiple-Choice

- | | | |
|-----------------------------------|-----------------------------------|---------------------------------------|
| 1. d (pp. 1543–1544) | 7. b (p. 1552) | 13. c (p. 1565) |
| 2. c (pp. 1543–1546) | 8. c (pp. 1556–1557 [Table 54–5]) | 14. a (p. 1569) |
| 3. d (p. 1546) | 9. d (pp. 1559–1560) | 15. c (pp. 1573–1574
[Table 54–7]) |
| 4. d (pp. 1556–1557 [Table 54–5]) | 10. b (p. 1559) | 16. d (p. 1574) |
| 5. d (pp. 1550–1552) | 11. a (p. 1560) | |
| 6. c (pp. 1550–1552) | 12. c (p. 1563) | |

Matching

- | | |
|-------|---|
| 1. b | } (pp. 1540–1543 [Figures 54–1, 2, 3, 4 and 5]) |
| 2. c | |
| 3. f | |
| 4. j | |
| 5. a | |
| 6. e | |
| 7. g | |
| 8. d | |
| 9. h | |
| 10. i | |

Crossword Puzzle



(reference pages throughout chapter)

II. Critical Analysis Questions

Identifying Patterns

1. blepharitis (pp. 1563–1566 [Table 54–6])
2. sty (external hordeolum). (pp. 1563–1566 [Table 54–6])
3. conjunctivitis (pp. 1565–1567 [Table 54–6])
4. keratitis (pp. 1565–1567 [Table 54–6])
5. cataract (pp. 1565–1567 [Table 54–6])

Generating Solutions: Clinical Problem Solving

Nursing Care Plan: Cataract Surgery

Elise would have several immediate, intermediate, and long-term goals. Following is an example of one with a nursing diagnosis. Page references for assistance with the completion of this care plan are in Chapter 54, pages 1554–1556 and Table 54–5. Sample:

- Nursing diagnosis: Altered visual sensory perception related to cataract formation
- Goals: Make Elise familiar with her new environment.
Prepare the affected eye for surgery.
Encourage Elise to walk with her cane as independently as possible.
- Nursing Action: Assess Elise's level of knowledge about her surgery

Rationale: Baseline information is necessary to determine teaching plan
Expected outcome: Elise understands the purpose, process, and expected outcomes of her surgery.

Chapter 55

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------------------------|------------------------------|------------------------------------|
| 1. a (pp. 1580–1581 [Figure 55–1]) | 7. b (p. 1585) | 13. c (pp. 1589–1591 [Table 55–2]) |
| 2. d (p. 1582) | 8. d (p. 1587) | 14. d (p. 1591) |
| 3. a (p. 1585) | 9. c (p. 1588) | 15. d (p. 1591) |
| 4. b (pp. 1584–1587 [Figure 55–6]) | 10. d (pp. 1588–1589) | 16. c (pp. 1592–1593) |
| 5. c (pp. 1584–1587) | 11. b (pp. 1588–1589) | 17. d (p. 1600) |
| 6. b (p. 1582) | 12. a (p. 1590 [Table 55–2]) | |

II. Critical Analysis Questions

Examining Associations

Answers for questions 1–11 related to Figure 55–1 can be found in Chart 55–1, p. 1579.

Generating Solutions: Clinical Problem Solving

CASE STUDY: Mastoid Surgery

Amber's Situation

1. Answer may include infection, otalgia, otorrhea, hearing loss, vertigo, erythema, edema, and odor of discharge.
2. Answer may include reduction of anxiety, freedom from discomfort, prevention of infection, stabilization/improvement of learning, absence of injury or vertigo, absence of or adjustment to altered sensory perception, return of skin integrity, and knowledge about the disease process and surgical intervention.
3. a sense of aural fullness or pressure
4. b
5. an elevated temperature and purulent drainage
6. d
7. c
8. bending at the waist and moving or lifting heavy objects (pp. 1591–1593)

CASE STUDY: Meniere's Disease

David's Situation

1. vertigo, tinnitus, and fluctuating sensorineural hearing loss
 2. an over-abundance of circulating fluid
 3. vertigo
 4. b
 5. a
 6. a
- (pp. 1595–1596)

