

**FIFTH EDITION**



**STUDENT WORKBOOK FOR**

**UNDERSTANDING**  
**Medical**  
**Surgical**  
**Nursing**

**Paula D. Hopper | Linda S. Williams**

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# Preface

## NOTE TO THE STUDENT

The *Student Workbook for Understanding Medical Surgical Nursing* has been written and edited by the authors to accompany the fifth edition of *Understanding Medical Surgical Nursing*. We have included exercises that not only help you review content, but also will help you develop your critical thinking abilities. It is essential for you to be able to think critically about the content as you prepare for the NCLEX-PN. We hope you will use this resource as well as your electronic study guide and the great resources on *DavisPlus*.

## SUGGESTIONS FOR USING THE STUDY GUIDE

Checklists for Learning Success are provided at the beginning of each unit. You can use these checklists to track your study of the major topics.

Each chapter includes:

- An exercise to help you practice chapter vocabulary items. It is important to understand the underlying vocabulary before attempting to apply the terms to understand the remainder of the information in each chapter.
- Basic matching, true/false, word scramble, and other exercises to allow you to practice and understand medical-surgical nursing information. These exercises are most helpful for developing knowledge and recall of material.
- Critical thinking exercises to help you practice your new knowledge in patient situations and make good clinical judgments. We feel strongly that you must learn to think critically, rather than just memorize facts. The answers we provide for the critical thinking exercises are just some of the possibilities. You will come up with additional answers of your own as your knowledge base expands.
- NCLEX-PN style questions to provide practice in applying your new knowledge. Rationale for why an answer is correct or incorrect has been included to strengthen your critical thinking and test-taking abilities.
- Function and Assessment chapters also include a labeling exercise to help you review basic anatomy.

## STUDY GUIDE ANSWERS

- To students: Study Guide answers are posted on the instructor's *DavisPlus* site. Ask your instructor about accessing answers.
- To instructors: Study Guide answers are posted on the instructor's *DavisPlus* site. Students do not have access to Study Guide answers. Please provide answers to students according to your needs.

We hope you find this study guide useful. Happy studying!

PAULA D. HOPPER AND LINDA S. WILLIAMS





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# unit ONE

## Understanding Health Care Issues

### CHECKLIST FOR LEARNING SUCCESS

Critical Thinking	Evidence-Based Practice	Issues	Cultural Influences	Alternative/Complementary
<input type="checkbox"/> Critical thinking traits <input type="checkbox"/> Knowledge base <input type="checkbox"/> Critical thinking skills <input type="checkbox"/> Problem solving <input type="checkbox"/> Role of the LPN/LVN <input type="checkbox"/> Nursing process <input type="checkbox"/> Data collection <input type="checkbox"/> Documentation of data <input type="checkbox"/> Nursing diagnosis <input type="checkbox"/> Planning care <input type="checkbox"/> Prioritizing care <input type="checkbox"/> Identifying interventions <input type="checkbox"/> Implementation <input type="checkbox"/> Evaluation	<input type="checkbox"/> Evidence-based practice <input type="checkbox"/> Use of evidence-based practice <input type="checkbox"/> Identifying evidence <input type="checkbox"/> Evidence-based practice process <input type="checkbox"/> Six steps of evidence-based practice <input type="checkbox"/> Evidence-based practice, quality and safety <input type="checkbox"/> Quality and Safety Education for Nurses (QSEN) project <input type="checkbox"/> Joint Commission's 2014 National Patient Safety Goals	<input type="checkbox"/> Health care delivery <input type="checkbox"/> Economic issues <input type="checkbox"/> Nursing/health team <input type="checkbox"/> Leadership in nursing practice <input type="checkbox"/> Career opportunities <input type="checkbox"/> Ethics and values <input type="checkbox"/> Ethical obligations and nursing <input type="checkbox"/> Nursing code of ethics <input type="checkbox"/> Building blocks of ethics <input type="checkbox"/> Ethical theories <input type="checkbox"/> Ethical decision making <input type="checkbox"/> Legal concepts <input type="checkbox"/> HIPAA <input type="checkbox"/> Nursing liability and the law	<input type="checkbox"/> Cultural diversity <input type="checkbox"/> Communication <input type="checkbox"/> Space <input type="checkbox"/> Time orientation <input type="checkbox"/> Social organization <input type="checkbox"/> Environmental control <input type="checkbox"/> Health care providers <input type="checkbox"/> Biological variations <input type="checkbox"/> Death and dying <input type="checkbox"/> Cultural groups <input type="checkbox"/> Culturally competent care	<input type="checkbox"/> Alternative versus complementary therapies <input type="checkbox"/> Allopathic/Western medicine <input type="checkbox"/> Ayurveda <input type="checkbox"/> Chinese medicine <input type="checkbox"/> Chiropractic <input type="checkbox"/> Homeopathy <input type="checkbox"/> Naturopathy <input type="checkbox"/> American Indian medicine <input type="checkbox"/> Osteopathy <input type="checkbox"/> Herbal therapy <input type="checkbox"/> Relaxation therapies <input type="checkbox"/> Massage therapy <input type="checkbox"/> Aquatherapy <input type="checkbox"/> Heat and cold <input type="checkbox"/> Safety/effectiveness <input type="checkbox"/> Role of LPN/LVN

# 1

# Critical Thinking and the Nursing Process

## VOCABULARY

*Define the following terms and use them in sentences.*

### **Nursing process**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

### **Critical thinking**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

### **Assessment**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

### **Objective data**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

### **Subjective data**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

### **Nursing diagnosis**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

### **Evaluation**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

### **Vigilance**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

**SUBJECTIVE AND OBJECTIVE DATA**

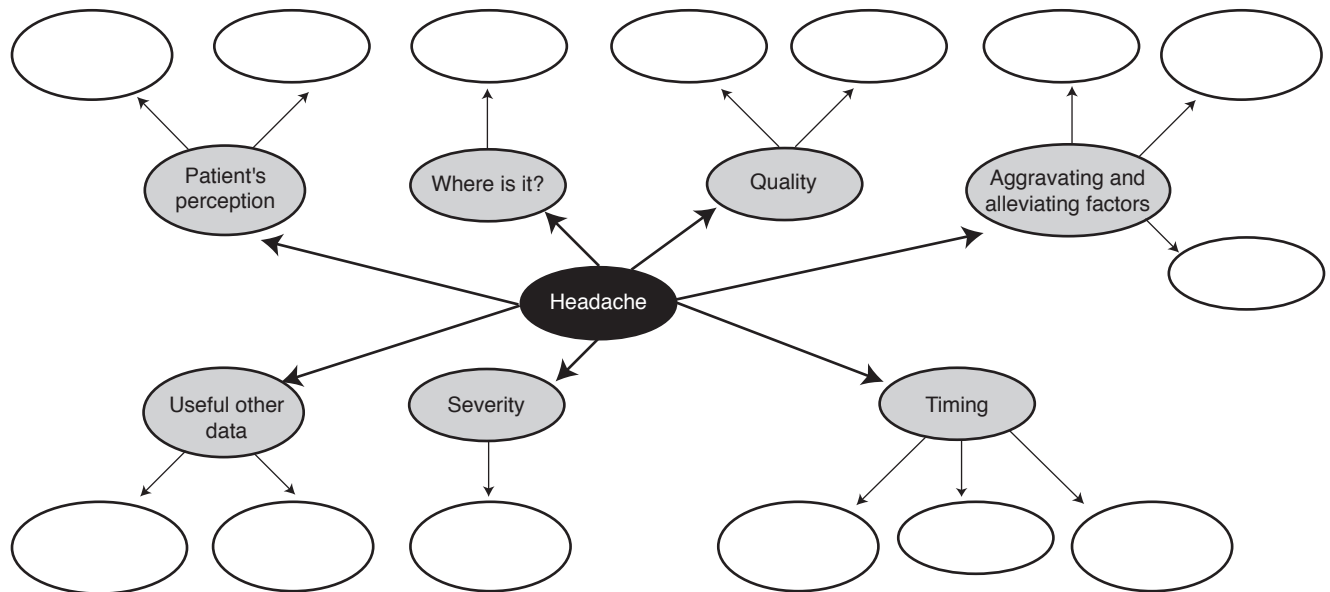
Identify the following data as subjective (symptom) or objective (sign).

1. Pain \_\_\_\_\_
2. Shortness of breath \_\_\_\_\_
3. Edema (swelling) \_\_\_\_\_
4. Capillary refill 2 seconds \_\_\_\_\_
5. Nausea \_\_\_\_\_
6. Vomiting \_\_\_\_\_
7. Dizziness \_\_\_\_\_
8. Cyanosis \_\_\_\_\_
9. Numbness \_\_\_\_\_
10. Indigestion \_\_\_\_\_
11. Pale \_\_\_\_\_

12. Serum potassium 3.6 mEq/L \_\_\_\_\_
13. Palpitations (feeling of racing heart) \_\_\_\_\_
14. Blood pressure 130/82 mm Hg \_\_\_\_\_
15. White blood cell count 7000/mm<sup>3</sup> \_\_\_\_\_

**CRITICAL THINKING**

Sometimes cognitive maps are used to organize thinking. Look at samples in any of the Function and Assessment chapters under Aging Changes. Some of the workbook chapters will ask you to make a cognitive map, so here is an opportunity to practice. Consider a time when you have had a headache or other discomfort. Fill in the spaces with information related to the WHAT'S UP? questions. See Chapter 1 Answers for one patient's responses. Once you have the questions answered, you could go even further and make links with possible interventions. There is no one right way to make a cognitive map—use your imagination!



**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

1. Which one of the following is a nursing diagnosis?
  1. Peptic ulcer
  2. Pneumonia
  3. Ineffective airway clearance
  4. Myocardial infarction
2. Which one of the following is a medical diagnosis?
  1. Hiatal hernia
  2. Impaired mobility
  3. Powerlessness
  4. Anxiety

3. An LPN wishes to learn why a patient's lung sounds have crackles and questions the physician during morning rounds. Which critical thinking attitude is the nurse exhibiting?
  1. Intellectual humility
  2. Intellectual sense of justice
  3. Intellectual empathy
  4. Intellectual integrity

4. The LVN is caring for a patient with diabetes. In what order should the nurse carry out the nursing process? Place all steps in correct sequential order.
1. Implement plan of care
  2. Assist with evaluation
  3. Collect data
  4. Assist with development of nursing diagnoses
  5. Assist with planning of outcomes and interventions
5. Which of the following statements best defines *critical thinking*?
1. Orderly, goal-directed thinking
  2. Clear thinking during critical situations
  3. Constructive feedback about nursing actions
  4. Critical evaluation of patient responses to care

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

6. The LPN is reviewing the nursing care plan for a patient with acute pain related to a fractured ankle. Which of the following would determine whether the care plan is effective?
1. Assessment of the patient's ability to walk
  2. Evaluation of the patient's fracture on X-ray
  3. Elevating the patient's foot on two pillows
  4. Evaluation of the patient's pain rating on a 10-point scale.
7. A patient with a history of cardiac disease reports a feeling of tightness in the chest that radiates down the left arm. Which of the following actions by the LPN should be carried out immediately?
1. Check the patient's vital signs.
  2. Formulate nursing diagnoses related to an acute myocardial infarction.
  3. Determine the patient's outcome after nitroglycerin has been administered.
  4. Plan interventions to reduce long-term cardiac damage.
8. The LPN is documenting patient data. Which of the following should the nurse document under objective data?
1. Denies nausea
  2. Shortness of breath
  3. Heart rate 72 beats per minute
  4. Midsternal chest pain
9. A patient is admitted with chest pain, which has resolved. The patient states, "I hope I can live a normal life." According to Maslow's hierarchy of needs, which of the following levels is best reflected by this statement?
1. Physiological needs
  2. Safety and security
  3. Love and belonging
  4. Self-esteem
10. A patient has a nursing diagnosis of impaired swallowing related to muscle weakness as evidenced by drooling, coughing, and choking. Which of the following outcomes is appropriate for this patient's nursing diagnosis?
1. Improved airway clearance within 8 hours as evidenced by clear lung sounds and productive cough
  2. Baseline body weight maintained as evidenced by no weight loss
  3. Improved muscle strength as evidenced by ability to sit up while eating
  4. Improved swallowing within 48 hours as evidenced by no coughing or choking
11. The LPN is providing care for a patient with a medical diagnosis of congestive heart failure who is very short of breath. Which of the following is a nursing diagnosis that is correctly stated in the PES (problem, etiology, and signs and symptoms) format?
1. Deficient knowledge related to disease process and self-care for shortness of breath
  2. Impaired gas exchange related to excess interstitial fluid as evidenced by respiratory rate of 32 per minute and patient stating he feels short of breath
  3. Congestive heart failure related to decreased cardiac output as evidenced by abnormal arterial blood gasses
  4. Acute dyspnea related to congestive heart failure as evidenced by swollen lower extremities and confusion.

# Evidence-Based Practice

# 2

## VOCABULARY

Define the following terms.

### 1. Evidence-based practice

---

### 2. Randomized controlled trials

---

### 3. Research

---

### 4. Systematic review

---

## EVIDENCE-BASED PRACTICE

1. Evidence is the \_\_\_\_\_ of effectiveness behind nursing practice.
2. It is important for the \_\_\_\_\_ in which the evidence will be used to be considered.
3. Evidence-based practice (EBP) is a complex but important, necessary process to facilitate \_\_\_\_\_ care and optimal patient outcomes.
4. Evidence-based practice is used by nurses to give the best \_\_\_\_\_ possible.
5. Level I is the \_\_\_\_\_ evidence and is an analysis of many \_\_\_\_\_ controlled trials.
6. Nurses will know from measured \_\_\_\_\_ that they are giving the best care possible.
7. Evidence-based practice is considered the \_\_\_\_\_ standard of health care.
8. The Quality and Safety Education for Nurses (QSEN) project focuses on \_\_\_\_\_ education that promotes the continual improvement of quality and safety in patient care.

9. Patient-centered care meets the \_\_\_\_\_ needs and preferred schedules.
10. Evidence is the core \_\_\_\_\_ that directs safe, quality-driven, excellent patient care.

## CRITICAL THINKING

Read the following case study and answer the questions.

Nurses on a surgical unit were interested in knowing if music would reduce the preoperative anxiety of patients on their unit.

1. How are these nurses contributing to quality care?  
\_\_\_\_\_  
\_\_\_\_\_

2. What should the nurses do to begin the process?  
\_\_\_\_\_  
\_\_\_\_\_

3. What are some examples of resources that can be used to find evidence? \_\_\_\_\_  
\_\_\_\_\_

4. The nurses found Level I research studies that showed music therapy could be beneficial in reducing anxiety. What step should the nurses take next?
- 
- 

5. The planned intervention was implemented, data were collected during the implementation, and now the pilot study has ended. What step should the nurses take next?
- 
- 

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following is considered significant evidence to guide nursing care?
  - Research studies that are quasi-experimental
  - Cochrane Reviews
  - Nursing information from the Internet
  - The opinion of a nationally known nursing expert
- A nurse would like to find other studies on wound care that might be relevant to how wound care is done. Which of the following would be the best for searching for nursing articles on wound care?
  - CINAHL
  - Medline
  - Cochrane Review
  - PubMed
- A nurse on the safety committee is assigned to review the current National Patient Safety Goals. In which of these ways will the nurse find the goals?
  - Review Joanna Briggs Best Practices.
  - Review a fundamentals nursing textbook.
  - Go to [www.jointcommission.org](http://www.jointcommission.org).
  - Search Cochrane Reviews.

- Which of the following best describes a randomized clinical trial (RCT)?
  - An observational study designed to collect subjective data
  - An experimental study in which multiple factors affecting the results are controlled
  - A specific design categorizing modifiable and nonmodifiable risk factors
  - Tracking of disease occurrence over a set period of time
- Evidence-based practice most often begins with which of the following?
  - Asking how to solve a clinical problem
  - Initiating a literature search
  - Analyzing available evidence
  - Measuring baseline outcomes

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- The nurse is reviewing the patient's plan of care and ordered treatments. Which of the following is an independent nursing intervention? **Select all that apply.**
  - Giving Tylenol 650 milligrams orally every 4 hours as needed (prn)
  - Assisting patient to position of comfort
  - Giving hand massage daily
  - Initiating high-risk fall protocol
  - Placing call button within reach at all times
  - Teaching deep breathing and relaxation techniques as needed

- A nurse on the research committee is assigned to review the best evidence on patient centered bathing. Which of the following kinds of evidence would the nurse select for Level I research? **Select all that apply.**
  - A Cochrane review
  - One RCT
  - Four quasi-experimental studies that show similar results
  - The opinion of a national nursing expert on the subject
  - A Joanna Briggs Best Practice Review



8. The nurse will include which of the following in applying the process of evidence-based practice to patient centered care? **Select all that apply.**
  1. Evaluate the change.
  2. Determine current practice.
  3. Ask a burning question.
  4. Know how to conduct an RCT.
  5. Search for the best available evidence.
  6. Make it happen.
9. The nurse provides care for residents on an Alzheimer's unit and is working with family members of a 67-year-old patient who was recently admitted. Which of the following statements reveals the nurse's awareness of evidence-based reality orientation practice?
  1. "Patients on this unit are generally very sweet, so your loved one will quickly fit right in."
  2. "Our dietician provides high-protein snacks twice daily to help prevent brain degeneration."
  3. "You'll notice clocks, calendars, and the use of patient pictures in the hallways to help residents stay oriented."
  4. "Alzheimer's is a devastating disease, so it is mandatory that family members participate in our weekly support groups."
10. A nurse investigating the effect of 12-hour shifts on medication errors identifies 962 articles published on the topic of 12-hour shifts in the past 5 years. Which action should the nurse take next?
  1. Find out how many of the articles can be found at the institution.
  2. Request all 962 articles and determine their validity.
  3. Limit the request to articles published in the past 3 years.
  4. Narrow the search to identify which articles discuss medication errors.

# 3

## Issues in Nursing Practice

### VOCABULARY

Match the term with the appropriate definition or statement.

- |  |   |
|--|---|
| 1. _____ Assault   | 1. Unlawful touching of another   |
| 2. _____ Battery   | 2. Unlawful conduct that places another in the immediate fear of unlawful touching or battery; the real threat of bodily harm |
| 3. _____ Defamation  | 3. Unlawful restriction of a person's freedom   |
| 4. _____ False imprisonment  | 4. Extreme and outrageous conduct by a defendant relating to the care of the patient or the body of a deceased individual     |
| 5. _____ Outrage   | 5. Wrongful injury to another's reputation or standing in a community; may be written (libel) or spoken (slander)             |
| 6. _____ Invasion of privacy and wrongful disclosure of confidential information | 6. Liability when a patient's privacy is invaded physically or if records are released without authority                      |

### NURSING PRACTICE AND ETHICAL AND LEGAL PRINCIPLES

1. The health–illness continuum represents the potential shifting between \_\_\_\_\_ health and poor health throughout the \_\_\_\_\_ span.
2. Nurses must be \_\_\_\_\_ licensed to practice to \_\_\_\_\_ the public and maintain the \_\_\_\_\_ of health care services.
3. \_\_\_\_\_ is a central virtue in nursing.
4. Nursing care uses the following principles: ensuring \_\_\_\_\_ and respect, \_\_\_\_\_ confidentiality, respecting the patient's right to make care choices, and maintaining a professional relationship with the patient.
5. Effective leaders are \_\_\_\_\_ about the management process, \_\_\_\_\_, positive thinkers, and use \_\_\_\_\_ to earn the \_\_\_\_\_ of their coworkers.

### VALUES CLARIFICATION

Complete the following sentences.

1. The one thing I have always wanted to do is \_\_\_\_\_.
2. If I inherited 5 million dollars, I would \_\_\_\_\_.
3. As president of the United States, I would \_\_\_\_\_.
4. If I died today, I would like my obituary to say \_\_\_\_\_.
5. If I could control the world and its destiny, I would \_\_\_\_\_.

Complete this list of things people value with any other items you believe should be included, then rank the value you believe each item has, with 1 being the highest value.

Rank	Valued Item	Rank	Valued Item
_____	Family	_____	Professionalism
_____	Career	_____	_____
_____	Religion	_____	_____
_____	Honor	_____	_____
_____	Material possessions	_____	_____
_____	Health	_____	_____
_____	Recreation	_____	_____

What have you learned about yourself by doing this exercise? What do the rankings signify? Can you identify yourself as more utilitarian or more deontological? (There are no answers to this section because this is an exercise requiring personal responses.)

**CRITICAL THINKING**

Read the following case study and answer the questions.

Mrs. Reo, a 5 foot, 3 inch, 105-lb, 86-year-old retired cleaning lady, was admitted to a general medical-surgical unit in a small rural hospital. She was diagnosed 3 months ago with metastatic cancer that had spread from her liver to her lungs and bone marrow. She received chemotherapy and radiation therapy for several weeks, but the treatment was not effective. She was admitted to the hospital because she became too weak to walk or care for herself at home. The cancer returned, and the large doses of oral narcotic medications taken at home were having little effect on her pain while increasing her confusion and weakness.

Her oncologist decided that further chemotherapy or radiation therapy would not be effective, and she ordered Mrs. Reo to be kept comfortable with medications. A continuous morphine intravenous (IV) drip was started to help control the pain. Even with this medication, Mrs. Reo cried out in pain, particularly when morning care was given, and begged the nurses not to move her. Because she was severely underweight, the skin over her bony prominences quickly became reddened and showed the beginning signs of breakdown.

The hospital standards of care for immobile patients require that they be repositioned at least every 2 hours. Mrs. Reo yelled so loudly when she was turned that the nursing staff wondered if they were really helping her or hurting her.

To help decide what should be done, the nurses who gave care to Mrs. Reo called a patient care conference. The manager of the unit stated clearly that the hospital standards of care required Mrs. Reo be repositioned at least every 2 hours to prevent skin breakdown, infections, and

perhaps sepsis. In her already weakened condition, an infection or sepsis would most likely be fatal. Betsy, who had been a licensed practical nurse for some 15 years, disagreed with the manager. Her feeling was that causing this obviously terminal patient so much pain by turning her was cruel and violated her dignity as a human being. She stated that she could not stand to hear Mrs. Reo yell anymore and refused to take care of her until some other decision was made about her nursing care. Sally, a new graduate nurse, felt that the patient should have some say in her own care and that perhaps some type of compromise could be reached about turning her, perhaps turning her less frequently or providing more pain relief medication. Monica, a registered nurse who had worked on the unit for 2 years, felt that the physician should make the decision about turning this patient, and then the nurses should follow the order. This last suggestion was met with strong negative comments by the other nurses present. They felt that patient comfort and turning were nursing measures.

1. What are the important ethical principles in this dilemma?  
\_\_\_\_\_
2. How does the Code of Ethics apply to this situation?  
\_\_\_\_\_
3. What are the legal issues?  
\_\_\_\_\_
4. Are there ever any situations when a nurse might legally and ethically violate a standard of care?  
\_\_\_\_\_
5. What are some other possible solutions to this dilemma? What types of consequences might they have?  
\_\_\_\_\_

(There are no correct answers to this section because this is an ethical exercise that has many choices to be considered for the best outcome for the patient. Discuss your options with classmates.)

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. The ethical principle that the primary goal of health care and nursing is to do good for others is called which of the following?
  1. Autonomy
  2. Fidelity
  3. Beneficence
  4. Veracity
2. The ethical principle of nonmaleficence is defined as which of the following?
  1. Health care workers avoiding harm to patients
  2. Telling the truth to patients in all matters
  3. Being faithful to commitments made to patients
  4. The right of self-determination of patients
3. Which of the following is the term used to describe an ethical situation that arises in which there is a choice between two equally unfavorable alternatives?
  1. Tort
  2. Ethical antagonism
  3. Contraindication
  4. Ethical dilemma
4. Which of the following is the first step in the ethical decision-making process?
  1. Analyze the alternatives.
  2. Identify the ethical dilemma.
  3. Consider the consequences of the actions.
  4. Make a decision.
5. Ethical dilemmas most often involve which of the following situations?
  1. A conflict of basic human rights
  2. Violations of the Nurses' Code of Ethics
  3. Nurses who do not understand the ethical code
  4. Patients who wish to die
6. When applying the ethical principle of autonomy to patient care, the nurse should understand that which of the following is applicable to autonomy?
  1. Autonomy is an absolute principle that has no exceptions.
  2. Only patients who are awake and oriented have the right to autonomy.
  3. Under certain conditions, autonomy can be limited.
  4. Autonomy is the same as the principle of nonmaleficence.
7. Which of the following punishments distinguishes criminal liability from civil liability?
  1. Personal liability
  2. Financial recovery
  3. Loss of license
  4. Potential loss of freedom
8. Which of the following is an unintentional tort?
  1. Negligence
  2. Outrage
  3. Assault
  4. Privacy invasion

**REVIEW QUESTIONS—TEST PREPARATION**

*Choose the best answer unless directed otherwise.*

9. A patient with emphysema is being seen by the home health nurse. The patient is on oxygen, lives alone, and is able to perform activities of daily living, prepare meals, and do light household tasks with rest periods. The patient is unable to perform yard work, which was a favorite hobby. Which of the following would describe the patient's location on the health-illness continuum?
  1. Near death
  2. High-level wellness
  3. Poor health
  4. Moderate-level wellness
10. A Nurses' Code of Ethics states, "The nurse safeguards the patient's right to privacy by judiciously protecting information of a confidential nature." This statement is based on which of the following principles?
  1. The right to privacy is an inalienable right of all persons.
  2. The nurse-patient relationship is based on trust.
  3. A breach of confidentiality may expose the nurse to liability.
  4. Nurses know what is best for patients' health care.

11. A patient asks the nurse what is the purpose of a new medication. The nurse responds, "The medication will help you feel better, and not to worry about it." The nurse's response demonstrates which of the following conditions?
  1. Therapeutic communication
  2. Paternalism
  3. Lack of knowledge
  4. Legal obligations
12. The nurse attempts to apply the standard of best interest to a patient who has had a cardiac arrest and is now unconscious. Which of the following conditions is the most important factor for the nurse to consider?
  1. The patient's wishes as expressed before becoming unconscious
  2. The family's wishes now that the patient can no longer communicate
  3. The patient's chances for survival after the cardiac arrest
  4. The physician's orders regarding future arrest situations
13. The LVN is considering whether the task of taking a blood pressure on a 78-year-old resident with hypertension can be delegated to a nursing assistant. Which of the following steps should the nurse consider in this decision-making process for delegation? **Select all that apply.**
  1. Right task
  2. Right circumstances
  3. Right patient
  4. Right communication
  5. Right supervision
  6. Right route

# 4

## Cultural Influences on Nursing Care

### VOCABULARY

Match the term with the appropriate definition or statement.

- |                                |   |
|--------------------------------|---|
| 1. _____ Belief                | 1. A usual way of acting in a given situation   |
| 2. _____ Cultural awareness    | 2. Accepted as true, need not be proven   |
| 3. _____ Cultural competence   | 3. Focuses on knowledge and appreciation of history and ancestry of other cultures                                  |
| 4. _____ Ethnic                | 4. Avoiding actions that may offend another person's cultural beliefs   |
| 5. _____ Ethnocentrism         | 5. Belief that "my way is the only right way"   |
| 6. _____ Generalization        | 6. An assumption that needs validation  |
| 7. _____ Stereotype            | 7. An opinion or belief about someone because of ethnic background  |
| 8. _____ Value                 | 8. Belonging to a subgroup of a larger cultural group   |
| 9. _____ Worldview             | 9. Way a person perceives the world   |
| 10. _____ Custom               | 10. The process of taking on a dominant culture's values, sometimes with risk of losing one's own cultural heritage |
| 11. _____ Cultural sensitivity | 11. Using knowledge and skills about another culture to provide care  |
| 12. _____ Assimilation         | 12. A principle or belief that has worth to an individual or group  |

### CULTURAL CHARACTERISTICS

Answer the following questions. Discuss with a classmate.

1. What are some examples of primary characteristics of culture? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What are some examples of secondary characteristics of culture? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. What is meant by traditional health care practitioners? Give an example. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

4. What are some characteristics of people who are primarily present oriented? Past oriented? Future oriented?

\_\_\_\_\_  
\_\_\_\_\_

3. What significance does food have to you besides satisfying hunger?

\_\_\_\_\_  
\_\_\_\_\_

4. Are you usually on time for social events? For appointments? Why or why not?

\_\_\_\_\_  
\_\_\_\_\_

**CRITICAL THINKING: IMMIGRANTS**

*There are no correct or incorrect answers to the following questions. Share your thoughts with your classmates.*

1. Are immigrants taking away from the United States, or are they adding to its richness? Give specific examples, and share your reasons for your position.

\_\_\_\_\_  
\_\_\_\_\_

2. Identify health care difficulties that new immigrants must overcome in the United States. How might you, as a nurse, help them overcome these difficulties?

\_\_\_\_\_  
\_\_\_\_\_

(There are no answers to this section because this is an exercise requiring personal responses.)

**CRITICAL THINKING: PERSONAL INSIGHTS**

*Answer the following questions. Consider how people from other cultures might answer differently.*

1. What do you personally do to prevent illness?

\_\_\_\_\_  
\_\_\_\_\_

2. What home remedies do you use when you have a minor illness such as a cold or flu? Do you use over-the-counter medications to treat yourself? How might these over-the-counter medicines cause a problem with prescription medications?

\_\_\_\_\_  
\_\_\_\_\_

(There are no answers to this section because this is an exercise requiring personal responses.)

**CRITICAL THINKING: BATHING**

*Read the following case study and answer the questions.*

An older adult male Arab American patient refuses to be bathed by a female nurse's aide. He has not been bathed for 3 days, and today he really needs a bath. His family is at his bedside.

1. Why do you think he is refusing his bath?

\_\_\_\_\_  
\_\_\_\_\_

2. What alternatives do you have?

\_\_\_\_\_  
\_\_\_\_\_

3. What is the best solution to the problem?

\_\_\_\_\_  
\_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. Patients of Eastern European Jewish heritage who are getting married should be provided information on which disorder?
  1. Sickle cell anemia
  2. Thalassemia
  3. Lactose intolerance
  4. Tay-Sachs disease
2. A patient states, “I don’t know why that foreign doctor needs to be here. I only want to see American doctors.” This is an example of which of the following principles?
  1. Cultural sensitivity
  2. Cultural diversity
  3. Ethnocentrism
  4. Acculturation
3. Hispanic Americans and American Indians generally have a \_\_\_\_\_ (higher or lower) glucose level than whites.

**REVIEW QUESTIONS—TEST PREPARATION**

*Choose the best answer unless directed otherwise.*

4. A 26-year-old Pueblo American Indian mother arrives at the health clinic to receive treatment for a laceration on her leg. Accompanying her are her two children, who missed their immunization appointments last month because she did not have transportation. As the clinic nurse, what is the best approach to ensure that the children get their immunizations?
  1. Give the immunizations today.
  2. Reschedule the appointment for next month at the regular hours for the immunization clinic.
  3. Reschedule the immunizations for when she returns to have her stitches removed.
  4. Ask the community health nurse to go to the home to give the immunizations.
5. A Guatemalan patient died after a cardiac arrest. His wife is uncontrollably wailing and shouting “Vaya con dios!” and lying on the floor shaking. What action should the nurse take?
  1. Call a cardiac arrest team.
  2. Immediately call for a stretcher and get her off the floor.
  3. Calmly remain beside her and talk to her.
  4. Call the house physician to order a tranquilizer.
6. A Laotian child is brought to the emergency department by the school nurse. She wants the child examined for the possibility of child abuse because he has several circular ecchymotic areas 2 inches in diameter on his back. What action should the intake nurse perform?
  1. Call the child welfare authorities to intervene.
  2. Explain to the school nurse that the bruised areas may be caused by the traditional Chinese practice of cupping.
  3. Inform the child’s mother that he is in the emergency department.
  4. Report the school nurse for not getting consent from the mother to bring the child to the emergency department.
7. A 42-year-old Arab American patient has chronic renal failure. He asks the nurse where he can purchase a kidney for transplantation. Which response is best?
  1. Organs cannot be purchased in the United States.
  2. Explain the ethical dilemma in purchasing organs.
  3. Call the unit supervisor.
  4. Give him the area organ procurement telephone number.



8. A 12-year-old child from a traditional Korean American family is newly diagnosed with diabetes mellitus. His home health nurse is to teach the patient and family diabetes care. Both parents and the child can administer his insulin and recite the signs and symptoms of hypoglycemia and hyperglycemia. They are highly educated and read and speak English well. Which is the best first step in teaching them about nutrition therapy for diabetes?
  1. Give them a food exchange list for a diabetic diet.
  2. Determine whether they can calculate calories in a sample meal.
  3. Assess current dietary food practices.
  4. Have them make an appointment with a consulting dietitian.
9. A 46-year-old Cuban American high school teacher has been admitted for cancer of the breast. She wants her religious counselor, a *santero*, to visit. Which action should the nurse take?
  1. Ask the nursing supervisor to see if a visit from a *santero* is permitted.
  2. Tell her that *santeros* are not permitted in the hospital.
  3. Suggest that she see a hospital priest instead.
  4. Tell her a visit is fine, but for safety reasons she should tell the nurse or physician before accepting any treatments.
10. A 62-year-old Hispanic Peruvian woman is in the operating room having bypass surgery. Eighteen family members arrive on the unit and wait in her room, which is shared by two other patients. Which is the best solution to this problem?
  1. Allow two family members to wait in the room and send the rest of them to the cafeteria.
  2. Send all of them to the lobby and tell them they will be notified when the patient returns to her room.
  3. Allow only her husband and mother to visit.
  4. Assign the patient to a private room and allow the family to wait there.
11. A 42-year-old African American patient is 40 pounds overweight. She admits to baking pies with lard and frying food in bacon grease, practices she does not wish to stop. To reduce fat and calories, what can the home health nurse encourage her to do?
  1. Do not purchase lard.
  2. Reduce the portion size when she cuts her pies.
  3. Bake two separate pies, one for her and one for her family.
  4. Continue baking with lard, but reduce calories she receives from other foods in her diet.
12. A 41-year-old Hispanic woman has had a mastectomy for cancer of the breast. Her physician recommends radiation therapy. She says, "What is the use? My life is in God's hands anyway." Which of the following responses is appropriate?
  1. Agree with her, but tell her she must accept the radiation or she will die.
  2. Ensure that she understands all of the implications of her decision before accepting it.
  3. Keep encouraging her to think about the radiation, and ask all of the other staff to do the same.
  4. Have her ask her physician to prescribe chemotherapy instead of radiation therapy.
13. A 72-year-old Iranian patient says he will not be able to take his morning antibiotic, which is scheduled every 8 hours, because he is celebrating Ramadan and has to fast from sunup to sundown. Which of the following actions should the nurse take?
  1. Explain that the medicine must be taken now to maintain the blood level of the drug.
  2. Rearrange his medication schedule so he can take all his medicines between sundown and sunup.
  3. Omit the medicine and record his refusal on the medication administration record.
  4. Ask his family to encourage him to take the medicine.

# 5

## Complementary and Alternative Modalities

### VOCABULARY

Match the term with the appropriate definition or statement.

- |                                 |  |
|---------------------------------|--|
| 1. _____ Alternative modality   | 1. Illness is a result of falling out of balance with nature |
| 2. _____ Complementary modality | 2. Uses nutrition, herbs, and hydrotherapy                   |
| 3. _____ Homeopathy             | 3. Illness is a result of nerve dysfunction                  |
| 4. _____ Naturopathy            | 4. Added to a conventional therapy                           |
| 5. _____ Ayurvedic              | 5. Unconventional therapy                                    |
| 6. _____ Chiropractic           | 6. "Like cures like"   |

### COMPLEMENTARY MODALITY: GUIDED IMAGERY

Describe the purpose of guided imagery. Write a teaching plan on how to do guided imagery. Try teaching it to a family member or friend.

Purpose: \_\_\_\_\_

\_\_\_\_\_

Teaching Plan: \_\_\_\_\_

\_\_\_\_\_

### CRITICAL THINKING

Read the following case study and answer the questions.

Mrs. Lawless is admitted to your unit with heart failure and fluid overload. As you collect admission data, you find that she is taking feverfew, capsaicin, and St. John's Wort regularly in addition to her prescribed medications for heart failure. When you question her, she says that the salesperson at the health food store told her these herbs were safe to use with her other medications.

1. What is feverfew used for? \_\_\_\_\_

\_\_\_\_\_

2. What is capsaicin used for?

\_\_\_\_\_

3. What is St. John's wort used for?

\_\_\_\_\_

4. Where can you get information about the safety of taking these herbs with heart failure or with heart failure medications?

\_\_\_\_\_

5. What should you tell Mrs. Lawless?

\_\_\_\_\_

\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Which of the following therapies would be considered a complementary modality?
  1. Using inhalers in addition to oral medications for asthma
  2. Participating in a cardiac rehabilitation program after having a heart attack
  3. Using echinacea instead of antibiotics for an upper respiratory infection
  4. Using progressive muscle relaxation in addition to muscle relaxants for back pain
2. Which of the following therapies would be considered an alternative modality?
  1. Using hydrotherapy in place of nonsteroidal anti-inflammatory drugs for arthritis
  2. Visiting a spiritual healer in addition to chemotherapy for cancer treatment
  3. Using antibiotics and bronchodilators for acute bronchitis
  4. Using aspirin for a headache
3. Which of the following terms describes traditional Western medicine?
  1. Homeopathy
  2. Naturopathy
  3. Allopathy
  4. Ayurveda
4. Which of the following herbal remedies is possibly effective against viruses and colds?
  1. Echinacea
  2. Feverfew
  3. Chamomile
  4. Ginger
5. The nurse recognizes which of the following as complementary or alternative therapies aimed at altering the body's energy? **Select all that apply.**
  1. Reiki
  2. Magnet therapy
  3. Music therapy
  4. Hydrotherapy
  5. Yoga
  6. Therapeutic touch

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

6. The nurse has provided instruction to a patient on how to use guided imagery. Which of the following statements by the patient would indicate to the nurse that further teaching is required?
  1. "I will focus on my breathing."
  2. "I imagine the ocean, including the smell, the sound, and the feel of the air."
  3. "I will relax all parts of my body."
  4. "I will keep my eyes open until the exercise is complete."
7. A patient tells a nurse that a chiropractor is going to do minor surgery to remove a small superficial lump on her neck. Which response by the nurse is best?
  1. "The lump is likely pressing against a nerve; that is why it needs to be removed."
  2. "You need to question your chiropractor's qualifications. Chiropractors do not perform surgery."
  3. "Chiropractors specialize in nerve function; removing the lump will restore normal nerve function."
  4. "Surgery might not be necessary; usually a simple chiropractic adjustment will relieve pressure on a nerve."

8. A patient admitted with chronic pain says he is interested in pursuing an alternative modality for his pain, but he is unsure how to determine whether it is safe. Which of the following responses by the nurse is best?
1. "As long as the therapy does not include medication, it should be safe."
  2. "You should talk with your primary care practitioner before trying anything new."
  3. "Be careful, because many alternative therapies have dangerous side effects."
  4. "Traditional analgesics are always the safest treatment for chronic pain."
9. A nurse is interested in providing therapeutic touch therapy for her home care patient with severe pain. This will be her first experience with therapeutic touch. Which of the following steps is least appropriate before beginning to provide this new service?
1. Obtain permission from the patient's physician and home care agency.
  2. Take classes on how to administer therapeutic touch.
  3. Tell the patient he will be able to reduce the number of medications he takes.
  4. Read current research on the use of therapeutic touch.
10. A patient is preparing to go home from the hospital after an anterior wall myocardial infarction. He has new prescriptions for isosorbide (Imdur), warfarin (Coumadin), atorvastatin (Lipitor), and aspirin. He also takes metformin (Glucophage) and glipizide (Glucotrol XL) for type 2 diabetes and takes self-prescribed ginseng daily. Which initial response by the nurse is best?
1. "Ginseng can effectively lower blood glucose in patients with diabetes. It is a good choice for you."
  2. "Ginseng is a relatively safe herbal agent. Be sure to check out a reliable website for interactions before continuing to take it at home."
  3. "Ginseng, like other herbal agents, is unsafe to take with your prescribed medications."
  4. "I am concerned that ginseng could interact with your prescribed medications and affect your blood glucose and your blood clotting."

# unit TWO

## Understanding Health and Illness

### CHECKLIST FOR LEARNING SUCCESS

Fluid, Electrolyte, and Acid-Base Balance and Imbalance	Nursing Care of Patients Receiving Intravenous (IV) Therapy	Nursing Care of Patients With Infections	Nursing Care of Patients in Shock	Nursing Care of Patients in Pain	Nursing Care of Patients With Cancer	Nursing Care of Patients Having Surgery	Nursing Care of Patients With Emergent Conditions and Disaster/Bioterrorism Response
<input type="checkbox"/> Fluid balance <input type="checkbox"/> Dehydration <input type="checkbox"/> Fluid excess <input type="checkbox"/> Electrolyte balance <input type="checkbox"/> Sodium imbalances <input type="checkbox"/> Potassium imbalances <input type="checkbox"/> Calcium imbalances <input type="checkbox"/> Magnesium imbalances <input type="checkbox"/> Acid-base balance <input type="checkbox"/> Respiratory acidosis <input type="checkbox"/> Metabolic acidosis <input type="checkbox"/> Respiratory alkalosis <input type="checkbox"/> Metabolic alkalosis	<input type="checkbox"/> Indications for IV therapy <input type="checkbox"/> Types of infusions <input type="checkbox"/> Methods of infusion <input type="checkbox"/> Types of Fluids (tonicity) <input type="checkbox"/> IV access <input type="checkbox"/> Peripheral IV therapy <input type="checkbox"/> Venipuncture steps <input type="checkbox"/> Nursing process <input type="checkbox"/> Complications of IV therapy <input type="checkbox"/> Central venous access devices <input type="checkbox"/> Nutrition support <input type="checkbox"/> Home IV therapy	<input type="checkbox"/> Infectious process <input type="checkbox"/> Body's defense mechanisms <input type="checkbox"/> Infectious disease <input type="checkbox"/> Community infection control <input type="checkbox"/> Health care agency infection control <input type="checkbox"/> Antibiotic-resistant infections <input type="checkbox"/> Infectious disease interventions <input type="checkbox"/> Nursing process	<input type="checkbox"/> Pathophysiology of shock <input type="checkbox"/> Complications from shock <input type="checkbox"/> Hypovolemic shock <input type="checkbox"/> Cardiogenic shock <input type="checkbox"/> Obstructive shock <input type="checkbox"/> Distributive shock <input type="checkbox"/> Shock therapeutic interventions <input type="checkbox"/> Nursing process	<input type="checkbox"/> Definitions of pain <input type="checkbox"/> Mechanism of pain transmission <input type="checkbox"/> Types of pain <input type="checkbox"/> Nonopioid analgesics <input type="checkbox"/> Opioid analgesics <input type="checkbox"/> Opioid antagonists <input type="checkbox"/> Adjuvants <input type="checkbox"/> WHO ladder <input type="checkbox"/> Routes for analgesic administration <input type="checkbox"/> Nondrug therapies <input type="checkbox"/> Nursing process <input type="checkbox"/> Pain assessment <input type="checkbox"/> Patient education	<input type="checkbox"/> Review of normal anatomy and physiology <input type="checkbox"/> Pathophysiology and etiology <input type="checkbox"/> Risk factors for cancer <input type="checkbox"/> Cancer classification <input type="checkbox"/> Early detection/prevention <input type="checkbox"/> Diagnostic tests <input type="checkbox"/> Staging and grading <input type="checkbox"/> Surgery <input type="checkbox"/> Radiation therapy <input type="checkbox"/> Chemo-therapy <input type="checkbox"/> Side effects of therapies <input type="checkbox"/> Nursing process <input type="checkbox"/> Hospice care <input type="checkbox"/> Oncological emergencies	<input type="checkbox"/> Surgery urgency/purpose <input type="checkbox"/> Preoperative phase <input type="checkbox"/> Preoperative assessment/admission <input type="checkbox"/> Nursing process: <input type="checkbox"/> Preoperative <input type="checkbox"/> Intraoperative phase <input type="checkbox"/> Postoperative phase <input type="checkbox"/> Perianesthesia care unit <input type="checkbox"/> Postoperative nursing care: <input type="checkbox"/> Respiratory <input type="checkbox"/> Circulatory <input type="checkbox"/> Pain <input type="checkbox"/> Urinary <input type="checkbox"/> Wound care <input type="checkbox"/> Gastrointestinal <input type="checkbox"/> Mobility <input type="checkbox"/> Patient discharge <input type="checkbox"/> Home health care	<input type="checkbox"/> Primary survey <input type="checkbox"/> Secondary survey <input type="checkbox"/> Shock <input type="checkbox"/> Anaphylaxis <input type="checkbox"/> Major trauma <input type="checkbox"/> Hypothermia <input type="checkbox"/> Frostbite <input type="checkbox"/> Hyperthermia <input type="checkbox"/> Poisoning and drug overdose <input type="checkbox"/> Near-drowning <input type="checkbox"/> Psychiatric emergencies <input type="checkbox"/> Disaster response <input type="checkbox"/> Bioterrorism

# 6

## Nursing Care of Patients With Fluid, Electrolyte, and Acid–Base Imbalances

### VOCABULARY

Fill in the blanks with key terms from the chapter.

1. The process through which a solute moves from an area of higher to an area of lower concentration is \_\_\_\_\_.
2. A fluid that has the same osmolarity as blood is said to be \_\_\_\_\_.
3. A fluid that has a higher osmolarity than blood is said to be \_\_\_\_\_.
4. A decrease in blood volume is called \_\_\_\_\_.
5. Electrolytes in the blood that have a positive charge are called \_\_\_\_\_.
6. The patient with an excess of sodium in the blood has \_\_\_\_\_.
7. The patient with not enough potassium in the blood has \_\_\_\_\_.
8. The patient with not enough calcium in the blood has \_\_\_\_\_.
9. \_\_\_\_\_ occurs when the serum pH falls below 7.35.
10. If the serum pH is too high, the condition is called \_\_\_\_\_.

### DEHYDRATION

Circle the errors in the following paragraph and write in the correct information.

Mrs. White is a 78-year-old woman admitted to the hospital with a diagnosis of severe dehydration. The licensed practical nurse/licensed vocational nurse (LPN/LVN) assigned to Mrs. White is asked to collect data related to fluid status. The LPN expects Mrs. White's blood pressure to be elevated because of the shift of fluid from tissues to her bloodstream. The nurse also finds Mrs. White's skin to be taut and firm and notes that the urine is copious and dark amber. The nurse asks Mrs. White if she knows where she is and what day it is because severe dehydration may cause confusion. In addition, the nurse initiates intake and output measurements because this is the most accurate way to monitor fluid balance.

### ELECTROLYTE IMBALANCES

Match the electrolyte imbalance with its signs and symptoms.

- |                        |  |
|------------------------|--|
| 1. _____ Hyponatremia  | 1. Osteoporosis, hyperactive reflexes      |
| 2. _____ Hyperkalemia  | 2. Muscle weakness, weak pulse             |
| 3. _____ Hypokalemia   | 3. Muscle weakness, kidney stones          |
| 4. _____ Hypercalcemia | 4. Fluid balance and mental status changes |
| 5. _____ Hypocalcemia  | 5. Muscle cramps, irregular heart rate     |

**CRITICAL THINKING**

Read the following case study and answer the questions.

Mr. James is an 89-year-old man admitted to your unit with worsening chronic bronchitis. On admission he is short of breath, but he is able to walk to the bathroom without difficulty. The physician orders bronchodilators, antibiotics, and an intravenous (IV) infusion of normal saline at 150 mL per hour. The next day when you return to work, you find Mr. James gasping for breath, coughing, and panicky. You quickly listen to his lungs and hear an increase in moist crackles since yesterday.

1. What additional data do you collect to confirm your suspicion of fluid overload?

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2. You report your findings to the registered nurse (RN) and collaborate on quickly developing a nursing diagnosis of fluid overload. What factors contributed to this problem?

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3. The RN pages the physician while you return to check on the patient. What nursing interventions can help until orders are received?

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4. How will you know when the problem has been resolved?

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**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

1. Which of the following IV solutions is hypotonic?

1. Normal saline
2. 0.45% saline
3. Ringer's lactate
4. 5% dextrose in normal saline

2. Which of the following hormones retains sodium in the body?

1. Antidiuretic hormone
2. Thyroid hormone
3. Aldosterone
4. Insulin

3. Which food should be avoided by the patient on a low-sodium diet?

1. Apples
2. Cheese
3. Chicken
4. Broccoli

4. Which food is recommended for the patient who must increase intake of potassium?

1. Bread
2. Egg
3. Potato
4. Cereal

5. Which is the most reliable method for monitoring fluid balance?

1. Daily intake and output
2. Daily weight
3. Vital signs
4. Skin turgor

6. An older adult patient presents to the emergency department reporting severe vomiting and diarrhea, sweating, and rapid heartbeat but has a normal temperature. In continuing the assessment of the patient, what should the nurse first suspect?

1. Hypervolemia
2. Dehydration
3. Edema
4. Hyponatremia

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

7. Which patient is most at risk for fluid volume overload?
  1. The 40-year-old with meningitis
  2. The 35-year-old with kidney failure
  3. The 60-year-old with psoriasis
  4. The 2-year-old with influenza
  
8. Which patients should be monitored closely for dehydration? **Select all that apply.**
  1. A 50-year-old with an ileostomy
  2. A 19-year-old with chronic asthma
  3. A 22-year-old with diabetes mellitus
  4. A 45-year-old with a temperature of 102.3°F
  5. A 28-year-old with a broken femur
  6. A 36-year-old taking diuretic therapy
  
9. An older-adult nursing home resident who has always been alert and oriented is now showing signs of dehydration and has become confused. Which electrolyte imbalance is most likely involved?
  1. Hyponatremia
  2. Hyperkalemia
  3. Hypercalcemia
  4. Hypomagnesemia
  
10. The LPN/LVN is caring for a patient with osteoporosis who appears weak and frail. Which of the following nursing interventions is best?
  1. Maintain bed rest
  2. Encourage fluids
  3. Ambulate with assistance
  4. Provide a high-protein diet
  
11. A 19-year-old student develops symptoms of respiratory alkalosis related to an anxiety attack. Which nursing intervention is most appropriate?
  1. Make sure his oxygen is being administered as ordered.
  2. Have him breathe into a paper bag.
  3. Place him in a semi-Fowler's position.
  4. Have him do coughing and deep-breathing exercises.
  
12. A patient has chronic respiratory acidosis related to long-standing lung disease. Which of the following problems is the cause?
  1. Hyperventilation
  2. Hypoventilation
  3. Loss of acid by kidneys
  4. Loss of base by kidneys
  
13. The nurse is providing discharge instructions for a patient taking Slow-K®, an oral potassium chloride supplement. Which of the following statements by the patient indicates that more teaching is needed? **Select all that apply.**
  1. "I won't use salt substitutes that have potassium."
  2. "I need to have my blood checked routinely."
  3. "I should take my supplement first thing in the morning and then wait 30 minutes before eating."
  4. "If the pill is too big to swallow, I can crush it."
  5. "I should call the doctor if I have nausea, vomiting, or abdominal cramps."
  6. "I can expect some diarrhea with this medication."



# Nursing Care of Patients Receiving Intravenous Therapy

# 7

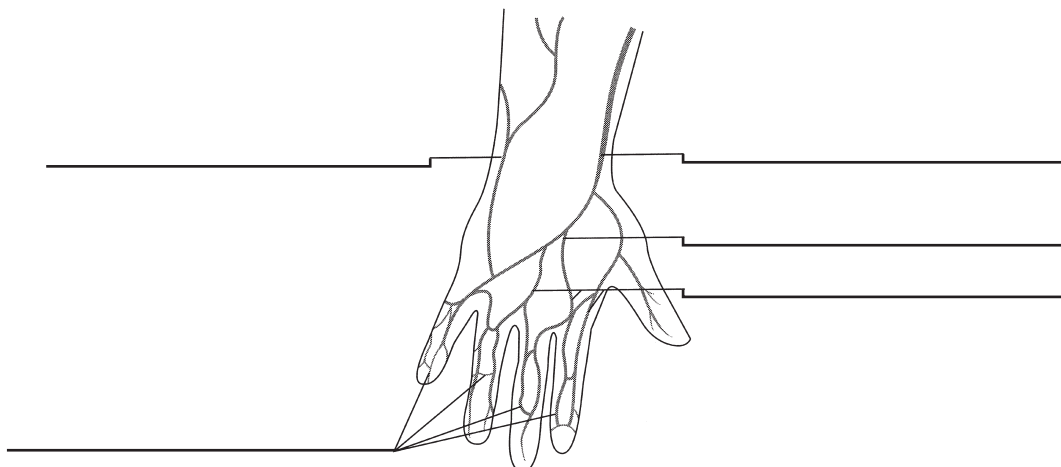
## VOCABULARY

Match the term with the appropriate definition or statement.