Chapter 56

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------------------|-----------------------|--------------------------------|
| 1. a (p. 1610) | 7. d (p. 1610) | 12. a (p. 1617) |
| 2. c (p. 1610) | 8. c (p. 1611) | 13. c (pp. 1617–1619) |
| 3. a (p. 1610) | 9. a (pp. 1611–1612) | 14. d (p. 1628) |
| 4. a (p. 1610) | 10. a (pp. 1611–1612) | 15. b (p. 1629) |
| 5. d (p. 1610 [Figure 56–3]) | 11. b (p. 1614) | 16. c (pp. 1630–1631 [G 56–1]) |
| 6. b (p. 1610 [Figure 56–3]) | | |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Nervous System Effects

Column I

- a. bronchi
- b. cerebral vessels
- c. coronary vessels
- d. heart
- e. iris
- f. salivary glands
- g. smooth muscle of
 - (1) bladder wall
 - (2) large intestine
 - (3) small intestine

Parasympathetic Effect

- constriction
- dilation
- constriction
- inhibition
- constriction
- secretion
- constriction
- increased motility
- increased motility

Sympathetic Effect

- dilation
- constriction
- dilation
- acceleration
- dilation
- secretion
- inhibition
- inhibition
- inhibition

See textbook pages 1614–1617 and Table 56–3 for assistance in completing this chart.

Cranial Nerves

Nerve no.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

Column I

- olfactory
- optic
- oculomotor
- trochlear
- trigeminal
- abducens
- facial
- vestibuloacoustic
- glossopharyngeal

Column II

- smell
- vision
- eye movement
- eye movement
- facial sensation
- eye movement
- taste and expression
- hearing and equilibrium
- taste

<i>Nerve no.</i>	<i>Column I</i>	<i>Column II</i>
10	vagus	swallowing, gastric motility, and secretion
11	spinal accessory	trapezius and sternomastoid muscles
12	hypoglossal	tongue movement

Use textbook pages 1614–1616 and Table 56–2 as a reference.
Use Figure 56–3, page 1610 as a reference.

Thalamus

1. Receives, synthesizes, and relays all sensory stimuli except for olfactory stimuli.
2. Relays impulses to visceral and somatic effectors.

Hypothalamus

1. Maintains sugar and fat metabolism.
2. Regulates water balance and metabolism.
3. Regulates body temperature.
4. Regulates blood pressure.
5. Influences the body's response to stress.
6. Maintains the sleep-wake cycle.
7. Controls the autonomic nervous system.
8. Regulates aggressive and sexual behavior.

Pituitary

1. Regulates growth and reproduction.
2. Controls various metabolic activities.

Chapter 57

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------|------------------------------------|---------------------------------------|
| 1. b (p. 1634) | 8. a (pp. 1639–1644) | 15. d (p. 1651) |
| 2. d (p. 1634) | 9. d (p. 1644) | 16. c (pp. 1652–1654
[Table 57–4]) |
| 3. c (p. 1634) | 10. d (pp. 1644–1666 [Table 57–2]) | 17. c (pp. 1652–1654
[Table 57–4]) |
| 4. d (pp. 1635–1636) | 11. a (p. 1649) | 18. c (p. 1663) |
| 5. c (pp. 1636–1637) | 12. b (p. 1649) | 19. d (pp. 1669–1671) |
| 6. a (pp. 1638–1639) | 13. b (p. 1650) | |
| 7. d (p. 1639) | 14. c (pp. 1650–1651) | |

Matching

- | | |
|------------|-------------------|
| 1. a and f | } (pp. 1633–1634) |
| 2. c and e | |
| 3. b | |
| 4. a | |
| 5. c | |

Fill-In

1. (1) Brain stem herniation, (2) Diabetes insipidus, and (3) Syndrome of inappropriate anti-diuretic hormone (SIADH) (p. 1636)
2. (1) Administer osmotic diuretics and corticosteroids, (2) Restrict fluids, (3) Drain cerebrospinal fluid, (4) Hyperventilate the patient, (5) Control fever, and (6) Reduce cellular metabolic demands (p. 1636)
3. (1) Intraventricular catheter, (2) Subarchnoid bolt, (3) Epidural or subdural catheter, and (4) Fiberoptic transducer-tipped catheter. (pp. 1636–1638 and Figure 57–4)
4. Maintain a patent airway. (p. 1644)
5. Flexion and internal rotation of the hands and forearms; extension and external rotation (pp. 1644–1646. [Table 57–2])

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Plan of Nursing Care: Unconscious Patient

Use Table 57–2 and pages 1644–1649 as a guide for a plan of care for Miss Potter.

Plan of Nursing Care: CVA

See textbook pages 1649–1661 and Tables 57–4 and 57–5 for development of Mrs. Coe's care plan.

Chapter 58

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------------------------|-----------------|-----------------------|
| 1. d (p. 1675) | 6. d (p. 1684) | 11. d (p. 1686) |
| 2. d (pp. 1677–1678 [Figure 58–2]) | 7. c (p. 1685) | 12. b (pp. 1687–1688) |
| 3. c (pp. 1678–1679) | 8. c (p. 1685) | 13. b (p. 1687) |
| 4. d (p. 1680) | 9. a (p. 1686) | 14. b (p. 1690) |
| 5. d (p. 1680) | 10. b (p. 1686) | |

Fill-In

1. leakage of cerebrospinal fluid from the ears (pp. 1675–1676 [Figure 58–1])
2. obstructed blood flow can decrease tissue perfusion (p. 1676)
3. (1) headache, (2) dizziness, (3) lethargy, (4) irritability, and (5) anxiety (pp. 1676–1677)
4. (1) systemic infections, (2) neurosurgical infections, and (3) heterotrophic ossification (p. 1685)
5. (1) 5th cervical, (2) 6th cervical, (3) 7th cervical, (4) 12th thoracic, and (5) 1st lumbar (pp. 1686–1687)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

Plan of Nursing Care: Cervical Spine Injury

See pages 1686–1695 for assistance with the development of a nursing care plan for Katie.

Plan of Nursing Care: Paraplegia

See pages 1695–1699 for assistance with the development of a nursing care plan for Matthew.

Chapter 59

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|-----------------------------|-----------------------|--------------------------------|
| 1. a (p. 1701) | 8. d (pp. 1712–1713) | 15. b (pp. 1738–1740 [G 59–1]) |
| 2. b (p. 1703) | 9. d (p. 1714) | 16. b (pp. 1738–1739) |
| 3. c (p. 1705 [Chart 59–2]) | 10. b (pp. 1723–1724) | 17. c (p. 1750) |
| 4. d (p. 1708) | 11. a (pp. 1725–1726) | 18. b (pp. 1751–1752) |
| 5. a (pp. 1708–1709) | 12. d (p. 1730) | 19. c (p. 1754) |
| 6. b (p. 1709) | 13. c (p. 1734) | 20. d (pp. 1755–1756) |
| 7. a (pp. 1711–1712) | 14. a (p. 1737) | |

Fill-In

1. serotonin (p. 1702)
2. (1) increase ICP and cerebral edema, (2) cause seizure activity, (3) cause hydrocephalus, (4) alter pituitary function, and (5) cause focal neurologic activity (p. 1705)
3. (1) headache, (2) vomiting, and (3) papilledema “choked disc” (p. 1707)
4. demyelination of the CNS (pp. 1718–1719)
5. (1) tremor, (2) rigidity, and (3) bradykinesia (p. 1724)
6. acetylcholine receptors (p. 1733)
7. Lou Gehrig’s disease (p. 1737)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Multiple Sclerosis

Toni’s Situation

- | | |
|------|-------------------|
| 1. d | } (pp. 1718–1723) |
| 2. d | |
| 3. a | |
| 4. d | |

CASE STUDY: Parkinson's Disease

Charles' Situation

1. d
 2. c
 3. d
 4. b
- } (pp. 1723–1730)

Plan of Nursing Care: Huntington's Disease

See pages 1730–1733 and Chart 59–5 for assistance with the development of a nursing care plan for Mike.

Chapter 60

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------|----------------|-----------------|
| 1. b (p. 1764) | 5. a (p. 1768) | 8. b (p. 1769) |
| 2. a (p. 1764) | 6. a (p. 1769) | 9. b (p. 1772) |
| 3. a (p. 1764) | 7. d (p. 1769) | 10. b (p. 1776) |
| 4. c (p. 1766) | | |

Matching

1. h
 2. i
 3. b
 4. j
 5. g
 6. e
 7. d
 8. c
 9. a
 10. f
- } (pp. 1769–1772 and Chart 60–1)

Fill-In

1. General functions of the musculoskeletal system include protection, support, locomotion, mineral storage, hematopoiesis, and heat production. (p. 1764)
2. 98% (p. 1764)
3. 206 (p. 1764)
4. epiphyses (p. 1764)