- |  |  |
|--|--|
| 1. _____ Intravenous (IV)                              | 1. Inside a vein   |
| 2. _____ Cannula                                       | 2. Seepage of IV fluid into tissues  |
| 3. _____ Distal  | 3. Nearest the point of attachment   |
| 4. _____ Infiltration                                  | 4. Inflammation of a vein  |
| 5. _____ Peripherally inserted central catheter (PICC) | 5. Access device inserted into a superficial peripheral vein and advanced into the central system to the superior vena cava. |
| 6. _____ Hematoma                                      | 6. An IV needle or catheter with a stylet.   |
| 7. _____ Phlebitis                                     | 7. Farthest from the center or from the trunk  |
| 8. _____ Proximal                                      | 8. A localized collection of extravasated blood in the subcutaneous tissue, from a break in a blood vessel                   |

## PERIPHERAL VEINS

Label the veins that can be used for IV therapy.



**COMPLICATIONS OF IV THERAPY**

Fill in the blank with the correct complication.

- Pain and inflammation at the IV insertion site is called \_\_\_\_\_.
- Redness and exudate at the IV insertion site indicate the presence of \_\_\_\_\_.
- Infiltration into tissue by an IV fluid or drug is called \_\_\_\_\_.
- Dyspnea and crackles can be a sign of \_\_\_\_\_.
- A cool, puffy insertion site indicates \_\_\_\_\_.
- Fever, chills, and tachycardia indicate a systemic infection called \_\_\_\_\_.
- Sharp pain at the IV site during infusion of a cold fluid indicates a \_\_\_\_\_.
- If the patient develops cyanosis, hypotension, and loss of consciousness, the nurse should suspect \_\_\_\_\_.

**CRITICAL THINKING**

Read the following case study and answer the questions.

Mr. Livesay is admitted with cellulitis and is receiving IV fluids by gravity drip. When you check his IV, you find it is not dripping. What data can you collect to determine the cause

of the problem? What is the role of the licensed practical nurse (LPN)? When must the registered nurse (RN) be consulted? \_\_\_\_\_

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**CALCULATION PRACTICE**

Calculate the answers to the following problems. Round each answer to the nearest whole number.

- June has an IV of 5% dextrose in water ordered to infuse at 83 mL/hr. How many drops per minute should be set if the tubing delivers 15 drops per milliliter?
- Frank has a piggyback antibiotic of 500 mg in 50 mL of 5% dextrose in water. The medication must infuse over 20 minutes. The tubing drip factor is 10. How many drops per minute?
- Dave has an IV of normal saline ordered at 1 L over 12 hours. How many milliliters per hour should he receive?
- Lucy has an order to administer 800 units of heparin per hour. The registered nurse hangs heparin 50,000 units in 500 mL of 5% dextrose in water. It will run on an electronic infusion device. How many milliliters should be administered per hour?
- Jack has an order for 1000 mL of normal saline over 24 hours. How many drops should be administered per minute, using microdrop tubing?

**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

- Which vein should be used first when initiating IV therapy?
  - Jugular
  - Basilic
  - Brachiocephalic
  - Axillary
- When preparing a site for venipuncture with chlorhexidine gluconate, how long must the area be cleaned?
  - 5 seconds
  - 10 seconds
  - 30 seconds
  - 60 seconds
- Which of the following complications can occur if a clotted cannula is aggressively flushed?
  - A clot can enter the circulation.
  - An air embolism can enter the circulation.
  - A painful arterial spasm can occur.
  - The patient can experience speed shock.
- Which of the following symptoms most likely indicates that an infusion is infiltrated?
  - Redness at the site
  - Pain at the site
  - Puffiness at the site
  - Exudate at the site

5. An 87-year-old patient recovering from abdominal surgery has a continuous IV infusion to supply nutrients and antibiotics. What complication should the LPN suspect when signs and symptoms of redness, warmth, and pain at the infusion site are reported?
1. Phlebitis
  2. Thrombosis
  3. Hematoma
  4. Infiltration

## REVIEW QUESTIONS—TEST PREPARATION

*Choose the best answer unless directed otherwise.*

6. Which patient would benefit most from a capped IV access that is used intermittently rather than continuously?
1. The patient with pneumonia who needs fluids and antibiotics
  2. The patient who has had major blood loss after a motor vehicle accident
  3. The young child who is dehydrated
  4. The older patient who is receiving a diuretic for fluid overload
7. The physician orders furosemide (Lasix) 40 mg IV push (IVP) STAT for a patient in acute fluid overload. Why was the IV route likely chosen?
1. Furosemide can be administered only by the IV route.
  2. IVP is the route of choice for rapid action.
  3. IVP dosing is more accurate.
  4. IVP furosemide has fewer side effects than oral.
8. A patient has orders to receive 1 L (1000 mL) of 5% dextrose and lactated Ringer's solution to be infused over 8 hours. How many milliliters will be infused per hour?
1. 80
  2. 100
  3. 125
  4. 150
9. A patient is receiving an IV piggyback antibiotic in 50 mL of 5% dextrose in water to run over 1 hour. The tubing has a drop factor of 60. How many drops per minute should be delivered?
1. 6
  2. 17
  3. 50
  4. 100
10. The nurse is caring for a patient who is to receive IV fluids at 100 mL per hour with IV antibiotic therapy scheduled every 4 hours. Which of the following sites for the IV placement is best?
1. Large vein on the dorsal side of the patient's non-dominant arm
  2. Small vein on the surface of the patient's dominant hand
  3. Small vein on the surface of the patient's nondominant hand
  4. Large vein in the nondominant antecubital space

# 8

## Nursing Care of Patients With Infections

### VOCABULARY

Define the following terms and use them in a sentence.

#### Antigen

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Asepsis

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Bacteria

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### *Clostridium difficile* (C. diff)

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Hand hygiene

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Pathogens

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Personal protective equipment

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Phagocytosis

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Sepsis

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

#### Virulence

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

**Viruses**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

**PATHOGEN TRANSMISSION***Match the pathogen with its mode of transmission.*

- |  |                   |
|--|-------------------|
| 1. _____ Chickenpox                      | 1. Common vehicle |
| 2. _____ Malaria                         | 2. Droplet        |
| 3. _____ Tuberculosis                    | 3. Airborne       |
| 4. _____ Rocky Mountain<br>spotted fever | 4. Vectorborne    |
| 5. _____ Meningitis                      |                   |
| 6. _____ Pneumonia                       |                   |
| 7. _____ Measles                         |                   |
| 8. _____ Influenza                       |                   |
| 9. _____ Pneumonic<br>plague             |                   |
| 10. _____ Hepatitis A                    |                   |

**PATHOGENS AND INFECTIOUS DISEASE***Fill in the blanks with the appropriate pathogen or infectious disease name.*

- \_\_\_\_\_ Gram-positive bacteria clusters that can cause pneumonia, cellulitis, peritonitis, and toxic shock.
- \_\_\_\_\_ Group of plantlike organisms that includes yeast, molds, and mushrooms; rarely pathogenic.
- \_\_\_\_\_ A fungi that can cause thrush.
- \_\_\_\_\_ The virus that causes infectious mononucleosis.
- \_\_\_\_\_ A systemic fungal respiratory disease caused by *Histoplasma capsulatum*.
- \_\_\_\_\_ A disease caused by infection with the protozoan *Toxoplasma gondii*.
- \_\_\_\_\_ Single-celled parasitic organisms that move and live mainly in the soil.
- \_\_\_\_\_ Small intracellular parasites that can only live inside cells; may produce disease when they enter a cell.
- \_\_\_\_\_ A bacterium that must be inside living cells to reproduce and cause disease and causes Rocky Mountain spotted fever.
- \_\_\_\_\_ Bleach is used to kill its spores.

**CRITICAL THINKING***Read the following case study and answer the questions.*

A 72-year-old patient is admitted to a private room with an antibiotic-resistant respiratory tract infection.

- What equipment is needed for isolation? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What type of equipment would be used to do assessments and nursing interventions?  
\_\_\_\_\_  
\_\_\_\_\_
- Describe the psychosocial effects on a patient in isolation.  
\_\_\_\_\_  
\_\_\_\_\_
- What can the nurse include in the plan of care for a patient in isolation to reduce social isolation?  
\_\_\_\_\_  
\_\_\_\_\_
- What condition is the patient at risk of developing during antibiotic treatment for this infection?  
\_\_\_\_\_  
\_\_\_\_\_
- What intervention can be used to reduce this risk during antibiotic treatment?  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following would the nurse recognize as a sign of a local infection during data collection?
  - Warm skin
  - Clammy skin
  - Anorexia
  - Paleness
- Which of the following does the nurse understand is a sterile technique method?
  - Use of antiseptics
  - Use of autoclaves
  - Frequent hand washing
  - Use of gloves when coming in contact with body fluids
- Which of the following infections would the nurse recognize as being a health care–acquired infection?
  - Chronic urinary tract infection for a homebound person
  - A sexually transmitted infection in a healthy young adult
  - Pneumonia in a hospitalized postoperative patient
  - Hospitalization for cellulitis
- Which of the following antibiotics would the nurse anticipate would be used to treat methicillin-resistant *Staphylococcus aureus* (MRSA)?
  - Gentamicin
  - Tobramycin
  - Penicillin
  - Vancomycin
- A nurse should wear a fit-tested high-efficiency particulate air filter (HEPA) mask when entering the room of a patient with which disease?
  - Influenza
  - Scabies
  - HIV infection
  - Tuberculosis

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- Which of the following actions would be MOST appropriate for the nurse to take while providing patient care to help prevent the spread of infection?
  - Sterilizing hands with a germicide once a day
  - Washing hands at the beginning of patient rounds
  - Performing hand hygiene before and after each patient contact
  - Wearing gloves for all patient care
- In planning care for a patient, the nurse understands that surgical asepsis is based on which of the following principles?
  - Destroying organisms before they enter the body
  - Isolating all patients who have infectious diseases
  - Destroying bacteria as they leave the body
  - Maintaining basic cleanliness
- Which of the following does the nurse understand is needed by all pathogenic organisms to multiply? **Select all that apply.**
  - Moisture
  - Light
  - A host
  - Oxygen
  - Warmth
  - Food
- A patient is to have a sterile urine specimen collected. Which of the following techniques is used to collect this specimen? **Select all that apply.**
  - Cleansing the patient's external genitalia before the patient voids
  - Having the patient void into a sterile container
  - Straight catheterizing the patient
  - Obtaining a midstream voided specimen
  - Obtaining a second voiding specimen
  - Placing urine specimen from catheter in a sterile container
- Which of the following actions can the nurse take to help prevent a health care–acquired infection in an incontinent patient?
  - Avoiding use of a urinary catheter
  - Applying absorbent briefs
  - Toileting patient every 4 hours
  - Restricting fluids

11. A patient has been diagnosed recently as having an upper respiratory infection. Which of the following symptoms would indicate to the nurse that the patient is developing a complication?
1. Scratchy throat
  2. Clear, watery drainage from the nose
  3. Dry cough
  4. High fever
12. The nurse is collecting a culture of wound drainage, and the patient asks what a culture is. Which of the following is the best response by the nurse to explain what a culture is?
1. A culture identifies the presence of pathogens.
  2. A culture measures antibiotic levels.
  3. A culture identifies an antibiotic's effect on a pathogen.
  4. A culture determines the appropriate medication dosage.
13. Which of the following data collection findings should the nurse recognize and report as a possible sign of infection in the older adult? **Select all that apply.**
1. Poor skin turgor
  2. Irritability
  3. Hypertension
  4. Bradycardia
  5. Pacing behavior
  6. Hunger
14. The nurse observes a nursing assistant providing oral care to an immunocompromised patient. The use of which of the following by the nursing assistant would require further instruction for patient safety?
1. Sterile water
  2. Tap water
  3. Fluoride toothpaste
  4. Soft toothbrush

# 9

## Nursing Care of Patients in Shock

### VOCABULARY

Fill in the blank with the word formed by word building.

1. \_\_\_\_\_ acid—sour + osis—condition
2. \_\_\_\_\_ an—without + aerobic—presence of oxygen
3. \_\_\_\_\_ an—without + phylaxis—protection
4. \_\_\_\_\_ dys—difficult + rhythmia—rhythm
5. \_\_\_\_\_ kardia—heart + genesis—beginning
6. \_\_\_\_\_ cyan—blue coloring + osis—condition
7. \_\_\_\_\_ tachy—fast + pnea—breathing
8. \_\_\_\_\_ olig—few + uria—urine condition
9. \_\_\_\_\_ tachy—fast + cardia—heart condition
10. \_\_\_\_\_ hypo—low + perfuser—to pour over or through

### MATCHING

Match the area of the cardiovascular system that contributes to the development of shock with each type of shock.

- |                             |                  |
|-----------------------------|------------------|
| 1. _____ Hypovolemic shock  | 1. Heart         |
| 2. _____ Cardiogenic shock  | 2. Blood vessels |
| 3. _____ Anaphylactic shock | 3. Fluid volume  |
| 4. _____ Septic shock       |                  |
| 5. _____ Neurogenic shock   |                  |
| 6. _____ Obstructive shock  |                  |



## SIGNS AND SYMPTOMS OF SHOCK PHASES

Complete the table.

Signs/Symptoms	Phases		
	Compensating	Progressive	Irreversible
Heart rate	Elevated		Slowing
Pulses		Weaker, thready	
Systolic Blood pressure	Normal	<90 mm Hg *In hypertensive, 25% below baseline	
Diastolic Blood pressure			Decreasing to 0
Respirations		Tachypnea	
Depth			
Temperature	Varies	Decreased *May elevate in septic shock	
Level of consciousness		Confused, lethargy	Unconscious, comatose
Skin/mucous membranes	Cool, pale	Cold, moist, clammy, pale	
Urine output			15 mL/hr decreasing to anuria
Bowel sounds		Decreasing	

### CRITICAL THINKING

Identify the stage of shock, category of shock, and initial action to take for the following patients.

- An 80-year-old woman admitted with a bowel obstruction has minimal urine output. A nasogastric tube has 1500 mL of bloody aspirate returned on insertion. She becomes comatose. Vital signs are as follows: blood pressure 78 mm Hg with Doppler stethoscope, pulse 140 beats per minute and thready, respirations 8 per minute, and temperature 94°F (34°C).  
Stage: \_\_\_\_\_  
Category of Shock: \_\_\_\_\_  
Initial Action: \_\_\_\_\_
- A 56-year-old patient with chronic renal failure is agitated. Her blood pressure is 100/92 mm Hg, pulse 110 beats per minute, respirations 18 per minute, and temperature 102°F (39°C).  
Stage: \_\_\_\_\_  
Category of Shock: \_\_\_\_\_  
Initial Action: \_\_\_\_\_

- A 50-year-old patient who is hypotensive is receiving a fluid challenge of 1000 mL 0.9% normal saline over 4 hours. Her lung sounds are now full of crackles. Her heart rhythm is irregular. Jugular vein distention and ankle edema are present. Blood pressure has dropped from 96/50 to 80/40 mm Hg in 1 hour, pulse 108 beats per minute, respirations 24 per minute, and temperature 95°F (35°C). She is confused.

Stage: \_\_\_\_\_

Category of Shock: \_\_\_\_\_

Initial Action: \_\_\_\_\_

### REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following nursing interventions would the nurse use to collect data to determine status of peripheral tissue perfusion in a 48-year-old patient in shock?
  - Obtain apical pulse.
  - Check capillary refill.
  - Check for sacral edema.
  - Monitor level of consciousness.
- Which of the following does the nurse understand is the primary reason that respirations increase in compensated shock?
  - Anxiety causes hyperventilation.
  - Retention of carbon dioxide is decreased.
  - Normal oxygen levels are maintained.
  - Cardiac output is increased.

3. With which of the following types of shock would the nurse anticipate the skin to be cold and moist during data collection?
  1. Compensating
  2. Progressive
  3. Irreversible
4. The nurse is caring for a hypertensive patient whose blood pressure is usually 156/86. Which of the following blood pressures is considered a progressive shock blood pressure finding for this patient?
  1. 90/44
  2. 140/80
  3. 114/64
  4. 130/72
5. Which of the following outcomes for the nursing diagnosis *Deficient Knowledge* is appropriate for the patient recovering from shock?
  1. Accepts responsibility for shock
  2. States understanding of shock
  3. Interacts with others
  4. Verbalizes fears

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

6. The nurse monitors a patient with chronic kidney disease who has just returned from completing a hemodialysis session. The patient's data before dialysis is as follows: blood pressure 150/88 mm Hg, pulse 90 beats per minute, respirations 18 per minute, temperature 98.9°F (37°C), and weight 168 lb. Patient data obtained after dialysis is as follows: blood pressure 98/50 mm Hg, pulse 110 beats per minute, respirations 18 per minute, temperature 99°F (37°C), and weight 165 lb. Which of the following actions should the nurse take after comparing the data?
  1. Reweigh the patient.
  2. Provide a quiet environment so patient may rest.
  3. Have the health care provider notified of the post-dialysis data.
  4. Check on the patient in 10 minutes.
7. A 47-year-old patient is admitted with hypovolemic shock from trauma injuries resulting from an automobile accident. The patient remains oliguric 2 days later. Which of the following assessments of the patient indicates to the nurse that the patient is experiencing a complication of shock that requires follow-up treatment?
  1. Hematocrit 42% (normal = 38%–47%)
  2. Creatinine 2.2 mg/dL (normal = 0.6–1.3 mg/dL)
  3. Blood urea nitrogen 24 mg/dL (normal = 6–25 mg/dL)
  4. Hemoglobin 13.4 g/dL (normal = 13.5–18 g/dL)
8. The nurse is caring for a patient with a bowel obstruction. Which of the following is the earliest indication that the patient is developing symptoms of shock?
  1. Blood pressure 88/50 mm Hg
  2. Pulse 110 beats per minute
  3. Lethargy
  4. Urine 18 mL/hr
9. The nurse is caring for a postoperative patient following a splenectomy. Which of the following symptoms is of highest priority for the nurse to report?
  1. Blood pressure 86/52 mm Hg
  2. Pulse 100 beats per minute
  3. Cool, pale skin
  4. Urine 40 mL/hr
10. The nurse is caring for a patient with gastrointestinal bleeding who has an intravenous (IV) infusion of 0.9% normal saline at 50 mL/hr. The patient has a large, red, bloody stool and reports dizziness. The nurse assists the patient back to bed and obtains vital signs of blood pressure 90/52 mm Hg, pulse 118 beats per minute, and respirations 22 per minute. Which of the following actions should the nurse take?
  1. Continue monitoring vital signs.
  2. Inform the registered nurse now.
  3. Decrease the IV flow rate.
  4. Elevate the head of the bed.

11. Which of the following medications would the nurse anticipate the health care provider may order to increase blood pressure for a patient with septic shock?
1. Atropine
  2. Dopamine
  3. Digoxin (Lanoxin)
  4. Nitroglycerin
12. For the patient in hypovolemic shock, place the following interventions in the order of priority in which the nurse should perform them.
1. Record hourly urine output.
  2. Apply oxygen.
  3. Provide restful environment.
  4. Ensure patent airway.
  5. Obtain vital signs.
  6. Monitor IV fluids.
13. The nurse is providing care for a patient with pericardial effusion who is at risk for pericardial tamponade. Which of the following symptoms would indicate the patient was developing obstructive shock? **Select all that apply.**
1. BP 88/56 mm Hg
  2. Urine output 100 mL over 6 hours
  3. Pulse 66 beats per minute
  4. Respirations 12 per minute
  5. Jugular vein distension
  6. Confusion and lethargy

# 10

## Nursing Care of Patients in Pain

### VOCABULARY

Match the term with the appropriate definition or statement.

- |  |   |
|--|---|
| 1. _____ Addiction                           | 1. Whatever the experiencing person says it is            |
| 2. _____ Tolerance                           | 2. Endogenous chemicals that act like opioids             |
| 3. _____ Ceiling effect                      | 3. Larger dose of analgesic required to relieve same pain |
| 4. _____ Pain                                | 4. Psychological dependence                               |
| 5. _____ Prostaglandin                       | 5. Self-administered analgesics                           |
| 6. _____ Adjuvants                           | 6. Dose of analgesic limited by side effects              |
| 7. _____ Opioid                              | 7. Medications that relieve pain                          |
| 8. _____ Patient-controlled anesthesia (PCA) | 8. Drugs that are used to potentiate analgesics           |
| 9. _____ Endorphins                          | 9. Neurotransmitter released during pain                  |
| 10. _____ Analgesics                         | 10. A morphine-like drug                                  |

### CULTURAL COMPETENCE

You are working on a medical unit in a large metropolitan area. Your patients come from varied cultural backgrounds. What differences in pain expressions might you expect to see in patients from the following cultures?

Native American \_\_\_\_\_

European American \_\_\_\_\_

African American \_\_\_\_\_

Hispanic American \_\_\_\_\_

Asian American \_\_\_\_\_

Arab American \_\_\_\_\_

### CRITICAL THINKING

Read the following case study and answer the questions.

Ms. Murphy is a 32-year-old woman admitted to your unit following an emergency appendectomy at 0800. When you enter her room at 1400, she is sitting up in bed smiling and visiting with her family. She tells you she is hurting and asks for her pain medication. You check her medication record and

find orders for morphine 5 to 10 mg intravenous push (IVP) every 4 hours as needed (prn) for pain.

1. List at least seven areas you will assess related to her pain. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Based on your assessment, you discuss administering 10 mg of morphine with the registered nurse (RN), who will give the intravenous (IV) medication. What class of drugs does morphine belong to? What is its mechanism of action? Why is it important for you to be aware of these things when the RN is administering the drug?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. What is the most effective medication schedule that can be implemented today? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
4. What side effects will you watch for? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
5. How will you know if the medication has been effective?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6. The next morning you decide to administer Tylenol #3 (acetaminophen 300 mg with codeine 30 mg) for Ms. Murphy’s pain, but it is not effective. Why do you think it did not help? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
7. What nondrug therapies might be appropriate for Ms. Murphy? What technique has already been effective for her? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. Which of the following definitions of pain is most appropriate to use when planning nursing care?
  1. Knifelike sensation along a nerve pathway
  2. Burning sensation that accompanies severe injury or trauma
  3. Injured tissues responding with release of neurotransmitters that cause a sensation of pressure or discomfort
  4. Whatever the experiencing person says it is, occurring whenever the person experiencing it says it does
2. Which of the following terms describes a feeling of threat to one’s self-image or life that may accompany pain?
  1. Fear
  2. Anxiety
  3. Suffering
  4. Panic
3. Which of the following is a common side effect of opioid administration?
  1. Constipation
  2. Respiratory depression
  3. Tachycardia
  4. Addiction

4. Which is the most accurate way to assess the severity of a patient’s pain?
  1. Observe for moaning or other physical signs.
  2. Watch for elevated blood pressure and pulse.
  3. Have the patient rate pain on a standard pain scale.
  4. Monitor the frequency with which the patient requests pain medication.
5. Which of the following statements best explains why a patient can be laughing and talking and yet still be in pain?
  1. Most patients try to deny their pain because pain is socially unacceptable.
  2. Distraction can help relieve pain when used in combination with analgesics.
  3. Most patients who are laughing and talking are not in pain.
  4. Laughing prolongs the effects of opioids in the body.

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

6. An 82-year-old patient in an extended care facility has been receiving intramuscular (IM) meperidine (Demerol) for chronic back pain. After several weeks, the patient becomes irritable, which is a change from normal behavior. Which response by the nurse is best?
  1. Understand that chronic pain can cause a patient to become irritable.
  2. Obtain an order for an adjuvant sedative to administer with the meperidine.
  3. Request a psychiatric referral to evaluate the patient's mental status.
  4. Consult with the RN or health care provider about changing to a different analgesic.
7. A nurse is caring for a patient who reports being in severe pain. The patient has an order for hydrocodone/acetaminophen (Vicodin) 2 tabs every 6 hours prn for pain. Before providing the medication, which of the following actions should the nurse take?
  1. Verify the patient's liver and kidney function studies are within normal limits.
  2. Determine the patient's current pulse rate and blood glucose level.
  3. Assess the patient's pain level and respiratory rate.
  4. Identify the emotional or physical cause of the patient's pain.
8. A patient with severe pain is receiving narcotic pain medication through the use of a patient-controlled analgesia IV pump. The licensed practical nurse/licensed vocational nurse (LPN/LVN) notes that the patient is lethargic and difficult to arouse with a respiratory rate of seven breaths per minute. After informing the RN, which of the following drugs does the nurse anticipate will be ordered?
  1. Naloxone (Narcan)
  2. Methadone (Dolophine)
  3. Hydrocodone with acetaminophen (Vicodin)
  4. Phenytoin (Dilantin)
9. A 42-year-old woman has chronic pain for which no cause can be found. Her physician orders a placebo. Which response by the nurse to the physician is best?
  1. "I will give the placebo and document her response."
  2. "I know if the placebo helps her pain, then her pain is not real."
  3. "I am not comfortable administering this placebo without the patient's consent."
  4. "May we alternate the placebo with her opioid order?"
10. A patient has a PCA pump after surgery on his spine. He appears to be in pain but is too drowsy to push the button on the pump. Which response by the nurse is correct?
  1. Push the button for the patient.
  2. Instruct the patient's wife to push the button, not to exceed every 10 minutes.
  3. Assess the patient's vital signs.
  4. Increase the dose of medication delivered in each injection.
11. A patient with a known history of cocaine abuse is admitted after a motorcycle accident. He calls you into his room and says, "I need something for this pain. Now." Which assumption by the nurse is best?
  1. The patient is withdrawing from cocaine and needs an opioid to prevent withdrawal symptoms.
  2. The patient is in pain and needs an analgesic.
  3. The patient is trying to establish control over his situation.
  4. The patient is faking pain to gain access to opioids.
12. The nurse is providing care for a patient in the emergency department who is experiencing a migraine headache. The patient reports taking two extra-strength acetaminophen (Tylenol 500 mg tablets) every 6 hours for the past few days. The nurse would be most concerned by which of the following statements by the patient?
  1. "I usually drink three or four beers a day."
  2. "My headache pain is six out of ten."
  3. "I'm having difficulty sleeping."
  4. "It hurts even worse with these bright lights."