5. sternum }
 ileum } (p. 1765)
 vertebrae }
 ribs }

6. Vitamin D increases calcium in the blood by promoting calcium absorption from the gastrointestinal tract and by accelerating the mobilization of calcium from the bone. (p. 1766)
7. Parathyroid hormone and calcitonin (p. 1766)
8. crepitus (p. 1773)

Scramblegram

1. periosteum (p. 1765)
2. ligaments (p. 1768)
3. sarcomere (p. 1768)
4. tendons (p. 1768)
5. osteoporosis (p. 1769)
6. scoliosis (p. 1772 [Figure 60-4])
7. effusion (p. 1773)
8. arthrocentesis (p. 1776)

Chapter 61

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------|-------------------------------|-----------------------|
| 1. c (p. 1779) | 9. d (pp. 1784-1785 [G 61-2]) | 17. d (pp. 1801-1805) |
| 2. b (pp. 1779-1783) | 10. b (p. 1787) | 18. d (p. 1793) |
| 3. d (pp. 1780-1783) | 11. b (pp. 1787-1790) | 19. a (pp. 1793-1795) |
| 4. d (pp. 1780-1783) | 12. d (pp. 1790-1792) | 20. a (pp. 1793-1795) |
| 5. b (pp. 1780-1783) | 13. b (p. 1789) | 21. c (p. 1795) |
| 6. b (p. 1780) | 14. c (pp. 1789-1790) | 22. a (p. 1795) |
| 7. c (pp. 1780-1781) | 15. c (p. 1792) | 23. a (p. 1795) |
| 8. b (pp. 1781-1783) | 16. d (pp. 1796-1801) | |

Fill-In

1. • reduce a fracture
 - correct a deformity
 - apply uniform pressure to underlying soft tissue
 - provide support and stability for weakness joints (pp. 1778-1779)
2. A fiberglass cast is light in weight and water resistant; it does not soften when wet. (p. 1779)

3. The toes or fingers should be pink, warm, and easily moved (wiggled). There should be minimal swelling and discomfort. The blanch test should be carried out to determine rapid capillary refill. (pp. 1781–1783)
4. Danger signs of possible circulatory constriction include unrelieved pain, swelling, discoloration, tingling, numbness, inability to move fingers or toes, or any temperature changes. (p. 1783)
5. compartment syndrome, pressure ulcers and disuse syndrome (p. 1783)
6. to minimize muscle spasms, to reduce, align, and immobilize fractures; to lessen deformities; and to increase space between opposing surfaces within a joint (pp. 1786–1787)
7. • Buck's extension traction
 - pelvic traction (p. 1787)
8. Thromboembolism, peroneal nerve palsy, infection and limited range of motion (p. 1796)

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Buck's Traction

1. a
2. the patient's body weight and the bed position adjustments
3. Inspect the skin for abrasions and circulatory disturbances and make certain the skin is clean and dry before any tape or foam boot is applied.
4. 3 lbs
5. skin color, skin temperature, capillary refill, edema, pulses, sensations, and ability to move
6. A positive Homans' sign indicates deep vein thrombosis. (pp. 1788–1789)

CASE STUDY: Total Hip Replacement

1. deep vein thrombosis and pulmonary embolism
2. dislocation of the hip prosthesis, excessive wound drainage, thromboembolism, and infection
3. c
4. d
5. leg shortening, inability to move the leg, malalignment, abnormal rotation, and increased localized discomfort
6. b
7. c

(pp. 1793–1800, Plan of Nursing Care 61–1)

Chapter 62

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|---|-----------------------|-----------------------|
| 1. d (p. 1807) | 7. d (p. 1814) | 13. d (p. 1823) |
| 2. b (p. 1807) | 8. c (p. 1814) | 14. b (p. 1823) |
| 3. b (pp. 1808–1809) | 9. c (p. 1817) | 15. d (pp. 1823–1824) |
| 4. c (pp. 1809–1811 [Figure 62–3]) | 10. c (p. 1818) | 16. c (p. 1826) |
| 5. a (pp. 1809–1811
[Figures 62–1, 2 and 3]) | 11. d (p. 1818) | 17. a (p. 1826) |
| 6. c (pp. 1811–1812) | 12. b (pp. 1820–1821) | 18. b (pp. 1826–1829) |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Osteoporosis