# Nursing Care of Patients With Cancer

# 11

## VOCABULARY

*Fill in the blank.*

1. Loss of hair is called \_\_\_\_\_.
2. Loss of appetite is called \_\_\_\_\_.
3. \_\_\_\_\_ places the patient at risk of infection.
4. Dry mouth is called \_\_\_\_\_.
5. Treatment aimed at maintaining comfort is called \_\_\_\_\_ therapy.
6. \_\_\_\_\_ is the use of drugs to combat cancer.
7. Substances that poison cells are described as \_\_\_\_\_.
8. \_\_\_\_\_ is the term used to describe new growth.
9. When cancer \_\_\_\_\_, it travels to a new site.
10. A tumor that is not cancerous is called \_\_\_\_\_.
11. A \_\_\_\_\_ is done to obtain a tissue sample to detect cancer cells.
12. Agents that prevent damage to healthy cells from chemotherapy or radiation are called \_\_\_\_\_ agents.

## CELLS

*Label each statement as true or false and correct the false statement.*

1. \_\_\_\_\_ Chromosomes are made of DNA and protein.
2. \_\_\_\_\_ A gene is the code for one DNA molecule.
3. \_\_\_\_\_ Messenger RNA carries the genetic code to the cell membrane.
4. \_\_\_\_\_ A genetic change in a cell is called a mutation.
5. \_\_\_\_\_ Transfer RNA brings amino acids to the proper sites on the DNA.
6. \_\_\_\_\_ Cells become malignant by mutating.
7. \_\_\_\_\_ In any human cell, most of the genes are always active.
8. \_\_\_\_\_ The chromosome number for a human cell is 48.
9. \_\_\_\_\_ The process of mitosis produces two identical cells with 23 chromosomes each.
10. \_\_\_\_\_ Mitosis is necessary only for growth of the body.

### BENIGN VERSUS MALIGNANT TUMORS

Compare the characteristics of benign and malignant tumors. List as many characteristics as you can remember.

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### CRITICAL THINKING

Delmae is a 48-year-old restaurant worker undergoing chemotherapy following a right modified mastectomy. List two or three nursing interventions for each of the side effects she can expect to experience.

1. Leukopenia: \_\_\_\_\_  
\_\_\_\_\_
2. Thrombocytopenia: \_\_\_\_\_  
\_\_\_\_\_
3. Anemia: \_\_\_\_\_  
\_\_\_\_\_
4. Stomatitis: \_\_\_\_\_  
\_\_\_\_\_
5. Nausea and vomiting: \_\_\_\_\_  
\_\_\_\_\_
6. Alopecia: \_\_\_\_\_  
\_\_\_\_\_

### REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Genes are made of which of the following?
  1. Chromosomes
  2. DNA
  3. RNA
  4. Protein
2. Which is the correct term used for a group of similar cells found on an external or internal body surface?
  1. Skin
  2. Mucous membrane
  3. Epithelial tissue
  4. Connective tissue
3. Which of the following foods can increase cancer risk?
  1. Broccoli, cauliflower
  2. Butter, ice cream
  3. Chicken, fish
  4. Cakes, breads
4. A nurse is caring for a patient with a radioactive implant. How can the nurse avoid unnecessary radiation exposure?
  1. Avoid entering the patient’s room more than once each 24 hours.
  2. Limit the amount of time spent with the patient.
  3. Avoid touching the patient.
  4. Place a “contaminated” sign on the patient’s bed.



## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

5. A patient is admitted with suspected lung cancer and asks, “How will my physician know for sure if I have cancer?” Which of the following responses is correct?
  1. “Your physician will do cultures of your sputum.”
  2. “An X-ray examination will be done to confirm the diagnosis.”
  3. “A biopsy is the only way to know for sure.”
  4. “Your physician will do a bronchoscopy to view the cancer.”
6. Which of the following nursing interventions will help relieve symptoms of mucositis related to radiation therapy?
  1. Provide frequent mouth care.
  2. Offer cold liquids often.
  3. Provide high-carbohydrate foods.
  4. Offer juices frequently.
7. A patient is receiving chemotherapy after surgery for prostate cancer. Which of the following signs or symptoms indicates that he is experiencing thrombocytopenia?
  1. Fever
  2. Petechiae
  3. Pain
  4. Vomiting
8. How can the nurse best prevent complications in the patient with leukopenia? **Select all that apply.**
  1. Wash hands frequently.
  2. Avoid injections.
  3. Allow no visitors.
  4. Provide colony stimulating factors as ordered.
  5. Monitor temperature every 4 hours.
  6. Offer fresh fruits and vegetables.
9. A patient has severe pain related to bone cancer. The nurse notes that the patient does not ask for pain medication while watching television. Which of the following statements best explains this?
  1. Distraction is a good pain relief method and can prevent the need for analgesics.
  2. The patient may ask for pain medication when the television is not on because of boredom.
  3. The pain must be psychosomatic because it is relieved by television.
  4. Distraction can be a helpful intervention when used in addition to analgesics.
10. A patient with terminal cancer is referred to hospice for support. How can hospice help the patient and family? **Select all that apply.**
  1. Hospice nurses can help administer curative chemotherapy.
  2. Hospice supports research efforts in finding cancer cures.
  3. Hospice can help the patient’s family keep the patient comfortable until death.
  4. Hospice can help the patient find financial resources for cancer treatment.
  5. Hospice can provide follow-up counseling after the patient’s death.
  6. Hospice can provide respite care for family members or caregivers.
11. The nurse is providing care for a patient in an outpatient surgical center anticipating a needle biopsy of suspicious nodules in the left lung. The patient asks, “If they think this might be cancer, why don’t they just cut it all out?” Which of the following responses by the nurse is best?
  1. “Most patients who have lung biopsies don’t end up having cancer.”
  2. “Why do they think you have cancer?”
  3. “The biopsy will determine if you have cancer and, if so, what treatment is best.”
  4. “It does seem odd that the doctor didn’t simply schedule surgery.”

# 12

## Nursing Care of Patients Having Surgery

### VOCABULARY

*Fill in the blank.*

1. \_\_\_\_\_ are physicians who perform surgical procedures.
2. The three surgical phases are referred to collectively by the term \_\_\_\_\_.
3. The \_\_\_\_\_ phase begins with the admission of the patient to the perianesthesia care unit (PACU) and continues until the patient's recovery is completed.
4. \_\_\_\_\_ is the period when an anesthetic is first given until full anesthesia is reached.
5. The \_\_\_\_\_ phase begins with the decision to have surgery and ends with transfer of the patient to the operating room.
6. The \_\_\_\_\_ phase begins when the patient is transferred to the operating room and ends when the patient is admitted to the PACU.
7. An \_\_\_\_\_ agent is medication (such as narcotics, muscle relaxants, or antiemetics) used with the primary anesthetic agents.
8. The sudden bursting open of a wound's edges that may be preceded by an increase in serosanguineous drainage is referred to as \_\_\_\_\_.
9. \_\_\_\_\_ are physicians who administer anesthesia.
10. \_\_\_\_\_ causes a loss of sensation and allows the surgical procedure to be done safely.
11. \_\_\_\_\_ occurs from hypoventilation or mucous obstruction that prevents some alveoli from opening and being fully ventilated.
12. \_\_\_\_\_ is the removal of necrotic and infected tissue.
13. \_\_\_\_\_ is a body temperature that is below normal range.
14. \_\_\_\_\_ is the viscera spilling out of the abdomen.

## SURGERY URGENCY LEVELS

Match the surgery urgency level to the appropriate definition or example. The level may be used more than once.

- |   |                      |
|---|----------------------|
| 1. _____ Surgery needed when any delay jeopardizes the patient's life or limb | 1. Optional surgery  |
| 2. _____ Fracture repair  | 2. Elective surgery  |
| 3. _____ Surgery needed within 24 to 30 hours                                 | 3. Urgent surgery    |
| 4. _____ Extremity emboli   | 4. Emergency surgery |
| 5. _____ Surgery planned and scheduled without immediate time constraints     |                      |
| 6. _____ Surgery done at request of patient                                   |                      |
| 7. _____ Hernia repair  |                      |
| 8. _____ Rhinoplasty  |                      |
| 9. _____ Infected gallbladder   |                      |
| 10. _____ Cosmetic surgery  |                      |

## NOURISHING THE SURGICAL PATIENT

Find the seven errors and insert the correct information.

Healing requires increased vitamin A for collagen formation, vitamin B<sub>12</sub> for blood clotting, and magnesium for tissue growth, skin integrity, and cell-mediated immunity. Carbohydrates are essential for controlling fluid balance and manufacturing antibodies and white blood cells. Hypoalbuminemia, low urine albumin, impedes the return of interstitial fluid to the venous return system, decreasing the risk of shock. A serum zinc level is a useful measure of protein status.

## MEDICATIONS

Indicate whether the statement is true or false and correct the false statement.

- \_\_\_\_\_ All medications that patients are taking must be reviewed preoperatively.
- \_\_\_\_\_ Most anticoagulants, such as warfarin (Coumadin), do not need to be stopped before surgery.
- \_\_\_\_\_ Diabetic patients on insulin are told to increase their normal insulin dose the day of surgery.
- \_\_\_\_\_ Blood glucose monitoring for diabetic patients is ordered on admission.
- \_\_\_\_\_ If a patient is on chronic oral steroid therapy, it cannot be abruptly stopped when nil per os (NPO).
- \_\_\_\_\_ Surgery is not a serious stressor for the body.
- \_\_\_\_\_ Chronic oral steroid therapy should be continued via the parenteral route if the patient is NPO.
- \_\_\_\_\_ Circulatory collapse can develop if steroids are not stopped abruptly.

## INTRAOPERATIVE NURSING DIAGNOSES AND OUTCOMES

Write a patient objective (goal) for each nursing diagnosis.

- Risk for Injury* related to pressure points from positioning, chemicals, electrical equipment, and effect of being anesthetized \_\_\_\_\_  
\_\_\_\_\_
- Risk for Impaired Skin Integrity* related to chemicals, pressure points from positioning, and immobility  
\_\_\_\_\_  
\_\_\_\_\_
- Risk for Deficient Fluid Volume* related to being NPO and blood loss \_\_\_\_\_  
\_\_\_\_\_
- Risk for Infection* related to incision and invasive procedures \_\_\_\_\_  
\_\_\_\_\_
- Pain* related to pressure points from positioning, incision, and surgical procedure \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## WOUND HEALING PHASES

Complete the table.

Phase	Time Frame	Wound Healing	Patient Effect
Phase I	_____	_____	Fever, malaise
Phase II	_____	Granulation tissue forms	_____
Phase III	_____	Collagen deposited	_____
Phase IV	Months to 1 year	_____	_____

### CRITICAL THINKING

Read the case study and answer the questions.

Mrs. Vell, 74, is scheduled for a total hip replacement because of osteoarthritis. She is seen in the preadmission testing department 1 week before surgery.

- Why is Mrs. Vell being seen in preadmission testing?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What preadmission testing may be done?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What teaching should the nurse do in preadmission testing?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What are the responsibilities of the admitting nurse to prepare Mrs. Vell for surgery?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What is the role of the holding area nurse?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What is a role of the licensed practical nurse/licensed vocational nurse (LPN/LVN) in the operating room?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What are the two prioritized primary responsibilities of the perianesthesia care nurse?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Explain why postoperative care for this patient includes pain control, deep breathing and coughing, leg exercises, activity, leg abduction, and drain care.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following is an LPN/LVN patient care role in the preoperative phase?
  - Obtaining preoperative orders
  - Explaining the surgical procedure
  - Offering emotional support
  - Providing informed consent
- When the patient’s signature is witnessed by the nurse on the surgical consent, which of the following does the nurse’s signature indicate?
  - The nurse obtained informed consent.
  - The nurse provided informed consent.
  - The nurse answered all surgical procedure questions.
  - The nurse verified that the patient signed the consent.

3. Which of the following is an intraoperative outcome for a patient undergoing an inguinal hernia repair?
  1. Verbalizes fears.
  2. Maintains skin integrity.
  3. Demonstrates leg exercises.
  4. Explains deep-breathing exercises.
4. Which of the following is a discharge criterion from the PACU for a patient after surgery?
  1. Oxygen saturation above 90%
  2. Oxygen saturation below 90%
  3. Intravenous (IV) narcotics given less than 15 minutes earlier
  4. IV narcotics given less than 30 minutes earlier
5. Which of the following is one of the discharge criteria from ambulatory surgery for patients following surgery?
  1. Able to drive self home.
  2. Has home telephone.
  3. Understands discharge instructions.
  4. IV narcotics given less than 30 minutes before discharge.

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

6. The LPN/LVN is caring for a patient in the preoperative period who, even after verbalizing concerns and having questions answered, states, “I know I am not going to wake up after surgery.” Which of the following actions should the LPN/LVN take?
  1. Reassure patient everything will be all right.
  2. Inform the registered nurse.
  3. Explain national surgery death rate.
  4. Ask family to comfort the patient.
7. The nurse understands that which of the following is the reason that long-term steroid therapy cannot be abruptly stopped?
  1. Higher steroid levels are needed during stress.
  2. Malignant hyperthermia will result.
  3. Malignant hypertension will occur.
  4. Respiratory failure will result.
8. The nurse is to provide preoperative teaching for a 74-year-old patient. Which of the following actions should the nurse take to improve learning?
  1. Sit in front of window in bright sunlight.
  2. Use small, white-on-black printed materials.
  3. Speak in a high tone.
  4. Eliminate background noise.
9. The nurse is caring for a postoperative patient. Which of the following complications would the nurse explain to the patient can be prevented with early postoperative ambulation?
  1. Increased peristalsis
  2. Coughing
  3. Pneumonia
  4. Wound healing
10. Which of the following actions should the nurse take to maintain patient safety when ambulating a patient for the first time postoperatively?
  1. Use one person to assist patient.
  2. Use two people to assist patient.
  3. Encourage patient to “dangle” self 1 hour before ambulation.
  4. Give narcotic 15 minutes before ambulation.
11. The nurse is caring for a patient with a bowel resection. Which of the following would indicate that the patient’s gastrointestinal tract is resuming normal function?
  1. Firm abdomen
  2. Excessive thirst
  3. Presence of flatus
  4. Absent bowel sounds
12. The patient is dangling at the bedside and states, “Oh, my stomach is tearing open.” Which of the following actions should the nurse immediately take when dehiscence occurs?
  1. Have patient sit upright in a chair.
  2. Slow IV fluids.
  3. Have patient lie down.
  4. Obtain a sterile suture set.
13. When the nurse is assisting the patient to use an incentive spirometer, which of the following actions by the patient indicates that the patient needs further teaching on how to use the spirometer?
  1. Taking two normal breaths before use
  2. Inhaling deeply to reach target
  3. Sitting upright before use
  4. Exhaling deeply to reach target

14. After surgery, the nurse notes that the patient's urine is dark amber and concentrated. Which of the following does the nurse understand may be the reason for this?
1. The sympathetic nervous system saves fluid in response to stress of surgery.
  2. The sympathetic nervous system diureses fluid in response to stress of surgery.
  3. The parasympathetic nervous system saves fluid in response to stress of surgery.
  4. The parasympathetic nervous system diureses fluid in response to stress of surgery.
15. The patient develops a low-grade fever 18 hours post-operatively and has diminished breath sounds. Which of the following actions is most appropriate for the nurse to take to prevent complications? **Select all that apply.**
1. Administer antibiotics.
  2. Encourage coughing and deep breathing.
  3. Administer acetaminophen (Tylenol).
  4. Decrease fluid intake.
  5. Ambulate patient as ordered.
  6. Monitor intake and output.

# Nursing Care of Patients With Emergent Conditions and Disaster/Bioterrorism Response

# 13

## VOCABULARY

Match the word with its definition.

- |   |                    |
|---|--------------------|
| 1. _____ Skin scraped away because of injury.   | 1. Asphyxia        |
| 2. _____ Disease caused by organism entering body through an open wound resulting in convulsions, muscle spasms, stiffness of the jaw, coma, and death. | 2. Tetanus         |
| 3. _____ Insufficient intake of oxygen.   | 3. Abrasion        |
| 4. _____ Inadequate and progressively failing tissue perfusion that can result in cellular death.   | 4. Laceration      |
| 5. _____ Irregular tear of the skin.  | 5. Shock           |
| 6. _____ Loss of water and electrolytes through heavy sweating, causing hypovolemia.  | 6. Amputation      |
| 7. _____ Tearing away or crushing of body limbs.  | 7. Heat exhaustion |
| 8. _____ Frozen body parts that are white or yellow-white.  | 8. Frostbite       |
| 9. _____ A biological weapon that may occur in three forms: inhalational, cutaneous, and gastrointestinal.  | 9. Anthrax         |
| 10. _____ A biological weapon that can result in a severe febrile illness with hemoptysis as a classic sign.  | 10. Plague         |

---

## PRINCIPLES FOR TREATING SHOCK

Indicate whether the statement is true or false and correct the false statement.

1. \_\_\_\_\_ Maintain an open airway and give oxygen as ordered.
2. \_\_\_\_\_ Control external bleeding by indirect pressure.
3. \_\_\_\_\_ Apply cooling blanket to cool patient.
4. \_\_\_\_\_ As possible, keep the patient supine.
5. \_\_\_\_\_ Take hourly vital signs.
6. \_\_\_\_\_ Give the patient oral fluids.
7. \_\_\_\_\_ Administer intravenous (IV) fluids as ordered.

### SIGNS AND SYMPTOMS OF INCREASED INTRACRANIAL PRESSURE

Indicate whether the sign is an early sign or a late sign of increased intracranial pressure.

- |   |               |
|---|---------------|
| 1. _____ Abnormal posturing             | 1. Early sign |
| 2. _____ Altered level of consciousness | 2. Late sign  |
| 3. _____ Amnesia                        |               |
| 4. _____ Changes in respiratory pattern |               |
| 5. _____ Changes in speech              |               |
| 6. _____ Decreased pulse rate           |               |
| 7. _____ Dilated nonreactive pupils     |               |
| 8. _____ Drowsiness                     |               |
| 9. _____ Headache                       |               |
| 10. _____ Nausea and vomiting           |               |
| 11. _____ Unresponsiveness              |               |
| 12. _____ Widening pulse pressure       |               |

### ASSESSMENT OF MOTOR FUNCTION

Complete the table.

If the Patient Is Unable to:	The Lesion Is Above the Level of:
Extend and flex legs	C-5 to C-7
Flex foot, extend toes	S-3 to S-5

### HYPERTHERMIA

Indicate whether the sign is an early sign or a late sign of hyperthermia caused by exposure to a hot environment.

- |   |               |
|---|---------------|
| 1. _____ Core body temperature of 100.4° to 102.2°F (38°–39°C)    | 1. Early sign |
| 2. _____ Diaphoresis  | 2. Late sign  |
| 3. _____ Hot, dry, flushed skin                                   |               |
| 4. _____ Hypotension  |               |
| 5. _____ Pulse rate more than 100                                 |               |
| 6. _____ Increasing body core temperature of 106°F (41°C) or more |               |
| 7. _____ Cool, clammy skin  |               |
| 8. _____ Altered mental status                                    |               |
| 9. _____ Coma or seizures   |               |
| 10. _____ Dizziness   |               |

### PRINCIPLES FOR DISASTER OR BIOTERRORISM RESPONSE

Fill in the blank.

- |   |  |
|---|--|
| 1. A disaster _____ existing personnel, facilities, and equipment.                      | 4. The emergency department serves as the _____ and _____ area.  |
| 2. Hospitals activate _____ in a disaster.  | 5. Those treated first are the most _____ injured but who have the greatest chance for _____ recovery. |
| 3. In a disaster, off-duty staff members are _____, and noncritical patients are _____. | 6. Disaster _____ are conducted on a regular basis.  |
|   | 7. You should be _____ with your _____ in a disaster.  |
|   | 8. Clinical illness from a biological weapon may differ from _____ infections.                         |



**CRITICAL THINKING**

*Read the case study and answer the questions.*

Mr. Harvey, age 66, retired 1 year ago and made plans to travel with his wife. His wife unexpectedly died from a myocardial infarction 2 months ago. Mr. Harvey now lives alone. He has been withdrawn and rarely leaves the house since his wife’s funeral. His son, Ted, who lives in another state, arrives for a weekend visit and is concerned about his father’s behavior. Mr. Harvey has not bathed and is wearing soiled clothing. The refrigerator is bare, and he keeps the curtains drawn. He continually paces and says, “I want to die.” Ted takes his father to the local emergency room.

1. Why might Mr. Harvey be exhibiting this behavior change? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
2. What symptoms of an acute psychiatric episode is Mr. Harvey exhibiting? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. Why should Mr. Harvey be referred for treatment?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
4. What nursing diagnoses apply to Mr. Harvey? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
5. What nursing interventions are appropriate for Mr. Harvey initially? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. For a patient who experiences anaphylactic shock after receiving a medication, which one of the following symptoms would the nurse anticipate?
  1. Chest pain
  2. Hot, dry skin
  3. Difficulty breathing
  4. Fever
  
2. The nurse is assessing a patient’s extremity, which may be fractured. Which of the following is the nurse’s purpose in checking capillary refill during the assessment?
  1. To evaluate arterial blood flow in an extremity
  2. To assess venous blood flow in an extremity
  3. To measure oxygen saturation of the blood
  4. To assess peripheral edema
  
3. During data collection, which of the following findings would indicate to the nurse that severe blood loss has occurred?
  1. Normal, bounding pulse
  2. Slow, strong pulse
  3. Rapid, thready pulse
  4. Slow, bounding pulse

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. Which of the following monitoring is a priority for the nurse when caring for a patient with botulism exposure?
  1. Gag reflex
  2. Pupil response
  3. Corneal reflex
  4. Babinski's response
  
5. The nurse anticipates that treatment for an unconscious patient who has ingested 50 tablets of alprazolam (Xanax), a noncaustic substance, might include which of the following?
  1. Administering an antiemetic
  2. Administering activated charcoal
  3. Forced vomiting
  4. Forcing fluids
  
6. The nurse is planning care for a patient who has hyperthermia. Which of the following indicates that treatment is effective?
  1. Core body temperature less than 94°F (34.4°C)
  2. Patient alert and oriented
  3. Skin cool and moist to touch
  4. Core body temperature greater than 101°F (38.3°C)
  
7. The health care provider orders haloperidol (Haldol) 3 mg intramuscularly for a patient who is experiencing a psychiatric crisis. Haloperidol 5 mg/mL is available. How many milliliters should the nurse give?
  1. 0.3 mL
  2. 0.5 mL
  3. 0.6 mL
  4. 1.3 mL
  
8. The nurse is collecting data on a patient with a large bleeding laceration. Which of the following requires immediate intervention by the nurse?
  1. Thready pulse at 116
  2. Strong pulse at 84
  3. Weak pulse at 56
  4. Bounding pulse at 66
  
9. The nurse is admitting a trauma patient to the emergency department. Place in order of priority the areas on which data are collected as the nurse performs the primary survey. Use all options.
  1. Circulation
  2. Breathing
  3. Airway
  4. Disability
  
10. The nurse is caring for a patient who is bleeding from the radial artery. The nurse is applying direct pressure to the radial artery and has elevated the arm, but the wound continues to bleed. Which of the following actions should the nurse take now?
  1. Apply pressure to the carotid artery.
  2. Apply pressure to the brachial artery.
  3. Apply pressure to the femoral artery.
  4. Apply pressure to the temporal artery.
  
11. The nurse is caring for a patient with a painful rash on the face and forearms who is febrile. Which of the following items is important for the nurse who is unvaccinated to use while providing care to the patient? **Select all that apply.**
  1. Mask
  2. Gown
  3. Gloves
  4. Fit-tested N95 respirator
  5. Shoe covers
  6. Hair net

# unit THREE

## Understanding Life Span Influences on Health and Illness

### CHECKLIST FOR LEARNING SUCCESS

#### Influences on Health and Illness

- Health, wellness, illness
- Nurse's role in supporting and promoting wellness
- Young adult
- Middle-aged adult
- Older adult
- Chronic illness
- Nursing care

#### Nursing Care of Older Adult Patients

- Physiological aging changes
- Cognitive and psychological aging changes
- Health promotion for older patients
- Nursing implications for older patients

#### Nursing Care of Patients at Home

- Introduction to home health nursing
- History of home health nursing
- Home health eligibility
- Home health care team
- Transition from hospital-based nursing to home health care
- The role of the LPN/LVN in home health
- Steps in the home health visit
- Nursing process: the home health patient
- Other forms of home health nursing

#### Nursing Care of Patients at the End of Life

- Identifying impending death
- Advance directive
- Living wills
- Durable medical power of attorney
- End-of-life choices
- Communicating with dying patients
- The dying process
- Grieving

# 14

## Developmental Considerations in the Nursing Care of Adults

### VOCABULARY

Unscramble the word that fits the definition.

1. Short-term intermittent rest provided to caregivers—*serptei crea* \_\_\_\_\_
2. Perception that one's own actions will not affect an outcome—*wporelasesesns* \_\_\_\_\_
3. Condition of long duration—*rhcnoic* \_\_\_\_\_
4. Life principles that pervade one's being—*sitrpiaulty* \_\_\_\_\_
5. State in which person sees no alternatives or choices—*pohelesnses* \_\_\_\_\_
6. A certain time frame during one's life containing tasks an individual needs to accomplish for high-level wellness—*evdlepoemnatl taseg* \_\_\_\_\_

### CHRONIC ILLNESS AND THE OLDER ADULT

Find and correct the eight errors.