Emily's Situation

1. The rate of bone resorption is greater than the rate of bone formation.
 2. Women have a lower peak bone mass than men, and estrogen loss affects the development of the disorder.
- | | |
|------|-------------------|
| 3. c | } (pp. 1816–1820) |
| 4. a | |
| 5. c | |
| 6. d | |

Chapter 63

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------|-----------------------|-----------------------|
| 1. d (p. 1832) | 8. d (p. 1840) | 14. a (p. 1847) |
| 2. b (p. 1832) | 9. a (p. 1840) | 15. d (pp. 1847–1848) |
| 3. d (p. 1833) | 10. b (pp. 1842–1843) | 16. a (p. 1850) |
| 4. b (pp. 1834–1835) | 11. a (pp. 1843–1844) | 17. d (p. 1857) |
| 5. b (p. 1837) | 12. d (pp. 1846–1847) | 18. c (p. 1858) |
| 6. d (p. 1837) | 13. b (p. 1846) | 19. d (pp. 1859–1864) |
| 7. b (pp. 1838–1839) | | |

Matching

Part I

1. c
2. a
3. b
4. e

Part II } (pp. 1835–1837 and Chart 63–1)

1. c
2. b
3. a
4. d

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

CASE STUDY: Above-the-Knee Amputation

William's Situation

1. d
 2. d
 3. d
 4. d
 5. a
 6. d
 7. b
 8. d
- (pp. 1858–1864 [Figures 63–15 and 17])

Chapter 64

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|----------------------|-----------------|-----------------------|
| 1. c (p. 1878) | 6. a (p. 1881) | 11. d (p. 1886) |
| 2. d (p. 1876) | 7. c (p. 1883) | 12. d (p. 1887) |
| 3. a (pp. 1876–1877) | 8. d (p. 1884) | 13. d (pp. 1886–1887) |
| 4. d (p. 1877) | 9. b (p. 1884) | 14. d (p. 1887) |
| 5. d (p. 1877) | 10. d (p. 1886) | 15. d (pp. 1887–1888) |

Fill-In

1. comprehensive immunization program (pp. 1874–1875 [Table 64–2])
2. smallpox in 1979 (p. 1874)
3. over 25 (pp. 1874–1875)
4. chickenpox vaccine (p. 1876)

5. (1) diarrheal diseases, (2) Legionnaire's disease, (3) Lyme disease, and (4) Hantavirus pulmonary syndrome (pp. 1879–1880)
6. 1 million (p. 1880)

II. Critical Analysis Questions

Examining Associations and Applying Concepts

Use Figure 64–1 and pages 1870–1873 to fill in each blank. Use terms on the perimeter of each link as a guide for choosing a nursing intervention.

Chapter 65

I. Comprehension and Interpretation

Multiple-Choice

- | | | |
|------------------------------------|------------------------------------|-----------------------|
| 1. c (p. 1902) | 8. b (pp. 1905–1908 [Figure 65–2]) | 14. d (p. 1912) |
| 2. c (p. 1902) | 9. a (pp. 1908–1909) | 15. c (pp. 1912–1913) |
| 3. c (p. 1902) | 10. c (pp. 1908–1909) | 16. d (pp. 1912–1913) |
| 4. b (pp. 1903–1904 [G 65–1]) | 11. d (p. 1910) | 17. d (p. 1915) |
| 5. b (p. 1904) | 12. d (pp. 1911–1912) | 18. c (pp. 1915–1916) |
| 6. b (p. 1905) | 13. c (pp. 1911–1912) | 19. a (pp. 1927–1929) |
| 7. a (pp. 1905–1907 [Figure 65–1]) | | |

II. Critical Analysis Questions

Generating Solutions: Clinical Problem Solving

1. See textbook pages 1904–1906 and Guidelines 65–2 for assistance with nursing actions to clear an obstructed airway.
2. See textbook pages 1910–1912 for assistance with nursing care for a patient who has experienced blunt, abdominal trauma.
3. See textbook pages 1916–1917 for assistance with emergency measures to manage an anaphylactic reaction.
4. See textbook pages 1919–1921, Figure 65–4 and G 65–4 to develop nursing measures to assist with gastric lavage.
5. See textbook pages 1922–1926 and Table 65–1 for assistance with nursing actions necessary for drug abuse reactions.
6. See textbook pages 1929–1931 for assistance with nursing actions necessary for the management of psychiatric patients.



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