Older adults constitute one of the smallest age groups living with chronic illness. Older adult spouses or older family members rarely have to care for a chronically ill family member. Children of older adults who themselves are reaching their 40s are being expected to care for their parents. These older adult caregivers do not experience chronic illness themselves. For older adult spouses, it is usually the less ill spouse who provides care to the other spouse. The older adult family unit is at great risk for ineffective coping or further development of health problems. Nurses should assess ill members of the older adult family to ensure that their health needs are being met.

Older adults are not concerned about becoming dependent and a burden to others. They may become depressed and give up hope if they feel that they are a burden. Establishing long-term goals or self-care activities that allow them to participate or have small successes are important nursing actions that can decrease their self-esteem.

### CRITICAL THINKING

Read the case study and answer the questions.

Mrs. Martin is hospitalized for an exacerbation of her multiple sclerosis. She tells the nurse she is tired of being ill and is not getting any better. She says, "When I am in the hospital, I cannot attend church, which is my only enjoyment." Later in the day, Mrs. Martin is tearful and withdrawn when the nurse makes rounds.

1. What further data collection should the nurse obtain to identify Mrs. Martin's patient-centered needs? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What possible nursing diagnoses would be appropriate for Mrs. Martin? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. What patient-centered care interventions could the nurse use to assist Mrs. Martin in meeting her wish to attend church? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
4. How would the nurse know that Mrs. Martin's goal has been met? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- The nurse is caring for a 72-year-old patient. As the nurse identifies the patient's developmental stage, which of the following of Erikson's developmental stages would the nurse expect the patient to be in?
  - Generativity versus self-absorption
  - Identity versus role confusion
  - Intimacy versus isolation
  - Integrity versus despair
- The nurse is assessing the family of a patient with dementia. Which of the following findings would the nurse anticipate finding for caregivers of patients who are chronically ill when respite care is not available?
  - Personal time increases.
  - Rest time increases.
  - Financial costs increase.
  - Stress levels increase.
- The nurse is planning care for a patient with heart failure. Which of the following is a health promotion method for the nurse to use that is helpful for the patient who is chronically ill?
  - Making the choices for the patient
  - Setting the goals for the family
  - Setting the goals for the patient
  - Allowing the patient to make informed decisions
- The nurse is assigned to care for a group of patients with the following conditions. Which of these does the nurse understand is an example of a chronic illness to plan patient-centered care?
  - Arthritis
  - Bowel obstruction
  - Cellulitis
  - Peritonitis
- The nurse is caring for a patient with a chronic illness. The nurse would evaluate the patient as fulfilling a primary task that patients who are chronically ill need to perform if the patient reported doing which of these actions?
  - Being willing and able to carry out the medical regimen
  - Reducing social activities to compensate for limitations
  - Learning how to play the sick role
  - Refusing to accept negative changes

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- The nurse is assigned to care for a group of patients. Which of these does the nurse understand is an example of a congenital chronic illness to plan patient-centered care? **Select all that apply.**
  - Head injury
  - Malabsorption syndrome
  - Chronic obstructive pulmonary disease
  - Arthritis
  - Cystic fibrosis
  - Spina bifida
- The nurse is developing a plan of care for a patient, age 68, focusing on preventive health care. While planning this care, the nurse understands that aging processes are most affected by which of the following factors?
  - Stress management
  - Financial issues
  - Age at retirement
  - Hobbies

8. A patient, age 64, is active and wants to learn health promotion interventions. Which of the following actions by the nurse supports the patient's desire for self-health promotion?
1. Assign responsibilities for the patient's care to family members.
  2. Select a family physician for the patient.
  3. List health care activities for the patient to carry out.
  4. Ask the patient to select desired health care activities.
9. The home care nurse is caring for a patient with emphysema who seems depressed. Which of the following nursing interventions increases the patient's participation in self-care and assists with improving the patient's depression?
1. Being a caretaker instead of a partner
  2. Assisting the patient rather than doing everything for the patient
  3. Performing activities of daily living for the patient instead of empowering the patient
  4. Doing everything for the patient instead of assisting the patient
10. The nurse is caring for a patient who is recovering from a stroke. Which of the following nursing interventions during rehabilitation will MOST increase the patient's self-esteem?
1. Offering praise for small patient efforts
  2. Offering praise for major patient efforts
  3. Performing activities of daily living for the patient
  4. Assisting patient at first sign of difficulty with activities of daily living
11. The nurse is caring for a patient who is secluded and sad. Which of the following nursing actions might be MOST helpful for psychosocial intervention for the patient who is withdrawn, depressed, or tense because of isolation resulting from a chronic illness?
1. Avoiding the use of humor
  2. Reading comics or jokes from magazines
  3. Maintaining a serious demeanor
  4. Limiting conversation to a minimum
12. The nurse is caring for a patient who is chronically ill. In contributing to the plan of care for the patient who is chronically ill, which of the following is an appropriate nursing intervention designed to empower the patient?
1. Provide educational information.
  2. Limit visiting hours for family members.
  3. Ask family members to provide care.
  4. Set goals for the patient and family.
13. The nurse is caring for a patient with Huntington's disease. The family asks what the cause of the illness is. Which of the following responses is most appropriate by the nurse?
1. "Huntington's disease is a genetic disorder; the family may want to consider genetic testing."
  2. "Huntington's disease is a congenital disorder that developed in the womb."
  3. "Huntington's disease is an acquired disorder caused by smoking."
  4. "Huntington's disease is common among people over age 65, but the cause is unknown."

# Nursing Care of Older Adult Patients

# 15

## VOCABULARY

Fill in the blank with the word for the definition.

1. \_\_\_\_\_ Behaviors that are performed in the care and maintenance of self and surroundings
2. \_\_\_\_\_ Irregular heart rhythm
3. \_\_\_\_\_ Opacity of the lens of the eye, its capsule, or both
4. \_\_\_\_\_ State of feeling or mind
5. \_\_\_\_\_ Accidental drawing of foreign substances into the airway
6. \_\_\_\_\_ Collection of excess fluid in body tissues
7. \_\_\_\_\_ A group of eye diseases characterized by increased intraocular pressure
8. \_\_\_\_\_ The act or process of coughing up materials from the air passageways leading to the lungs
9. \_\_\_\_\_ A condition of sluggish or difficult bowel action/evacuation
10. \_\_\_\_\_ The body's attempts to maintain a balance whenever a change occurs
11. \_\_\_\_\_ Abnormal accumulation of fibrosis connective tissue in skin, muscle, or joint capsule that prevents normal mobility
12. \_\_\_\_\_ An open sore or lesion of the skin that develops because of prolonged pressure against an area
13. \_\_\_\_\_ Excessive urination at night
14. \_\_\_\_\_ External variables that determine the occurrence and rate of structural and functional declines in the human body over time
15. \_\_\_\_\_ Age-related breakdown of the macular area of the retina of the eye, disrupting central vision
16. \_\_\_\_\_ A condition in which there is a reduction in the mass of bone per unit volume
17. \_\_\_\_\_ None or minimal stimulation of senses that creates potential for maladaptive coping
18. \_\_\_\_\_ Highest level of patient activity considering the patient's condition
19. \_\_\_\_\_ A process to orient a person to names, dates, time, and other pertinent information through use of repeating messages
20. \_\_\_\_\_ Excessive stimulation of the senses that creates the potential for maladaptive coping

## AGING CHANGES

Match the aging change with the effect of the change.

- |   |  |
|---|--|
| 1. _____ Increased conduction time  | 1. Heart rate slows, unable to increase quickly  |
| 2. _____ Decreased blood vessel elasticity                                    | 2. Less oxygen delivered to tissues              |
| 3. _____ Leg veins dilate, valves become less efficient                       | 3. Increased blood pressure and cardiac workload |
| 4. _____ Basal metabolic rate slows   | 4. Poor heart oxygenation                        |
| 5. _____ Decreased cardiac output   | 5. Varicose veins, fluid accumulation in tissues |
| 6. _____ Decreased insulin release  | 6. Possible weight gain                          |
| 7. _____ Irregular heartbeats   | 7. Decreased ability to respond to stress        |
| 8. _____ Altered adrenal hormone production                                   | 8. Hyperglycemia                                 |
| 9. _____ Decreased gag reflex   | 9. Appetite may be reduced                       |
| 10. _____ Decreased peristalsis   | 10. Dry mouth, altered taste                     |
| 11. _____ Reduced liver enzymes   | 11. Increased aspiration risk                    |
| 12. _____ Decreased saliva  | 12. Frequency of urination                       |
| 13. _____ Delayed gastric emptying  | 13. Reduced drug metabolism/detoxification       |
| 14. _____ Decreased bladder size and tone, changes from pear to funnel shaped | 14. Reduced appetite, constipation               |
| 15. _____ Decreased kidney concentrating ability                              | 15. Nocturia                                     |
| 16. _____ Less sodium saved   | 16. Risk of dehydration                          |
| 17. _____ Reduced renal blood flow  | 17. Decreased renal clearance of all medications |
| 18. _____ Decreased immune function   | 18. Greater infection and cancer risk            |
| 19. _____ Body content water loss   | 19. Slower healing process                       |
| 20. _____ Decreased sebaceous/sweat gland                                     | 20. Dryness of the skin                          |
| 21. _____ Reduced cell replacement  | 21. Decreased temperature regulation             |
| 22. _____ Muscle responses slowed   | 22. Response time increased                      |
| 23. _____ Decreased brain blood flow  | 23. Short-term memory loss                       |
| 24. _____ Less vaginal lubrication  | 24. Risk of injury, burns                        |
| 25. _____ Decreased sensation   | 25. Dyspnea with activity                        |
| 26. _____ Decreased lung capacity   | 26. Painful intercourse                          |

## COMMUNICATING WITH PEOPLE WHO HAVE HEARING IMPAIRMENTS

Indicate whether the statement is true or false and correct false statements.

- \_\_\_\_\_ Ensure that hearing aids are turned on and have working batteries.
- \_\_\_\_\_ The speaker should turn to the side so the speaker's profile is visible to patient.
- \_\_\_\_\_ Speak toward the patient's impaired side of hearing.
- \_\_\_\_\_ Speak in a clear, moderate-volume, low-pitched tone.
- \_\_\_\_\_ Do not shout because doing so distorts sounds.
- \_\_\_\_\_ Recognize that high-frequency tones and consonant sounds are lost last—*s, z, sh, ch, d, g*.
- \_\_\_\_\_ Eliminate background noise because it distorts sounds.

## MEDICATIONS

Find the six errors and correct them.

Older patients are less susceptible to drug-induced illness and adverse medication side effects for various reasons. They take few medicines for the one chronic illness that they have. Different medications interact and produce side effects that can be dangerous. Over-the-counter medicines that older patients take, as well as the self-prescribed extracts, elixirs, herbal teas, cultural healing substances, and other home remedies commonly used by individuals of their age cohort do not influence other medications.

If an older patient crushes a large enteric-coated pill so it can be taken in food and is easily swallowed, it enhances the enteric protection and can inadvertently cause damage to the stomach and intestinal system. Some patients unintentionally skip prescribed doses in an effort to save money. When prescribed doses are not being taken as expected, problems do



not clear up as quickly, and new problems may result. The nurse should educate the older patient and the patient's family. Patients need to know what each prescribed pill is for, when it is prescribed to be taken, and how it should be taken.

### CRITICAL THINKING

Read the following case study and answer the questions. This is a values clarification exercise.

While making 2200 rounds in the extended care facility, the nurse looks into Mr. B's room to find Mr. B and a female resident from down the hall together, sleeping soundly in Mr. B's bed with the side rails up. Mr. B and the female resident are both 63 years of age. Mr. S, who is Mr. B's roommate, is sound asleep alone in his own bed.

1. What are your initial feelings about this situation?

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2. What influences your feelings? \_\_\_\_\_

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3. What is the first thing that you would do after this discovery? \_\_\_\_\_

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4. What issues should you consider before making a decision? \_\_\_\_\_

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5. How will you interact with these patients in the future?

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### REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. The nurse understands that wax buildup in an older patient's ears can cause which type of hearing loss?
1. Sensorineural
  2. Bone conduction
  3. Perceptive
  4. Neural

2. The nurse understands that which of the following factors is most often the cause of sexual dysfunction for older people?
1. Physical factors
  2. Psychological factors
  3. Social factors
  4. Environmental factors

3. Which of the following actions should be taken to help an older person prevent osteoporosis?
1. Decrease dietary intake of calcium.
  2. Encourage regular exercise.
  3. Increase dietary intake of salt.
  4. Increase dietary protein intake.

### REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. A 72-year-old patient has been seeing a doctor for treatment of glaucoma for the past 5 years. Which of the following symptoms does the nurse expect the patient to relate when discussing the symptoms?
1. Headaches more severe in the evening
  2. Blurred vision when attempting to focus
  3. Morning headaches that disappear after rising
  4. Increased sensitivity to light in the early morning

5. As the nurse performs an oral assessment on an 84-year-old patient, which of the following is an expected finding within the patient's mouth caused by advancing age?
1. Loss of teeth
  2. Hardness of the gums
  3. Increased production of saliva
  4. Decreased taste sensitivity for salt

6. As the nurse collects data on a 79-year-old patient, which of the following does the nurse recognize as an aging change in the cardiovascular system?
1. Increased cardiac output
  2. Increased peripheral vascular resistance
  3. Increased resting heart rate
  4. Increased cardiac reserve
7. Which of the following does the nurse understand is the rationale for dangling a 70-year-old patient at the bedside before helping the patient to stand upright?
1. To provide a heightened awareness of body position
  2. To accommodate a less efficient circulatory system
  3. To strengthen legs
  4. To reduce anxiety about getting up
8. As the nurse provides care to an 80-year-old patient with an intravenous (IV) infusion, the nurse understands that it is essential for older patients who are receiving IV fluids to be monitored closely to prevent which of the following?
1. Circulatory distress
  2. Dislodging of the IV
  3. Venous distention
  4. Increased urinary output
9. The nurse is talking with a patient who is hard of hearing and is having the most difficulty with high-pitched tones. To increase the patient's hearing, which of the following should the nurse do when speaking with the patient?
1. Speak slowly with emphasis on important words.
  2. Double the voice volume.
  3. Whisper responses in proximity to the patient's ear.
  4. Use a modulated voice and talk normally in either ear.
10. A nurse is working in an extended care facility. Which of the following nursing behaviors demonstrates the nurse's respect for the older patient's sexuality?
1. Providing privacy time for a patient by enclosing the bed with the curtain and ensuring that the patient is undisturbed for an hour
  2. Entering a patient's room without knocking when a visitor is present
  3. Walking in on a patient and visitor during an embrace to prepare medications
  4. Changing the subject when a patient expresses feelings toward a friend
11. A nurse caring for a number of older clients on a medical unit recognizes that which of the following individuals would be at highest risk for using a prescription medication considered inappropriate?
1. A 60-year-old college professor recently diagnosed with diabetes admitted with cellulitis.
  2. A 72-year-old high school dropout who suffered double below-the-knee amputations in the Korean War admitted with a decubitus ulcer.
  3. A 76-year-old retired lawyer with a history of hypertension and chronic renal failure admitted for dehydration.
  4. An 81-year-old retired teacher with a history of colorectal cancer admitted for a colonoscopy.

# Nursing Care of Patients at Home

# 16

## VOCABULARY

Match the term to the correct definition.

- \_\_\_\_\_ Autonomous
- \_\_\_\_\_ Case management
- \_\_\_\_\_ Certified
- \_\_\_\_\_ Collaborative care
- \_\_\_\_\_ Community resources
- \_\_\_\_\_ Homebound
- \_\_\_\_\_ Private duty
- \_\_\_\_\_ Respite care
- \_\_\_\_\_ Skilled nursing
- \_\_\_\_\_ Start of care
- Care that can only be delivered by a licensed professional nurse
- Occurs when a patient is unable to leave his or her home to obtain necessary health services
- To work together to achieve a goal
- Coordinates care among patient, health care provider, and caregivers
- A health care provider's order that allows home health services to care for a patient for 60 days
- To work independently
- Available to a home health patient to improve his or her quality of care; usually coordinated by a social service worker
- Scheduled care to assist the patient with personnel and homemaking needs
- Begins on the first day of nursing services
- Provides family members and caregivers time to take care of themselves

## HOME HEALTH SERVICES

Match the home health services/role to the appropriate definition.

- \_\_\_\_\_ Social services
- \_\_\_\_\_ Physical therapy
- \_\_\_\_\_ Occupational therapy
- \_\_\_\_\_ Registered nurse
- \_\_\_\_\_ Certified nursing assistant
- \_\_\_\_\_ Licensed practical nurse/licensed vocational nurse (LPN/LVN)
- \_\_\_\_\_ Speech therapist
- \_\_\_\_\_ Health care provider
- Assists the patient with activities of daily living (ADLs)
- Develops the plan of care and manages the care of the patient during home health services
- Assists the patient with developing independence with ADLs
- Assists the patient with access to community resources
- Assists the patient with strength and gait training
- Works with language, speech, swallowing
- Team leader
- Makes home visits and performs skilled nursing care.

**CRITICAL THINKING**

*Read the following case study and answer the questions.*

Mrs. Thompson was just discharged from the hospital after an exacerbation of her respiratory disease. Her health history includes chronic obstructive pulmonary disease (COPD), type 2 diabetes, and coronary artery disease (CAD). She is receiving O<sub>2</sub> therapy at 2 L/minute via nasal cannula. She has a skin tear on her right lower extremity requiring dressing changes every other day for 4 weeks. The physician increased her heart medications to include a beta blocker for heart rate control.

Mrs. Thompson lives alone and has verbalized to the registered nurse (RN), on admission, that it is difficult for her to prepare meals and “get around the house.” She has one married daughter who lives locally and works full time.

1. How often will Mrs. Thompson require skilled nursing services? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. What services will the home health nurse be performing?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. What are some safety considerations for Mrs. Thompson?  
 \_\_\_\_\_  
 \_\_\_\_\_

4. Would Mrs. Thompson benefit from any other home health services? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. Which of the following nursing leaders demonstrated the impact nurses can have with the care and improvement of patients in the home?
  1. Florence Nightingale
  2. Clara Barton
  3. Lillian Wald
  4. Jean Watson
  
2. A patient has just been discharged from the hospital after open heart surgery. The patient’s spouse is the primary caregiver and confides that handling all of the finances, the patient’s complex medication regime, assistance with ADLs, and general household management is a concern. Which of the following would be an appropriate nursing diagnosis for the patient’s spouse?
  1. Ineffective Coping
  2. Powerlessness
  3. Ineffective Health Maintenance
  4. Risk for Caregiver Role Strain

3. When providing care to a patient in the patient’s home, the nurse understands that which of the following persons is in control of the home care environment?
  1. Family
  2. Health care provider
  3. Nurse
  4. Patient

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. The nurse is making a first-time visit to a patient at home. Which of the following techniques could the home health nurse use to develop trust with the patient?
  1. Review patient's history to plan patient needs before visit.
  2. Call the night before the visit to set a time for the visit.
  3. Acknowledge patient's fears that are expressed.
  4. Discuss treatment plans with the patient only.
5. The nurse collects safety data on an initial visit to the home of a patient who has returned home from the hospital and has an infected abdominal wound requiring dressing changes. Which of the following interventions should the nurse include in the plan of care to promote safety in the home? **Select all that apply.**
  1. Explain to the patient never to get out of bed without assistance.
  2. Instruct a family member to be available at all times to assist with ambulation.
  3. Clean the patient's home each visit to maintain asepsis.
  4. Instruct the family to remove all scatter rugs.
  5. Ask family to install handrails in the hallway for ambulation.
  6. Clear walkways of all clutter.
6. The nurse arrives at a patient's home. Which of the following interventions performed by the nurse would demonstrate understanding of the importance of following infection control principles in the home?
  1. Setting the nurse's home health bag on the floor
  2. Cleaning supplies after each home health visit
  3. Hand washing in the patient's kitchen sink
  4. Using dressing supplies sitting opened on a table
7. The nurse is to give a patient morphine 8 mg intramuscular for pain. The nurse has available 10 mg of morphine/mL. How many mL will the nurse give?  
\_\_\_\_\_ mL
8. The nurse is making a home visit to a 68-year-old patient and is reinforcing medication teaching that was done in the hospital setting. The nurse understands that the teaching will be more effective with which of the following techniques? **Select all that apply.**
  1. Provide a long teaching session.
  2. Include a support person.
  3. Make instructions simple.
  4. Provide demonstration.
  5. Repeat instructions often.
9. The LPN is visiting a patient to check blood glucose and administer insulin. As the LPN obtains the insulin from the refrigerator where the patient stores it, the LPN observes that dirty dishes are stacked in the kitchen sink, and there is only a moldy opened can of soup, a sandwich, and cat food in the refrigerator. Which of the following actions should the LPN take regarding the visit findings?
  1. Inform the RN of the moldy and sparse food.
  2. Tell the patient to wash the dishes.
  3. Notify the RN that the patient is eating cat food.
  4. Wash the dirty dishes.
10. Which of the following could the nurse do to prepare for a home health visit and ensure that it is a safe and effective visit? **Select all that apply.**
  1. Give the patient a time range for arrival.
  2. Provide an exact time for arrival.
  3. Obtain driving directions to the patient's home.
  4. Park in the patient's driveway.
  5. Keep gas tank filled.
  6. Carry a whistle.
11. The nurse is visiting an 89-year-old woman in the home to assess the need for skilled nursing care after a fall resulting in a broken collarbone. Which of the following should be included in the nurse's initial visit? **Select all that apply.**
  1. Identify fall risks in the home environment.
  2. Observe the patient perform activities of daily living.
  3. Collect baseline vital signs.
  4. Obtain a urine sample for culture and sensitivity.
  5. Review patient medications and schedule.

# 17

## Nursing Care of Patients at the End of Life

### VOCABULARY

*Fill in the blank.*

1. Part of an advance directive is a document instructing caregivers in patients' medical preferences at end of life, called a \_\_\_\_\_.
2. A \_\_\_\_\_ document specifies who can make decisions for a patient when the patient can no longer make decisions.
3. Patients qualify for \_\_\_\_\_ care when their prognosis is 6 months or less.
4. Care of the body after death is called \_\_\_\_\_.
5. The nurse who communicates patients' and families' wishes to the health team is acting as a patient \_\_\_\_\_.

### TRUE OR FALSE?

*Indicate whether the statement is true or false and correct false statements.*

1. \_\_\_\_\_ Older adult patients usually gain weight while undergoing treatment in a hospital.
2. \_\_\_\_\_ Only a few health insurance companies provide a hospice benefit.
3. \_\_\_\_\_ Insomnia, headaches, and fatigue can be a sign of grief in nurses.
4. \_\_\_\_\_ Dehydration in dying patients causes endorphins to be released that will enhance comfort.
5. \_\_\_\_\_ Patients who live longer than 6 months while on hospice will be discharged from the hospice program.
6. \_\_\_\_\_ Terminal illness is experienced by the whole family.
7. \_\_\_\_\_ To improve the chance of success for patients receiving cardiopulmonary resuscitation (CPR) at the time of cardiac arrest, CPR must be started within 8 minutes.
8. \_\_\_\_\_ One benefit of withholding artificial fluids in patients who are actively dying is fewer pharyngeal and lung secretions.
9. \_\_\_\_\_ Eighty percent of communication with terminal patients and their families is nonverbal.
10. \_\_\_\_\_ Confusion and agitation are two common indicators that older adult patients are approaching the end of life.

**CRITICAL THINKING**

Read the following case study and answer the questions.

Your patient, Mrs. Brown, is actively dying from end-stage lung cancer. List at least two nursing interventions that may be helpful to treat each symptom she is experiencing:

1. Dyspnea \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. Bowel and bladder incontinence \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. Copious oral secretions \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
4. Body temperature changes \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
5. Restlessness \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

1. Research on patients with dementia who received tube feedings revealed which of the following risks?
  1. The risk of aspiration was decreased.
  2. The risk of aspiration was increased.
  3. The patients gained excess weight.
  4. Pressure ulcers healed more quickly.
2. What question can be most effective in finding out the patient’s understanding of the severity of the illness he or she is experiencing?
  1. “How do you feel about your illness?”
  2. “How is your family coping with your illness?”
  3. “What has the doctor told you about your illness?”
  4. “What would you like to do about your illness?”
3. A dying patient’s family members are upset and crying. Which action by the nurse will best help the family?
  1. Sustain eye contact and encourage them to talk about their concerns.
  2. Ask them to speak quietly so as not to disturb the other patients.
  3. Tell them for the sake of their loved one, they need to compose themselves.
  4. Move them to another room away from the patient.

**REVIEW QUESTIONS—TEST PREPARATION**

Choose the best answer unless directed otherwise.

4. A family member asks why a dying patient is receiving morphine when the patient doesn’t appear to be in any pain. Which response by the nurse is best?
  1. “Morphine helps make patients less aware of their surroundings.”
  2. “Morphine helps patients breathe more comfortably.”
  3. “Morphine helps keep body temperature under control.”
  4. “Morphine helps patients sleep.”
5. A patient has just been pronounced dead. What is the first action the nurse should take?
  1. Contact the nursing supervisor.
  2. Remove the patient’s tubes and create a clean, peaceful impression for the family.
  3. Make sure the patient gets to the funeral home within 12 hours for embalming.
  4. Move the patient out of the hospital room to the morgue.

6. A dying patient appears confused and keeps saying he sees his wife who died 10 years earlier. The family appears upset by this. What teaching should the nurse provide?
1. Teach them to redirect the patient and gently remind him that his wife died long ago.
  2. Explain that this happens because of the medications that the patient is receiving.
  3. Explain that this is a common occurrence and encourage them to allow him to talk about his experience.
  4. Explain that this can occur when the brain is deprived of oxygen and then get an order for oxygen if the patient does not already have it.
7. An older patient with chronic disease is very weak and chokes when attempting to eat. The patient's daughter is upset and wants a feeding tube inserted. The physician has told her that the patient is dying and that a tube will not prolong life. The daughter is now crying in the hallway. Which response by the nurse is best?
1. Reiterate what the doctor said about the patient not living any longer with a tube.
  2. Tell the daughter that a tube is uncomfortable for the patient.
  3. Tell the daughter the staff will feed him more slowly to prevent choking.
  4. Acknowledge how hard this is for her, as she has taken such good care of feeding the patient throughout the illness.
8. A patient being discharged from the hospital has decided she does not want to be resuscitated should she experience a cardiopulmonary arrest. Which of the following documents should the nurse assist the patient to complete?
1. Living will
  2. Advance medical directive
  3. Durable power of attorney
  4. Physician orders for life-sustaining treatments (POLST)
9. The family of a patient who is terminally ill asks a nurse if they may bathe their loved one after death, in keeping with their cultural traditions. Which response is best?
1. "You should concentrate on the time you have left together."
  2. "Your cultural traditions are important and will be supported by our staff."
  3. "Our staff will make sure the patient is clean and bathed."
  4. "That won't be necessary, because the funeral home takes care of bathing the patient."
10. The family members of a patient with terminal cancer have agreed to stop aggressive treatment and begin comfort measures only. Which of the following statements would the nurse include in a discussion of specific decisions? **Select all that apply.**
1. "Withholding artificial hydration can make breathing more comfortable."
  2. "Pain may be reduced if artificial hydration is stopped because tumor swelling is decreased."
  3. "If the intravenous fluids are stopped, the patient's body will stop making endorphins."
  4. "Research indicates that tube feeding in people dying of cancer is not beneficial."
  5. "Patients who are not fed often say they are hungry as they are dying."



# unit FOUR

## Understanding the Immune System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Immune:
- Antigens
- Lymphocytes
- Antibodies
- Mechanisms of immunity
- Types of immunity
- Aging effects

#### Major Disorders

- Immune:
- Allergic rhinitis
- Atopic dermatitis
- Anaphylaxis
- Urticaria
- Angioedema
- Hemolytic transfusion reaction
- Serum sickness
- Contact dermatitis
- Transplant rejection
- Pernicious anemia
- Idiopathic autoimmune hemolytic anemia
- Hashimoto's thyroiditis
- Ankylosing spondylitis
- Lupus erythematosus
- Hypogammaglobulinemia
- Human immunodeficiency virus (HIV)
- Acquired immune deficiency syndrome (AIDS)

#### Nursing Assessment

- Medical history
- Physical examination

#### Diagnostic Tests

- Blood studies
- Radiographic tests
- Biopsies
- Skin tests
- Gene testing

#### Interventions

- Immunotherapy
- Medications
- Surgical management
- Monoclonal Antibodies
- Recombinant DNA technology

#### Common Medications

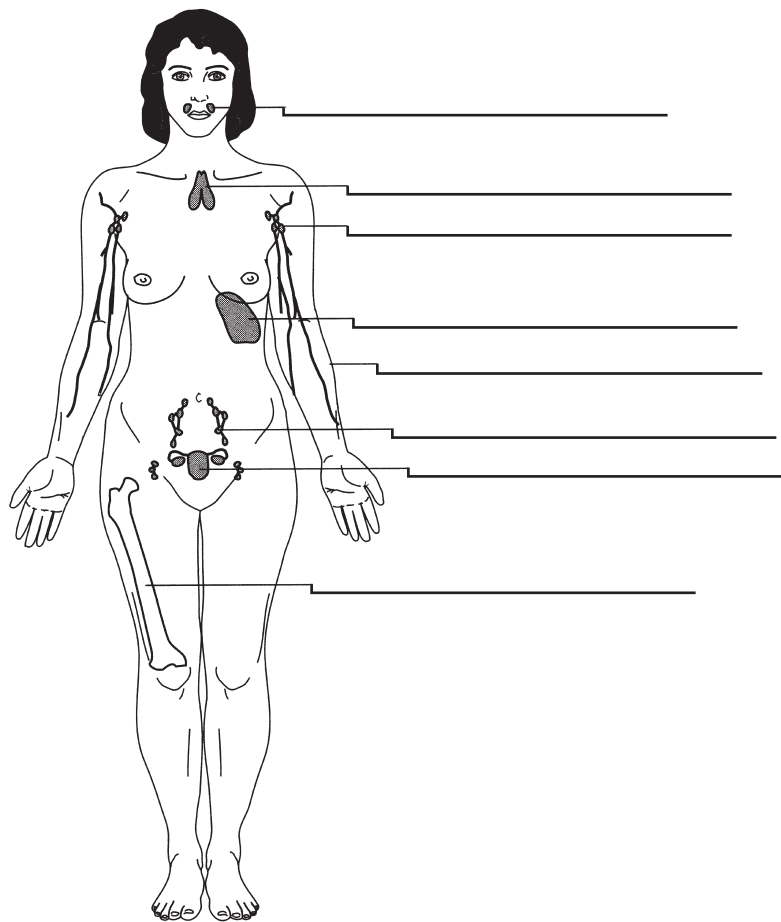
- Antihistamines
- Antiretrovirals
- Corticosteroids
- Epinephrine
- Fusion inhibitors
- Immunosuppressives
- Immunoglobulin
- Integrase inhibitors
- Nucleoside analogue reverse transcriptase inhibitors
- Nucleoside analogue reverse transcriptase inhibitors
- Nucleotide analogue reverse transcriptase inhibitors
- Protease inhibitors
- Ribonucleotide reductase inhibitors
- Rho (D) immune globulin (RhoGAM)
- Thyroxine
- Vitamin B<sub>12</sub>

# 18

## Immune System Function, Assessment, and Therapeutic Measures

### STRUCTURES OF THE IMMUNE SYSTEM

*Label the following structures.*



## IMMUNE SYSTEM CELLS

Match each cell of the immune system with the correct description.

- |                             |   |
|-----------------------------|---|
| 1. _____ Memory cells       | 1. Phagocytize pathogens labeled with antibodies                      |
| 2. _____ Helper T cells     | 2. Produce antibodies   |
| 3. _____ Cytotoxic T cells  | 3. Limit the immune response once the pathogen has been destroyed     |
| 4. _____ Plasma cells       | 4. Initiate a rapid immune response if the pathogen reenters the body |
| 5. _____ Suppressor T cells | 5. Destroy cells directly by lysing their membranes                   |
| 6. _____ Macrophages        | 6. May become plasma cells or memory cells                            |
| 7. _____ B cells            | 7. Participate in antigen recognition and activate B cells            |

## ANTIBODIES

Name the proper class of antibodies for each of these functions.

- Found in mucous membrane secretions: \_\_\_\_\_
- Provides long-term immunity: \_\_\_\_\_
- Form the receptors on B cells: \_\_\_\_\_
- Important in allergic reactions: \_\_\_\_\_
- Cross the placenta to fetal circulation: \_\_\_\_\_
- Found in breast milk: \_\_\_\_\_
- The first antibody produced in an infection: \_\_\_\_\_

## VOCABULARY

Fill in the blank.

- \_\_\_\_\_ are chemical markers that identify cells or molecules.
- \_\_\_\_\_ is the ability to destroy pathogens or other foreign material and to prevent further cases of certain infectious diseases.
- \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ are the three types of lymphocytes.
- \_\_\_\_\_ mature in the thymus gland.
- Antibodies are also called \_\_\_\_\_.
- \_\_\_\_\_ immunity is the type of immunity that involves only T cells.
- \_\_\_\_\_ immunity is the type of immunity in which a person has recovered from a disease and now has antibodies and memory cells specific for that pathogen.
- The immunoglobulin \_\_\_\_\_ provides long-term immunity following recovery from an illness.
- Lymph node enlargement with tenderness is usually indicative of \_\_\_\_\_.
- The \_\_\_\_\_ of a white blood cell differential are increased in bacterial infections.

## IMMUNE SYSTEM

Match the word with the definition.

- |  |                                      |
|--|--------------------------------------|
| 1. _____ Allergy shots   | 1. Periorbital edema                 |
| 2. _____ Tests for antibodies to human immunodeficiency virus (HIV), used as a screening test              | 2. Biopsies                          |
| 3. _____ Important in allergic reactions and attaches to mast cells  | 3. Pruritus                          |
| 4. _____ Swelling around the eyes  | 4. Enzyme-linked immunosorbent assay |
| 5. _____ A test done to confirm a diagnosis, determine a prognosis, or evaluate effectiveness of treatment | 5. IgE                               |
| 6. _____ Found in secretions of all mucous membranes   | 6. C-reactive protein                |
| 7. _____ Itching   | 7. Immunotherapy                     |
| 8. _____ An abnormal protein found in plasma during an acute inflammatory process                          | 8. IgA                               |

**DATA COLLECTION—HISTORY**

*Find and correct the 12 errors.*

**Demographic Data**

The patient’s age, gender, race, and ethnic background are important. Systemic lupus erythematosus affects men eight times more frequently than women. The patient’s place of birth gives insight into ethnic ties. Where the patient has lived and does live may shed light on the current illness. The patient’s occupation, such as that of a coal miner, may contribute to gastrointestinal symptoms.

Rare signs and symptoms found with immune system disorders include fever, fatigue, joint pain, swollen glands, weight gain, and skin rash.

**History**

Food, medication, and environmental allergies should include those that the patient experiences and those present in the family history. With a family history, a previous exposure to a substance is required before a severe reaction occurs. Conditions such as allergic rhinitis, systemic lupus erythematosus, ankylosing spondylitis, and asthma are thought to be either familial or have a congenital predisposition. If the patient’s thymus gland has been removed (thymectomy), B-cell production may be altered. Corticosteroids and immunosuppressants enhance the immune response. The patient’s lifestyle may place the patient at low risk for contracting the human immunodeficiency virus. The patient’s diet and usage of vitamins give insight into the depletion of the immune

system. Stress (environmental, physical, and psychological) can enhance immune system function.

**CRITICAL THINKING**

*Read the following case study and answer the questions.*

David Case, age 29, is visiting his health care provider because he has been extremely fatigued for several months and now has swollen lymph nodes in his neck. On palpation, the area feels enlarged, nontender, hard, and fixed.

1. What categories of data collection should the nurse obtain? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. What might the palpation findings indicate?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
3. What categories of data collection would be important to explore in detail? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. A baby is born temporarily immune to the diseases to which the mother is immune. The nurse would explain this to the mother as being which of the following types of immunity?
  1. Naturally acquired passive immunity
  2. Artificially acquired passive immunity
  3. Naturally acquired active immunity
  4. Artificially acquired active immunity
2. Immunity to a disease after recovery is possible because the first exposure to the pathogen has stimulated the formation of which of the following?
  1. Antigens
  2. Memory cells
  3. Complement
  4. Natural killer cells
3. Which of the following immunoglobulins is first produced during an acute infection?
  1. IgG
  2. IgM
  3. IgE
  4. IgD
4. Which of the following is the function of macrophages and neutrophils?
  1. Phagocytosis
  2. Antibody production
  3. Complement fixation
  4. Suppression of autoimmunity

5. The activation of B cells in humoral immunity is assisted by which of the following?
  1. Cytotoxic T cells
  2. Helper T cells
  3. Suppressor T cells
  4. Neutrophils
6. Autoimmunity is defined as a phenomenon involving which of the following?
  1. Production of endotoxins that destroy B lymphocytes.
  2. Inability to differentiate self from nonself.
  3. Overproduction of reagin antibody.
  4. Depression of the immune response.

## REVIEW QUESTIONS—TEST PREPARATION

*Choose the best answer unless directed otherwise.*

7. Which of the following is used to determine the presence of inflammation? **Select all that apply.**
  1. IgM assay
  2. CD4+ count
  3. Western blot
  4. C-reactive protein (CRP)
  5. Erythrocyte sedimentation rate (ESR)
8. A mother brings her children into the clinic, and the children are diagnosed with chickenpox. The mother had chickenpox as a child. Which of the following statements should the nurse include in the patient teaching?
  1. “Because you have an active natural immunity to chickenpox, you can take care of the children at home.”
  2. “You will need to wear a mask while caring for the children to prevent contamination.”
  3. “You will need to get a booster chickenpox vaccination to ensure that you don’t get reinfected.”
  4. “Because you’ve had chickenpox before and your children are now ill, you should monitor yourself for signs or symptoms of shingles for the next 2 weeks.”
9. Which of the following may stimulate antibody production? **Select all that apply.**
  1. Cold virus
  2. Plant pollen
  3. Transplanted organ
  4. Bacterial toxins
  5. Measles vaccine
10. The nurse is caring for a patient undergoing a biopsy. Which action is appropriate for the nurse to take?
  1. Ask whether the patient has an iodine allergy.
  2. Ensure that informed consent is obtained before the procedure.
  3. Ask the patient about environmental allergies and the type of reaction that occurs.
  4. Check eosinophil level on the laboratory report.
11. While working with patients in an autoimmune disease clinic, the nurse recognizes that which of the following individuals is most likely to develop systemic lupus erythematosus?
  1. A 38-year-old African American male who works in the construction industry
  2. A 55-year-old white female who works as a medical secretary
  3. A 19-year-old Asian female who is attending college
  4. A 34-year-old Native American male who works as a lawyer

# 19

## Nursing Care of Patients With Immune Disorders

### VOCABULARY

Match the term with its definition.

- \_\_\_\_\_ An anaphylactic-type reaction
  - \_\_\_\_\_ The type of antibodies that attach to mast cells
  - \_\_\_\_\_ Elimination of the offending environmental stimuli
  - \_\_\_\_\_ Very dry, pruritic, edematous skin
  - \_\_\_\_\_ Sudden, severe reaction characterized by smooth muscle spasms and capillary permeability changes
  - \_\_\_\_\_ Urticaria
  - \_\_\_\_\_ A form of lupus that affects only the skin
  - \_\_\_\_\_ Types of drugs used to prevent transplant rejection
  - \_\_\_\_\_ Painless subcutaneous and dermal erythremic eruptions with diffuse edema
  - \_\_\_\_\_ Requires lifelong vitamin B<sub>12</sub>
  - \_\_\_\_\_ Red blood cell (RBC) fragments seen with microscope
  - \_\_\_\_\_ Infant may be asymptomatic until 6 months old
  - \_\_\_\_\_ Antimalarial and immunosuppressant drugs may be used in treatment
  - \_\_\_\_\_ Causes may include heat, cold, pressure, and stress
  - \_\_\_\_\_ Patient education includes a diet low in iodine and high in bulk, protein, and carbohydrates
  - \_\_\_\_\_ Patient education includes frequent movement and the use of a hard mattress and no pillow when sleeping
1. Urticaria
  2. Angioedema
  3. Anaphylaxis
  4. Pernicious anemia
  5. Hashimoto's thyroiditis
  6. Idiopathic autoimmune hemolytic anemia
  7. Hypogammaglobulinemia
  8. Allergic rhinitis
  9. Hives
  10. Type I hypersensitivity reaction
  11. Immunoglobulin (Ig)E
  12. Ankylosing spondylitis
  13. Atopic dermatitis
  14. Immunosuppressive
  15. Systemic lupus erythematosus
  16. Discoid lupus erythematosus

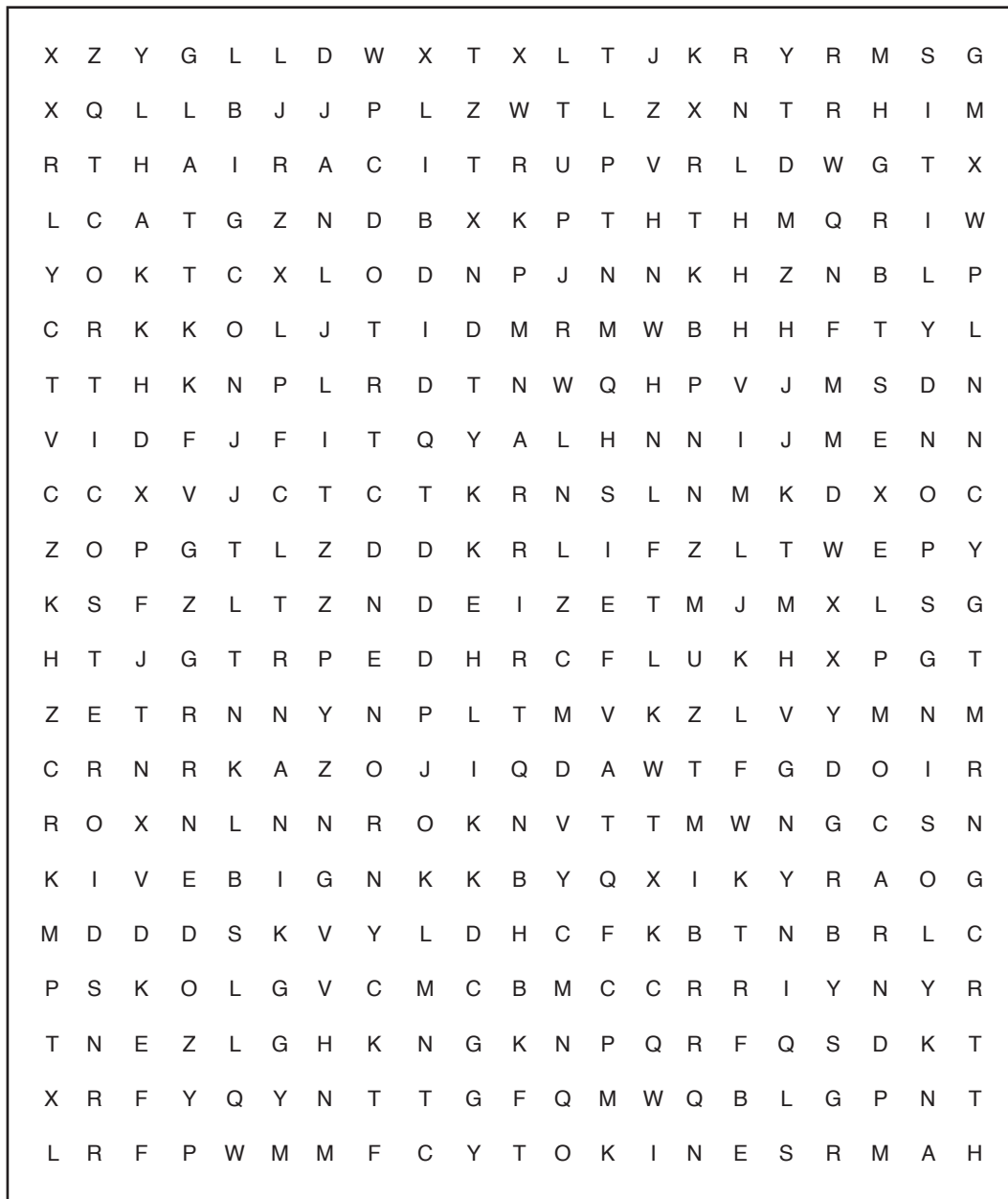
**IMMUNE DISORDERS**

Fill in the blank.

1. The way hypersensitivity reactions are classified include \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
2. When allergic rhinitis occurs seasonally, it is called \_\_\_\_\_.
3. Complications of allergic rhinitis are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
4. \_\_\_\_\_ is a complication of atopic dermatitis.
5. The first drug of choice for anaphylaxis is \_\_\_\_\_.
6. Urticaria is commonly called \_\_\_\_\_.
7. Angioedema differs from urticaria in that angioedema \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
8. The \_\_\_\_\_ is used to diagnose a hemolytic transfusion reaction.
9. \_\_\_\_\_ and \_\_\_\_\_ are two complications that can occur with a hemolytic transfusion reaction.
10. Today, serum sickness tends to occur when \_\_\_\_\_ and \_\_\_\_\_ are administered to patients.
11. \_\_\_\_\_ and \_\_\_\_\_ are two food additives that can trigger an anaphylactic reaction.
12. \_\_\_\_\_ is the most common cause of contact dermatitis.
13. Patients with pernicious anemia are unable to absorb \_\_\_\_\_.
14. \_\_\_\_\_ is a process whereby abnormal RBCs are removed and replaced with normal RBCs.
15. Ankylosing spondylitis is a chronic progressive inflammatory disease of the \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ joints.

**IMMUNE WORD SEARCH**

Figure out what words the clues represent. Then find the words in the grid. Words can go horizontally, vertically, and diagonally in all eight directions.

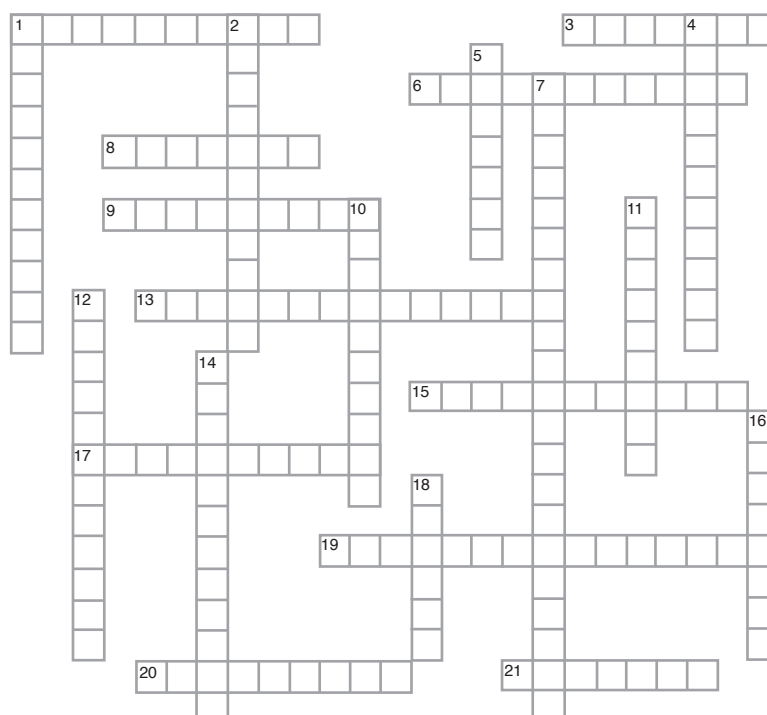


**CLUES:**

- When antigens clump.
- A nursing intervention for this disorder is a very firm mattress and no pillows when sleeping.
- A type I hypersensitivity that eventually leads to a thickening of the dermis with less sweat production in these areas.
- These are formed in type III hypersensitivity reactions, which then occlude blood vessels.
- These medications that are frequently used with immune system disorders should never be suddenly discontinued.
- Agents of the immune system that act to modify and enhance the immune and inflammatory responses.
- Type IV hypersensitivity reactions tend to be this—not immediate.
- These particular lymphocytes elevate in an allergic reaction as seen with type I hypersensitivities.
- The main complication for a patient with hypogammaglobulinemia.



## IMMUNE PUZZLE



## Across

1. A type of anemia that will develop in patients with autoimmune gastritis.
3. The number of minutes that a nurse should stay with a patient at the beginning of a blood transfusion.
6. This is a very serious type I hypersensitivity reaction.
8. An antibody-mediated response produced by B lymphocytes.
9. These phagocytic leukocytes are stationary.
13. Hashimoto's thyroiditis begins with this.
15. These are a complication of repeated episodes of allergic rhinitis.
17. Similar to urticaria although tends to be less pruritic, lasts longer, and involves deeper tissue.
19. The substance that is required in order for vitamin B<sub>12</sub> to be absorbed in the small intestine.
20. This facial rash will occur in about 60% to 80% of systemic lupus erythematosus (SLE) patients.
21. This form of lupus erythematosus affects only the skin.

## Down

1. Nowadays serum sickness tends to occur after administration of sulfonamides and these drugs.
2. A respiratory assessment finding that is considered an emergency in a patient with angioedema.
4. A drug of choice during an anaphylactic reaction.
5. This can overwhelmingly affect the activities of daily living (ADLs) of a patient with SLE.
7. This disorder is due to defective functioning B cells.
10. One group of joints that is affected in ankylosing spondylitis.
11. IgE antibodies attach to these cells in a type I hypersensitivity reaction.
12. Currently a significant type of contact dermatitis.
14. Ankylosing spondylitis is attributed to this.
16. A foreign protein or cell capable of causing an immune response.
18. An SLE flare trigger.

## WORDS FOR IMMUNE PUZZLE

Allergen  
Anaphylaxis  
Angioedema  
Autoimmunity  
Butterfly  
Discoid  
Epinephrine  
Fatigue

Fifteen  
Humoral  
Hypogammaglobulinemia  
Hypothyroidism  
Intrinsic factor  
Latex allergy  
Mast cells  
Monocytes

Nasal polyps  
Obstruction  
Penicillins  
Pernicious  
Sacroiliac  
Steroids  
Stress

**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

- As the nurse collects data on a patient, which of the following is a symptom that the patient with anaphylaxis may be experiencing?
  - Dermatitis
  - Delirium
  - Sinusitis
  - Wheezing
- Which of the following is the medication of choice for anaphylaxis that the nurse should anticipate would be ordered?
  - Epinephrine
  - Theophylline (Theo-Dur)
  - Digoxin (Lanoxin)
  - Furosemide (Lasix)
- Which of the following is a disease process characterized by a chronic progressive inflammation of the sacroiliac and costovertebral joints and adjacent soft tissue?
  - Rheumatoid arthritis
  - Kyphosis
  - Scoliosis
  - Ankylosing spondylitis
- The nurse understands that an anaphylactic reaction is considered which of the following types of hypersensitivity reactions?
  - Type I
  - Type II
  - Type III
  - Type IV

**REVIEW QUESTIONS—TEST PREPARATION**

Choose the best answer unless directed otherwise.

- A patient has allergic rhinitis. In planning care for the patient, the nurse understands that if the patient does not adhere to the treatment regimen, the patient is at risk for developing which of the following?
  - Sinusitis
  - Anaphylaxis
  - Lymphadenopathy
  - Angioedema
- A patient reports on admission being “very sick” after taking erythromycin in the past. The patient is to receive erythromycin now. Which of the following actions should the nurse take regarding the antibiotic?
  - Give the antibiotic.
  - Give half of the dose.
  - Do not give the antibiotic.
  - Discontinue the antibiotic.
- A patient is being given penicillin via intravenous (IV) infusion and develops an anaphylactic reaction. Which of the following should be the nurse’s first action?
  - Call the doctor.
  - Call for help.
  - Maintain the antibiotic.
  - Turn off the antibiotic.
- A patient is admitted with a 2-month history of fatigue, shortness of breath, pallor, and dizziness. The patient is diagnosed with idiopathic autoimmune hemolytic anemia. On reviewing the laboratory results, the nurse notes which of the following that confirms this diagnosis?
  - RBC fragments
  - Macrocytic, normochromic RBCs
  - Microcytic, hypochromic RBCs
  - Hemoglobin molecules
- A patient had a portion of stomach removed and must take vitamin B<sub>12</sub>. Which of the following statements should be included in the patient teaching?
  - “You will develop iron-deficiency anemia if you fail to take vitamin B<sub>12</sub>.”
  - “Pernicious anemia is a complication of this surgery, so you must take vitamin B<sub>12</sub>.”
  - “Most patients who do not take vitamin B<sub>12</sub> develop sickle cell anemia.”
  - “Taking vitamin B<sub>12</sub> is important if you want to prevent acquired hemolytic anemia.”

10. A patient is diagnosed with Hashimoto's thyroiditis and asks what causes it. The nurse would respond that the destruction of the thyroid in this condition is due to which of the following?
1. Antigen-antibody complexes
  2. Autoantibodies
  3. Viral infection
  4. Bacterial infection
11. A patient who was walking in the woods disturbed a beehive, was stung, and was taken to the emergency department immediately due to allergies to bee stings. Which of the following symptoms would the nurse expect to see upon admission of this patient? **Select all that apply.**
1. Pallor around the sting bites
  2. Numbness and tingling in the extremities
  3. Respiratory stridor
  4. Retinal hemorrhage
  5. Tachycardia
  6. Dyspnea
12. A patient has a long-standing history of allergies to pollen. Which of the following actions indicates that further teaching is necessary?
1. The patient stays indoors on dry, windy days.
  2. The patient drives the car with the windows open.
  3. The patient avoids walking outside in the spring.
  4. The patient works in the garden on sunny days.
13. The nurse would evaluate that the patient understands what triggers allergic rhinitis by which of the following patient responses?
1. "Injected medications"
  2. "Topical creams and ointments"
  3. "Ingested food and medications"
  4. "Airborne pollens and molds"
14. In caring for a patient with angioedema, the nurse understands that angioedema differs from urticaria in that angioedema is characterized by which of the following?
1. Angioedema is more pruritic.
  2. Angioedema has a deeper and more widespread edema.
  3. Angioedema has small, fluid-filled vesicles that crust.
  4. Angioedema lasts a shorter time.
15. Which of the following is a common nursing diagnosis that the nurse will include in the plan of care for a patient with SLE?
1. Fatigue
  2. Impaired Mobility
  3. Impaired Swallowing
  4. Impaired Tissue Perfusion

# 20

## Nursing Care of Patients With HIV Disease and AIDS

### VOCABULARY

Fill in the blank.

- \_\_\_\_\_ is the final phase of a chronic, progressive immune function disorder caused by the human immunodeficiency virus (HIV).
- The \_\_\_\_\_ cell is an important part of the human immune system and helps defend the body against very primitive invaders such as fungi, yeast, and other viruses.
- \_\_\_\_\_ is a diagnostic test done to measure resistance to currently available antiviral treatments.
- \_\_\_\_\_ are a primary complication of HIV infection and occur because of an impaired immune system.
- \_\_\_\_\_ occurs in some patients with the acquired immune deficiency syndrome (AIDS) and is characterized by the occurrence of an involuntary baseline body weight loss of more than 10% and weakness or fever for more than 30 days or chronic diarrhea of two loose stools daily for more than 30 days.
- \_\_\_\_\_ measures the amount of HIV RNA in plasma and is extremely important for determining prognosis and monitoring the response to antiretroviral therapy.

### DIAGNOSTIC TESTS

Describe the procedure for each of the following diagnostic tests.

- Enzyme-linked immunosorbent assay (ELISA) test

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- Viral load

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- CD4+ cell count

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- Genotyping

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**HIV**

Fill in the blanks.

1. HIV is transmitted through \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
2. HIV may stay latent for \_\_\_\_\_ years.
3. Fatigue, headache, fever, and generalized lymphadenopathy may be seen during the \_\_\_\_\_ stage of HIV infection.
4. \_\_\_\_\_ are increasingly becoming infected with HIV.

**HIV AND AIDS**

Indicate whether the following are true or false, and correct false statements.

1. If a health care worker is stuck with a needle from a patient with AIDS, exposure to the virus may occur even if gloves were worn. \_\_\_\_\_
2. HIV is caused by AIDS. \_\_\_\_\_
3. Individuals who are not men who have sex with men or who are intravenous (IV) drug users probably do not need to worry about contracting HIV and developing AIDS. \_\_\_\_\_
4. If the nurse suction a patient with a fresh tracheostomy who is diagnosed with HIV and blood-tinged sputum gets in the nurse’s eyes, the nurse may contract the virus. \_\_\_\_\_
5. Once a person is infected with HIV, the diagnosis can be made using laboratory tests within 1 to 2 days. \_\_\_\_\_
6. A patient with AIDS should always be placed into isolation for the protection of health care workers. \_\_\_\_\_

**CRITICAL THINKING**

Answer the following questions.

1. Jack Swope, age 26, has been diagnosed as HIV-positive. He asks, “Do I have AIDS and am I going to die?” What should you say to him?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. When is the patient with HIV considered to have AIDS?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Jack is started on a combination of trimethoprim and sulfamethoxazole (Bactrim, Septra). Why?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Later, Jack is diagnosed with AIDS with a CD4+ count of 200.
  - (a) Jack is 6 feet tall and weighs 135 lb. He is malnourished. What are possible reasons? \_\_\_\_\_  
\_\_\_\_\_
  - (b) What can you do as a nurse to improve Jack’s nutrition?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Six months after being diagnosed with AIDS, Jack develops dementia. Why?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. How can a nurse contract HIV from a patient?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. How should the home health nurse teach family members of a patient with AIDS to clean the patient’s home?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following best defines acquired immunodeficiency syndrome (AIDS)?
  - AIDS is a syndrome that always develops after infection with HIV virus.
  - AIDS is the final phase of a chronic progressive immune disorder caused by HIV.
  - AIDS is caused by HIV and characterized by CD4+ T lymphocytes greater than 14% of total lymphocytes.
  - AIDS is an acute syndrome that is accompanied by specific clinical conditions.
- For most HIV-infected patients being treated with antiviral medications, CBC, CD4+/C8+ T-lymphocyte count, and viral load testing are repeated at what intervals?
  - Every month
  - Every 3 months
  - Every 6 months
  - Every 12 months

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- In planning an educational session for a patient with HIV, the nurse would include which of the following as a method of transmission for HIV? **Select all that apply.**
  - Saliva
  - Tears
  - Breast milk
  - Semen
  - Blood
  - Sweat
- A patient who is being tested for HIV asks what tests are used. The nurse would be correct in stating that the tests used to confirm HIV infection include which of the following?
  - CD4+ cell count and thymus function
  - B-cell and T-cell count
  - ELISA and Western blot
  - CD4+, viral load, and ELISA
- The nurse is caring for a patient with HIV who has diarrhea. Which of the following would be most therapeutic to teach the patient to avoid in the diet to reduce diarrhea?
  - Potassium-rich food
  - Raw fruits and vegetables
  - Liquid nutritional supplements
  - Frozen products
- The nurse is teaching a patient newly diagnosed with AIDS about complications of the disease. Which of the following is the most common opportunistic infection in AIDS?
  - Pneumocystis pneumonia*
  - Candidiasis
  - Toxoplasmosis
  - Mycoplasma pneumonia*
- The nurse is taking vital signs of a pregnant woman during her first prenatal visit. The patient asks the nurse if she has to have an HIV test. Which of the following is the nurse's best response?
  - "Yes, all pregnant women must have the test."
  - "If you do not have multiple sex partners or inject drugs, it is not necessary."
  - "Governmental guidelines require an HIV test for all pregnant woman."
  - "After voluntary pretest counseling, you decide whether HIV testing should be done."
- The nurse is caring for a patient with HIV. Which of the following foods would the nurse teach the patient is safe to eat to reduce the risk of infection?
  - Raw fruits
  - Cooked vegetables
  - Raw vegetables
  - Caesar dressing
- When caring for a patient with AIDS, which of the following nursing actions would be most appropriate for infection control?
  - Wear gloves at all times.
  - Wear gloves for blood/body fluid contact.
  - Wear gown and mask at all times.
  - Wear a mask during patient contact times.
- The nurse is asked if male circumcision has any relationship to HIV. Which of the following responses by the nurse is best?
  - "Circumcision in male infants is strictly a religious preference."
  - "Males who have been circumcised are more likely to acquire HIV with homosexual contact."
  - "No research is available to indicate a relationship between HIV and circumcision."
  - "There is evidence that males engaged in heterosexual activity are less likely to be infected with HIV if they've been circumcised."

# unit FIVE

## Understanding the Cardiovascular System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Cardiovascular:
- Structures
- Function
- Aging effects

#### Major Disorders

- Cardiovascular:
- Hypertension
- Valvular
- Inflammatory
- Infectious
- Occlusive
- Dysrhythmias
- Heart failure

#### Nursing Assessment

- Medical history
- Medications
- Family history
- Health promotion
- Vital signs
- Physical examination

#### Diagnostic Tests

- Electrocardiogram
- Computerized tomography
- Cardiac magnetic resonance imaging
- Exercise stress testing
- Echocardiogram
- Tilt table test
- Radioisotope imaging
- Cardiac enzymes
- Cardiac troponin
- Myoglobin
- Homocysteine
- Lipids
- Angiography
- Cardiac catheterization

#### Common Interventions

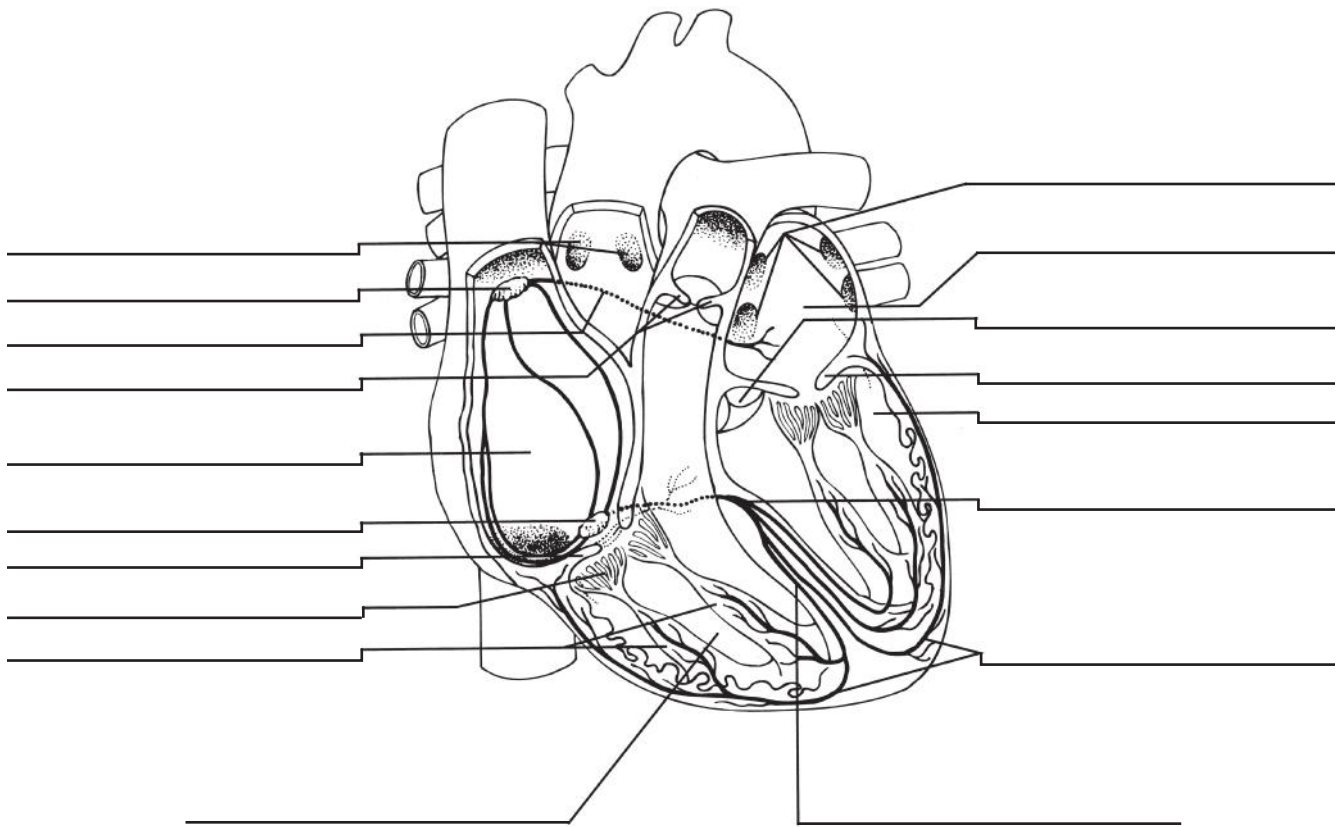
- Exercise
- Smoking cessation
- Diet
- Lifestyle and cardiac care
- Antiembolism devices
- Cardioversion/defibrillation
- Pacemaker
- Angioplasty
- Valvuloplasty
- Surgery
- Cardiac rehabilitation

# 21

## Cardiovascular System Function, Assessment, and Therapeutic Measures

### STRUCTURES OF THE CARDIOVASCULAR SYSTEM

Label the following structures.



### CARDIAC BLOOD FLOW

Number the following in proper sequence with respect to the flow of blood through the heart and to and from the lungs and body. Begin with the caval veins.

- |  |                           |                           |
|--|---------------------------|---------------------------|
| 1. _____ Superior and inferior caval veins | 6. _____ Lungs            | 11. _____ Mitral valve    |
| 2. _____ Left ventricle                    | 7. _____ Pulmonary artery | 12. _____ Aortic valve    |
| 3. _____ Right atrium                      | 8. _____ Pulmonary veins  | 13. _____ Tricuspid valve |
| 4. _____ Right ventricle                   | 9. _____ Aorta            | 14. _____ Pulmonic valve  |
| 5. _____ Body                              | 10. _____ Left atrium     |                           |



## AGING AND THE CARDIOVASCULAR SYSTEM

Find the 11 errors and insert the correct information.

It is believed that the “aging” of blood vessels, especially arteries, begins in adulthood. Average resting blood pressure tends to decrease with age and may contribute to stroke or right-sided heart failure. The thicker walled veins, especially those of the legs, may also weaken and stretch, making their valves incompetent.

With age, the heart lining becomes less efficient, and there is an increase in both maximum cardiac output and heart rate. The health of the myocardium depends on the lungs’ blood supply. Hypertension causes the right ventricle to work harder, so it may atrophy. The heart valves may become thinner from fibrosis, leading to heart murmurs. Dysrhythmias become more common in older adults as the cells of the conduction pathway become more efficient.

## CARDIOVASCULAR SYSTEM

Fill in the blanks.

- The function of the \_\_\_\_\_ is to carry oxygen and nutrients to the tissues and remove waste products.
- The \_\_\_\_\_ function is to pump blood.
- The peripheral \_\_\_\_\_ is composed of arteries, veins, \_\_\_\_\_ and lymph vessels.
- With aging, the walls of blood vessels \_\_\_\_\_.
- The heart sound \_\_\_\_\_ occurs at the beginning of systole when the atrioventricular valves close, and the sound *dupp* occurs at the start of \_\_\_\_\_ when the semilunar valves close.
- Palpation of pulse quality is recorded as \_\_\_\_\_ 0; weak, thready 1+; \_\_\_\_\_ 2+; bounding 3+.
- Tests to assess \_\_\_\_\_ function may include x-ray examination, electrocardiogram (ECG), stress test, echocardiogram, thallium scan, dipyridamole thallium scan, multiple gated acquisition (MUGA), serum troponin I, creatine kinase, (CK-MB), myoglobin, cardiac \_\_\_\_\_, and angiography.
- The six Ps characterize \_\_\_\_\_ vascular disease: \_\_\_\_\_, \_\_\_\_\_ pulselessness, pallor, paresthesia, and paralysis.
- Tests to assess peripheral \_\_\_\_\_ disease are plethysmography, Doppler ultrasound, pressure measurement, stress testing, \_\_\_\_\_, and arteriography.

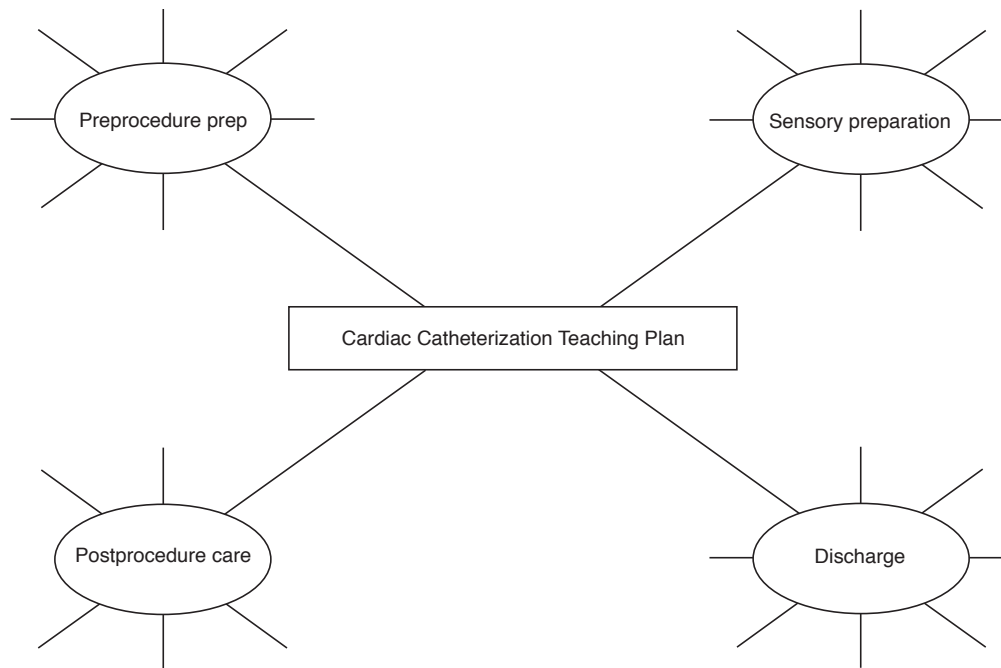
## ACUTE CARDIOVASCULAR NURSING ASSESSMENT

Identify a word that is obtained during a history that matches the given assessment statement.

- \_\_\_\_\_ Assessed before medication administration, test dyes
- \_\_\_\_\_ Modifiable risk factor for cardiovascular disorders that is a habit
- \_\_\_\_\_ Location: chest, calf; radiation: arms, jaw neck
- \_\_\_\_\_ Sign resulting from right-sided heart failure
- \_\_\_\_\_ Lung sounds with left-sided heart failure
- \_\_\_\_\_ Symptom of dysrhythmias
- \_\_\_\_\_ Effect of decreased cardiac output
- \_\_\_\_\_ Classic symptom of acute heart failure (pulmonary edema)

## CRITICAL THINKING

Make a concept map for a patient who is to undergo a cardiac catheterization. A concept map helps you visualize the patient’s needs. Think of possible categories of needs of this patient and then complete activities and needs under each category. Some categories have been given to get you started, but you may think of others to include. You can get even more detailed and create subcategories for each activity or need. A concept map has no defined ending point. See *DavisPlus*, an F.A. Davis Internet site that provides nursing resources, for a program that has been provided to help you create concept maps.



## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Each normal heartbeat is initiated by which of the following?
  - Sinoatrial node in the wall of the right atrium
  - Bundle of His in the interventricular septum
  - Cardiac center in the medulla
  - Sympathetic nerves from the spinal cord
- During one cardiac cycle, which of the following occurs?
  - Ventricles contract first, followed by the atria
  - Atria contract first, followed by the ventricles
  - Atria and ventricles contract simultaneously
  - Ventricles contract twice for every contraction of the atria
- Which of the following detects changes in blood pressure?
  - Pressoreceptors in the medulla
  - Blood vessels in the medulla
  - Pressoreceptors in the carotid and aortic sinuses
  - Coronary vessels in the myocardium
- Epinephrine increases blood pressure because it does which of the following?
  - Increases water resorption by the kidneys
  - Causes vasodilation in the skin and viscera
  - Decreases heart rate and force of contraction
  - Increases heart rate and force of cardiac contraction
- When blood pressure decreases, the kidneys help raise it by secreting which of the following?
  - Renin
  - Epinephrine
  - Aldosterone
  - Erythropoietin
- Which of the following prevents the backflow of blood in veins?
  - Precapillary sphincters
  - Middle layer
  - Smooth muscle layer
  - Valves
- The mitral and tricuspid valves prevent backflow of blood from which of the following?
  - Ventricles to atria when the ventricles contract
  - Atria to ventricles when the ventricles relax
  - Ventricles to atria when the atria contract
  - Atria to ventricles when the atria contract
- Which of the following describes the purpose of the endocardium of the heart?
  - Covers the heart muscle and prevents friction.
  - Supports the coronary blood vessels.
  - Lines the chambers of the heart and prevents abnormal clotting.
  - Prevents backflow of blood from atria to ventricles.

9. Which of the following is the function of the coronary arteries?
  1. Prevent abnormal clotting within the heart.
  2. Bring oxygenated blood to the myocardium.
  3. Carry deoxygenated blood to the lungs.
  4. Carry oxygenated blood to the lungs.
10. Where in the nervous system is the cardiac center found?
  1. Cerebrum
  2. Hypothalamus
  3. Spinal cord
  4. Medulla
11. Angiotensin II increases which of the following?
  1. Vasodilation and antidiuretic hormone (ADH) secretion
  2. Vasoconstriction and aldosterone secretion
  3. Heart rate and vasodilation
  4. Heart rate and ADH secretion
12. The increase of resting blood pressure with age may contribute to which of the following?
  1. Dysrhythmias
  2. Thrombus formation
  3. Left-sided heart failure
  4. Peripheral edema

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

13. A patient had a bilateral mastectomy 2 days ago, so the nurse obtains blood pressure readings from the patient's legs. The patient's baseline blood pressure in the arm was 112/78 mm Hg. Which of the following readings, when compared with baseline blood pressure, does the nurse expect when taking the blood pressure in the leg?
  1. 122/84 mm Hg
  2. 102/68 mm Hg
  3. 132/78 mm Hg
  4. 96/58 mm Hg
14. The nurse obtains a lower blood pressure reading on a patient's left arm than the right arm. As a result, which of the following extremities should the nurse use for ongoing blood pressure measurement?
  1. Left arm
  2. Right arm
  3. Right leg
  4. Either arm
15. The nurse is checking a patient's blood pressure for orthostatic hypotension. The patient's BP lying down was 142/88 mm Hg and 136/80 mm Hg when standing. The patient asks the nurse why there is such a difference. Which of the following is the best response by the nurse?
  1. "Your blood pressure should go up about 15 mm Hg, so we'll need to have you move very slowly to avoid a fall."
  2. "Blood pressure usually compensates for a change in position by going down by about 15 mm Hg, so this is normal."
  3. "It is safe for the blood pressure to drop by as much as 25 mm Hg, so you don't need to worry."
  4. "Your blood pressure is still in a normal range so there is no real concern."
16. A patient's pulse is 78 beats per minute (beats/min) and blood pressure (BP) = 122/76 mm Hg while lying down. While the nurse checks the patient's blood pressure for orthostatic hypotension, the patient's heart rate increases to 92 beats/min, and the BP = 116/68 mm Hg. Which of the following actions should the nurse take?
  1. Return the patient to a lying position immediately.
  2. Ask if the patient is experiencing chest pain.
  3. Note that normal compensation occurred.
  4. Chart that the patient has orthostatic hypotension.
17. The nurse is inspecting a patient's legs for data collection and notes that there is bilateral decreased hair distribution, thick, brittle nails, and shiny, taut, dry skin. The nurse understands that this can indicate which of the following?
  1. Increased arterial blood flow
  2. Decreased arterial blood flow
  3. Increased venous blood flow
  4. Decreased venous blood flow
18. The nurse is explaining to a patient that for a thallium stress test dipyridamole (Persantine), a coronary vasodilator, will be given. Which of the following would the nurse include in the teaching regarding the reason this medication is being given?
  1. To decrease blood flow to cardiac cells
  2. To increase blood flow as exercise would
  3. To prevent a clot from forming during the test
  4. To reduce systemic vascular resistance
19. Which of the following data would be most important for the nurse to collect immediately for a patient who is reporting fatigue and dizziness? **Select all that apply.**
  1. Presence of pain
  2. Weight
  3. Vital signs
  4. Electrocardiogram tracing
  5. White blood cell count
  6. Palpitations

# 22

## Nursing Care of Patients With Hypertension

### VOCABULARY

Match the word with its definition.

- \_\_\_\_\_ Atherosclerosis
- \_\_\_\_\_ Peripheral vascular resistance
- \_\_\_\_\_ Normotensive
- \_\_\_\_\_ Isolated systolic hypertension
- \_\_\_\_\_ Hypertension
- \_\_\_\_\_ Diastolic blood pressure
- \_\_\_\_\_ Cardiac output
- \_\_\_\_\_ Systolic blood pressure
- \_\_\_\_\_ Secondary hypertension
- \_\_\_\_\_ Primary hypertension
- \_\_\_\_\_ Plaque
1. Most common form of arteriosclerosis, in which fats are deposited on arterial walls
2. Amount of blood the heart pumps out each minute
3. Amount of pressure exerted on the wall of the arteries when the ventricles are at rest; the bottom number in a blood pressure reading
4. Abnormally elevated blood pressure
5. Systolic pressure is 140 mm Hg or more, but the diastolic pressure is less than 90 mm Hg
6. Normal blood pressure
7. Opposition to blood flow through the vessels
8. Deposit of fatty material in the artery
9. Abnormally elevated blood pressure, the cause of which is unknown; also called essential hypertension
10. High blood pressure that is a symptom of a specific cause, such as a kidney abnormality
11. Maximal pressure exerted on the arteries during contraction of the left ventricle of the heart; top number of a blood pressure reading

## DIURETICS

Select the number that identifies the type of each diuretic.

- |                                     |                              |
|-------------------------------------|------------------------------|
| 1. _____ Spironolactone (Aldactone) | 1. Thiazide or thiazide-like |
| 2. _____ Bumetanide (Bumex)         | 2. Loop                      |
| 3. _____ Chlorothiazide (Diuril)    | 3. Potassium sparing         |
| 4. _____ Triamterene (Dyrenium)     |                              |
| 5. _____ Furosemide (Lasix)         |                              |
| 6. _____ Amiloride (Midamor)        |                              |
| 7. _____ Metolazone (Zaroxolyn)     |                              |
| 8. _____ Hydrochlorothiazide        |                              |
| 9. _____ Torsemide (Demadex)        |                              |

## HYPERTENSION RISK FACTORS

Indicate whether the statement is true or false.

- \_\_\_\_\_ Increased stress can cause hypertension.
- \_\_\_\_\_ There is a link between a high-fat diet, obesity, and hypertension.
- \_\_\_\_\_ High calcium, potassium, and magnesium levels are important risk factors for the development of hypertension.
- \_\_\_\_\_ People who are not active on a regular basis are at an increased risk of developing hypertension.
- \_\_\_\_\_ A diet high in salt is also high in vitamins and minerals.
- \_\_\_\_\_ Inadequate sleep of less than 5 hours is a risk factor for hypertension.
- \_\_\_\_\_ Classical music for 30 minutes daily can reduce blood pressure.

- \_\_\_\_\_ The recommended follow-up for a diastolic blood pressure of more than 110 mm Hg is right now.
- \_\_\_\_\_ The recommended follow-up for a diastolic blood pressure of 100 to 109 mm Hg is 2 months.
- \_\_\_\_\_ The recommended follow-up for a diastolic blood pressure less than 80 mm Hg is 2 years.
- \_\_\_\_\_ The recommended follow-up for a diastolic blood pressure of 80 to 89 mm Hg is 1 year.

## CRITICAL THINKING

Read the following case study and answer the questions.

Mrs. Laura Martin, age 42, is seen in the hypertension clinic for a follow-up visit for hypertension. Her blood pressure is 160/92 mm Hg, and she is diagnosed with hypertension. The health care provider encourages continued lifestyle modification and prescribes hydrochlorothiazide.

- Why is hydrochlorothiazide prescribed? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What additional information should the nurse collect to develop a teaching plan for lifestyle modifications and the medication? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Develop a teaching plan for Mrs. Martin's needs based on the data collected. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## STAGES OF HYPERTENSION AND RECOMMENDATIONS FOR FOLLOW-UP

Indicate whether the statement is true or false and correct the false statements.

- \_\_\_\_\_ The recommended follow-up for a systolic blood pressure of 120 to 139 mm Hg is 2 years.
- \_\_\_\_\_ The recommended follow-up for a systolic blood pressure of less than 120 mm Hg is 2 years.
- \_\_\_\_\_ The recommended follow-up for a systolic blood pressure more than 180 mm Hg is right now.
- \_\_\_\_\_ The recommended follow-up for a systolic blood pressure of 160 to 179 mm Hg is 2 months.
- \_\_\_\_\_ The recommended follow-up for a systolic blood pressure of 140 to 159 mm Hg is 2 months.
- \_\_\_\_\_ The recommended follow-up for a diastolic blood pressure of 90 to 99 mm Hg is 1 month.

4. What interventions will help Mrs. Martin reach her goal for controlling her hypertension? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
5. How will you know when Mrs. Martin has reached her goals? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- If the systolic blood pressure is elevated and the diastolic blood pressure is normal, the nurse recognizes that a patient is most likely to have which type of hypertension?
  - Primary
  - Secondary
  - Isolated systolic
- The nurse explains to a patient with blood pressure readings of 164/102 mm Hg and 176/100 mm Hg on two separate occasions that this type of hypertension is classified in which hypertension category?
  - Prehypertension
  - Stage 1
  - Stage 2
- The nurse would explain to the patient that the action of enalapril maleate (Vasotec) is which of the following?
  - It decreases levels of angiotensin II.
  - It adjusts the extracellular volume.
  - It dilates the arterioles and veins.
  - It decreases cardiac output.
- The nurse understands that which of the following best describes the action of propranolol (Inderal) to teach the patient about the action of this medication?
  - It increases heart rate.
  - It decreases cardiac output.
  - It decreases fluid volume.
  - It increases cardiac contractility.

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- The nurse is developing a teaching plan for a patient. Which of the following is a modifiable risk factor for the development of hypertension? **Select all that apply.**
  - Race
  - High cholesterol
  - Cigarette smoking
  - Sedentary lifestyle
  - Less than 5 hours of sleep
- The patient asks the nurse, “How is hypertension defined?” Which of the following is the best response by the nurse?
  - “It is measured as the heart pumps blood into the arteries.”
  - “It is blood pressure above 140/90 mm Hg on two separate occasions.”
  - “It is regulated by stress, activity, and emotions.”
  - “It is determined by peripheral vascular resistance.”
- Which of the following should the nurse include when counseling a patient about smoking and its effect on blood pressure?
  - Smoking is associated with stages 1 and 2 hypertension.
  - Smoking does not affect blood pressure regulation.
  - Smoking vasodilates the peripheral blood vessels.
  - Smoking causes sustained blood pressure elevations.
- A patient calls the hypertension clinic to report frequent headaches with a newly prescribed medication. The nurse anticipates that this is a normal side effect if the patient is taking which of the following medications?
  - Furosemide (Lasix)
  - Atenolol (Tenormin)
  - Clonidine (Catapres)
  - Adalat (Procardia)
- A patient has been prescribed bumetanide (Bumex) every morning for control of hypertension. Which of the following statements indicates correct knowledge of the treatment regimen?
  - “I can travel to Florida and sunbathe all day.”
  - “Now I can eat whatever I want, whenever I want.”
  - “I’ll take my medication in the morning, every morning.”
  - “I won’t need medication once my pressure goes down.”
- Which common side effect of metolazone (Zaroxolyn) should the nurse instruct a patient to report to the health care provider?
  - Numb hands
  - Muscle weakness
  - Gastrointestinal distress
  - Nightmares

11. The nurse understands that which of the following is a side effect most likely to be reported by patients receiving enalapril maleate (Vasotec)?
  1. Acne
  2. Diarrhea
  3. Cough
  4. Heartburn
12. What instruction should the nurse give to the patient taking propranolol (Inderal) for hypertension?
  1. Have potassium level checked.
  2. Report any changes in appetite.
  3. Do not stop medication abruptly.
  4. Resume usual daily activities.
13. Which of the following nursing diagnoses is the focus of care for a patient with hypertension?
  1. Activity Intolerance
  2. Ineffective Airway Clearance
  3. Impaired Physical Mobility
  4. Deficient Knowledge
14. Which of the following statements, if made by a patient with hypertension, indicates to the nurse a need for more teaching?
  1. "High blood pressure may affect the kidneys and eyes."
  2. "Most people with hypertension watch their diet."
  3. "Medication will no longer be needed when I feel better."
  4. "Many people do not know when their blood pressure is high."
15. The nurse is developing a patient teaching plan. The teaching plan should include which of the following lifestyle modifications to help control hypertension?
  1. Regular aerobic exercise
  2. Low-tar cigarettes
  3. Three alcoholic beverages per day
  4. Daily multivitamin supplements

# 23

## Nursing Care of Patients With Valvular, Inflammatory, and Infectious Cardiac or Venous Disorders

### VOCABULARY

Fill in the blank with the word that is formed by the word building.

1. \_\_\_\_\_ annulus—ring + plasty—formed
2. \_\_\_\_\_ commissura—joining together + tome—incision
3. \_\_\_\_\_ in—not + sufficiens—sufficient
4. \_\_\_\_\_ re—again + gurgitare—to flood
5. \_\_\_\_\_ stenosis—narrow
6. \_\_\_\_\_ valvula—leaf of a folding door + plasty—formed
7. \_\_\_\_\_ choreia—dance
8. \_\_\_\_\_ peri—around + kardia—heart + itis—inflammation
9. \_\_\_\_\_ myo—muscle + kardia—heart + itis—inflammation
10. \_\_\_\_\_ petechia—skin spot
11. \_\_\_\_\_ peri—around + kardia—heart + kentesis—puncture
12. \_\_\_\_\_ kardia—heart + tamponade—plug
13. \_\_\_\_\_ kardia—heart + myo—muscle + pathy—disease
14. \_\_\_\_\_ kardia—heart + mega—large
15. \_\_\_\_\_ my—muscle + ectomy—cutting out
16. \_\_\_\_\_ thromb—lump (clot) + phleb—vein + itis—inflammation

### MITRAL VALVE PROLAPSE

Find the eight errors and insert the correct information.

During ventricular diastole, when pressures in the left ventricle rise, the leaflets of the mitral valve normally remain open. In mitral valve prolapse (MVP), however, the leaflets bulge backward into the left ventricle during systole. Often there are functional problems seen with MVP. However, if the leaflets do not fit together, mitral stenosis can occur with varying degrees of severity.

MVP tends to be hereditary, and the cause is known. Infections that damage the mitral valve may be a contributing factor. It is the most common form of valvular heart disease and typically occurs in men aged 20 to 55. Most patients with MVP have symptoms. Symptoms that may occur include chest pain, dysrhythmias, palpitations, dizziness, and syncope. No treatment is needed unless symptoms are present. Stimulants and caffeine should be avoided to prevent symptoms.



**VALVULAR DISORDERS**

Indicate whether the statement is true or false and correct false statements.

1. \_\_\_\_\_ Stenosis is widening of the opening of a heart valve.
2. \_\_\_\_\_ Stenosis inhibits the forward flow of blood.
3. \_\_\_\_\_ Regurgitation, or insufficiency, is failure of the valve to close completely.
4. \_\_\_\_\_ Regurgitation inhibits backflow of blood.
5. \_\_\_\_\_ Rheumatic heart disease and congenital defects are primary causes of valvular disease.
6. \_\_\_\_\_ The primary valves affected by disease are the tricuspid and pulmonic valves.
7. \_\_\_\_\_ Compensatory mechanisms in valvular disease are dilation to handle the increased blood volume and hypertrophy to increase the strength of contractions.
8. \_\_\_\_\_ Symptoms of valvular disease often occur early and reflect decreased cardiac output and pulmonary congestion: fatigue, dyspnea, orthopnea, cough.
9. \_\_\_\_\_ In severe valvular disease, heart failure occurs, and symptoms reflect the backup of blood from the failing chamber.
10. \_\_\_\_\_ In acute valve disorders, symptoms of shock are seen.
11. \_\_\_\_\_ Valve disease diagnosis is made with electrocardiogram (ECG), chest x-ray examination, echocardiogram, and cardiac catheterization.
12. \_\_\_\_\_ Valvuloplasty uses a balloon to separate the valve leaflets.
13. \_\_\_\_\_ Commissurotomy narrows the valve opening.
14. \_\_\_\_\_ Annuloplasty surgically repairs the valve.
15. \_\_\_\_\_ Patient teaching for valvular disorders includes understanding the importance of prophylactic antibiotics before all invasive procedures.

2. When obtaining Mrs. Murphy’s medical history, what should the nurse ask that is relevant to the cause of aortic stenosis?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. How does the heart compensate for aortic stenosis?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. What should the nurse anticipate may occur in severe aortic stenosis?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5. Why is angina a common symptom of aortic stenosis?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6. Why does Mrs. Murphy’s chest x-ray examination show an enlarged heart?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

7. Why is aortic stenosis treated with valvular replacement?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**CRITICAL THINKING—MRS. MURPHY**

Read the case study and answer the questions.

Mrs. Murphy, age 72, has aortic stenosis and is scheduled for an aortic valve replacement. She reports fatigue and dyspnea with exertion.

1. What may be the cause of Mrs. Murphy’s aortic stenosis?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## INFLAMMATORY AND INFECTIOUS CARDIOVASCULAR DISORDERS

Match the word with its definition.

- |  |  |
|--|--|
| <p>1. _____ Solid, liquid, gaseous masses of undissolved matter traveling with the current in a blood or lymphatic vessel.</p> <p>2. _____ Gram-positive bacteria whose group A causes disease.</p> <p>3. _____ Inflammation of the heart lining caused by microorganisms.</p> <p>4. _____ Standardized test for reporting prothrombin to prevent variability in testing results and provide uniformity in monitoring therapeutic levels for coagulation.</p> <p>5. _____ Severe damage to the heart from rheumatic fever.</p> | <p>1. Infective endocarditis</p> <p>2. Emboli</p> <p>3. International normalized ratio</p> <p>4. Rheumatic heart disease</p> <p>5. Beta-hemolytic streptococci</p> |
|--|--|

### RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

Find the six errors and insert the correct information.

Rheumatic fever causes a streptococcal infection such as a sore throat. Rheumatic fever signs and symptoms include polyarthritis, subcutaneous nodules, chorea with rapid and controlled movements, carditis, fever, arthralgia, and pneumonia. A throat culture diagnoses rheumatic fever. The heart valves and their structures can be scarred and damaged. Rheumatic fever can be prevented by detecting and treating streptococcal infections promptly with aspirin.

### DIAGNOSTIC TESTS FOR INFECTIVE ENDOCARDITIS

Match the test with its finding that is indicative of infective endocarditis.

Test	Finding
1. _____ White blood cell (WBC) count	1. Vegetations on heart valves
2. _____ Blood cultures	2. Dysrhythmias
3. _____ Electrocardiogram	3. Slight elevation
4. _____ Chest x-ray examination	4. Heart failure
5. _____ Echocardiogram	5. Identifies causative organism

### THROMBOPHLEBITIS

Complete the rationale and evaluation of the nursing care plan for a patient with thrombophlebitis.

#### NURSING DIAGNOSIS

Acute Pain *related to inflammation of vein*

#### Interventions

Assess pain using rating scale such as 0 to 10.

Provide analgesics and nonsteroidal anti-inflammatory drugs (NSAIDs) as ordered.

Apply warm, moist soaks.

Maintain bedrest with leg elevation above heart level.

#### Rationale

#### Evaluation

**NURSING DIAGNOSIS**Deficient Knowledge *related to lack of knowledge about disorder and treatment***Interventions**

Explain condition, symptoms, and complications.

Explain medications, therapies ordered, monthly lab test monitoring, and need for medical identification.

Teach patient not to massage extremity.

**Rationale****Evaluation****CRITICAL THINKING—MR. EVANS***Read the case study and answer the questions.*

Mr. Evans, age 68, is admitted to the hospital for heart failure resulting from hypertrophic cardiomyopathy. He has dyspnea, fatigue, and angina. His lung sounds reveal crackles.

1. What is the pathophysiology of hypertrophic cardiomyopathy? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What occurs in hypertrophic cardiomyopathy to ventricular size and ventricular filling with blood? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What diagnostic test will show hypertrophic cardiomyopathy and left-sided heart failure? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Why is digoxin contraindicated for Mr. Evans? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Why should Mr. Evans be taught to avoid (a) dehydration and (b) exertion? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Why is it important for the family to learn cardiopulmonary resuscitation (CPR)? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW***Choose the best answer unless directed otherwise.*

1. Which of the following does the nurse understand occurs in aortic stenosis?
  1. Aortic valve does not close tightly.
  2. Emptying of blood from left ventricle is impaired.
  3. Blood backflows into the left atrium.
  4. Emptying of the left atrium is impaired.
2. The nurse understands that which of the following occurs in mitral regurgitation?
  1. Backflow of blood into the left atrium
  2. Backflow of blood into the right atrium
  3. Impaired emptying of the right ventricle
  4. Impaired emptying of the left ventricle
3. Which of the following compensatory mechanisms does the nurse understand occurs with ventricular valve disorders?
  1. Decreased atrial kick
  2. Atrial hypertrophy
  3. Ventricular hypertrophy
  4. Systolic hypertension
4. Which of the following does the nurse understand causes fatigue in patients with chronic aortic stenosis?
  1. Atrial fibrillation
  2. Left ventricular failure
  3. Decreased pulmonary blood flow
  4. Increased coronary artery blood flow

5. Which of the following diagnostic tests does the nurse understand measures the pressures in the cardiac chambers?
  1. Electrocardiogram
  2. Exercise stress test
  3. Echocardiogram
  4. Cardiac catheterization
6. Which of the following does the nurse understand usually precedes rheumatic fever?
  1. A viral infection
  2. A fungal infection
  3. A staphylococcal infection
  4. A beta-hemolytic streptococcal infection
7. Which of the following is the most common symptom of pericarditis?
  1. Dyspnea
  2. Intermittent claudication
  3. Chest pain
  4. Calf pain

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

8. Which of the following should the nurse include in the plan of care as a patient outcome for *Deficient Knowledge* related to mitral stenosis?
  1. Clear breath sounds, no edema or weight gain.
  2. Normal changes in vital signs with less fatigue during self-care.
  3. Verbalizes knowledge of disorder.
  4. States fear is reduced.
9. Which of the following medications does the nurse anticipate that the patient will be given to prevent complications associated with decreased cardiac output?
 

**Select all that apply.**

  1. Furosemide (Lasix)
  2. Cephalexin (Keflex)
  3. Penicillin (Bicillin)
  4. Warfarin (Coumadin)
  5. rPA (Retavase)
  6. Potassium supplement
10. The nurse is caring for a patient, age 70, who has a nursing diagnosis of *Deficient Knowledge* related to furosemide administration. Which of the following interventions is essential to include when planning a teaching session?
  1. Determine patient's learning priorities.
  2. Tell patient what to learn first about furosemide.
  3. Assess patient's dietary intake of potassium.
  4. Give patient a written test at the end of the teaching session.
11. A patient, age 65, is being discharged after a mechanical valve replacement for aortic stenosis. Which of the following should be taught regarding warfarin (Coumadin) therapy?
  1. Wear medical identification.
  2. Increase intake of green leafy vegetables.
  3. Keep yearly blood test appointments.
  4. Use a straight razor when shaving.
12. The nurse is teaching a patient with heart failure how to avoid activity that results in Valsalva's maneuver. Which of the following statements by the patient indicates to the nurse that the teaching has been effective?
  1. "I will breathe normally when moving."
  2. "I will use a straw to drink oral fluids."
  3. "I will take fewer but deeper breaths."
  4. "I will clench my teeth when moving."
13. The nurse is planning care for a patient with chronic mitral regurgitation. Which of the following assessments would be the highest priority?
  1. Cardiac rhythm
  2. Heart tones
  3. Peripheral edema
  4. Lung sounds
14. A patient with a history of endocarditis is undergoing dental work and is recommended to take prophylactic antibiotics to prevent which of the following?
  1. Infective endocarditis
  2. Peritonitis
  3. Vegetative emboli
  4. Inflammation
15. A patient has a positive Homans' sign. Which of the following does the nurse understand explains why ambulation and performing the Homans' sign is now contraindicated?
  1. They can cause calf swelling.
  2. They can cause patient pain.
  3. They can cause emboli.
  4. They may cause a clot to form.

16. A patient develops a postoperative deep venous thrombosis and is started on intravenous (IV) heparin. Which of the following laboratory tests does the nurse monitor during heparin therapy?
1. Plasma fibrinogen
  2. Prothrombin time (PT)
  3. Partial thromboplastin time (PTT)
  4. International normalized ratio (INR)
17. The nurse is caring for a patient on warfarin (Coumadin) with an elevated international normalized ratio (INR) level. Which of the following would be ordered as the antidote for warfarin?
1. Vitamin K
  2. Vitamin B<sub>12</sub>
  3. Calcium chloride
  4. Protamine sulfate
18. Which of the following is a desired outcome for the nursing diagnosis of *Acute Pain* for a patient with acute thrombophlebitis?
1. States anxiety is decreased.
  2. States pain is satisfactorily relieved.
  3. Is able to participate in desired activities.
  4. Reports ability to ambulate without pain.
19. A patient visits the doctor for a severe sore throat and fever. As the nurse plans the patient's care, which of the following diagnostic tests is obtained to prevent cardiac complications?
1. Chest x-ray examination
  2. Throat culture
  3. White blood cell count
  4. Erythrocyte sedimentation rate
20. The nurse is reviewing the daily international normalized ratio (INR) and prothrombin time (PT) levels for a patient who had a mechanical valve replacement. The INR is 3.7 and the PT level is 29. Which of the following actions should the nurse take?
1. Give the next dose of warfarin (Coumadin) as ordered.
  2. Inform the health care provider now.
  3. Give warfarin (Coumadin) now.
  4. Hold the next dose of warfarin (Coumadin).
21. A patient, who had a hysterectomy 2 days ago, reports tenderness in her left calf. The nursing assessment reveals the following: left calf 17.5", right calf 14", left thigh 32", right thigh 28", and a shiny, warm, and reddened left leg. Which of the following interventions should be given priority in the patient's plan of care? **Select all that apply.**
1. Maintain bedrest.
  2. Encourage ambulation three times daily.
  3. Encourage bilateral leg exercises.
  4. Apply bilateral antiembolism stockings.
  5. Apply right antiembolism stocking.
  6. Apply warm moist heat as ordered.
22. Which of the following findings should be reported to the physician for a patient receiving warfarin therapy?
1. Bleeding time 3 (normal = 2–5 seconds)
  2. International normalized ratio (INR) 4 (therapeutic = 2–3 seconds)
  3. Partial thromboplastin time (PTT) 28 (normal = 30–45 seconds)
  4. Prothrombin time (PT) 20 (therapeutic = 13.5–22 seconds)
23. A patient who has end-stage dilated cardiomyopathy comes to the emergency department with dyspnea. The patient reports waking with a feeling of suffocation, which was frightening. Which of the following responses by the nurse is most appropriate?
1. "You must have been dreaming."
  2. "Reclining decreases the heart's ability to pump blood."
  3. "Sleeping increases heart rate, which increases the body's need for oxygen."
  4. "Reclining increases fluid returning to the heart, which builds up fluid in the lungs."
24. Which of the following assessments of a patient would indicate a side effect of digoxin (Lanoxin) is occurring that requires follow-up?
1. Skin flushing
  2. Anorexia
  3. Hypertension
  4. Constipation
25. The physician writes a "now" order for codeine 45 mg intramuscular (IM) for a patient with thrombophlebitis. The nurse has on hand codeine 60 mg/2 mL. Which of the following doses should be given?
1. 1.45 mL
  2. 1.5 mL
  3. 1.75 mL
  4. 2.15 mL
26. A patient, age 46, is admitted for observation with a chest contusion after hitting the steering wheel in an auto accident. Which of the following findings would be the highest priority?
1. Bronchovesicular sounds heard over the major airways
  2. Patient reports chest soreness and tenderness
  3. Sternal bruising noted
  4. Pericardial rub heard on auscultation

# 24

## Nursing Care of Patients With Occlusive Cardiovascular Disorders

### VOCABULARY

Match the term with its definition.

- \_\_\_\_\_ Lymphangitis
- \_\_\_\_\_ Atherosclerosis
- \_\_\_\_\_ Stenosis
- \_\_\_\_\_ Ischemia
- \_\_\_\_\_ Venous stasis ulcer
- \_\_\_\_\_ High-density lipoprotein
- \_\_\_\_\_ Collateral circulation
- \_\_\_\_\_ Balloon angioplasty
- \_\_\_\_\_ Chest pain caused by decreased blood supply to the heart
- \_\_\_\_\_ Chest pain that usually subsides with rest
- \_\_\_\_\_ Chest pain that increases in frequency and is not relieved by rest
- \_\_\_\_\_ Tortuous and bulging veins, usually in lower extremity
- \_\_\_\_\_ Disease-causing venospasms when exposed to cold
- \_\_\_\_\_ A bulging or dilation of an artery
- \_\_\_\_\_ Death of a portion of the myocardium
- \_\_\_\_\_ Laboratory value that determines degree of damage to the heart
- \_\_\_\_\_ Embolism
- \_\_\_\_\_ Thrombus
- \_\_\_\_\_ Intermittent claudication
- \_\_\_\_\_ Coronary artery disease
- \_\_\_\_\_ Varicose veins
- \_\_\_\_\_ Procedure that compresses plaque against wall of artery
- \_\_\_\_\_ Unstable angina
- \_\_\_\_\_ Bacterial infection of lymphatic channels
- \_\_\_\_\_ Angina pectoris
- \_\_\_\_\_ Obstructed blood flow in the coronary arteries
- \_\_\_\_\_ Stable angina
- \_\_\_\_\_ Raynaud's disease
- \_\_\_\_\_ Plaque buildup within arterial wall
- \_\_\_\_\_ Lack of sufficient blood supply
- \_\_\_\_\_ Aneurysm
- \_\_\_\_\_ Vessels grow to compensate for blocked blood flow
- \_\_\_\_\_ Narrowing of a vessel
- \_\_\_\_\_ Myocardial infarction
- \_\_\_\_\_ A moving clot
- \_\_\_\_\_ "Good" cholesterol
- \_\_\_\_\_ A stationary clot
- \_\_\_\_\_ Skin breakdown from chronic venous insufficiency
- \_\_\_\_\_ Troponin I
- \_\_\_\_\_ Exertional calf pain that ceases with rest

## ATHEROSCLEROSIS

Answer the following questions.

1. What is the pathophysiology of atherosclerosis?

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2. What are modifiable risk factors that contribute to atherosclerosis?

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3. Develop a teaching plan for one of the modifiable risk factors for atherosclerosis.

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## MYOCARDIAL INFARCTION

Find the 22 errors and insert the correct information.

Myocardial infarction (MI) is the death of a portion of the pericardial sac caused by blockage or spasm of a coronary artery. When the patient has an MI, the affected part of the muscle becomes damaged and no longer functions properly. Ischemic injury takes a few minutes before complete necrosis and infarction take place. The ischemic process affects the subendocardial layer, which is the least sensitive to hypoxia. Myocardial contractility is depressed, so the body attempts to compensate by triggering the parasympathetic nervous system. This causes a decrease in myocardial oxygen demand, which further depresses the myocardium. After necrosis, the contractility function of the muscle is temporarily lost. If treatment is initiated after several signs of an MI, the area of damage can be minimized. If prolonged ischemia occurs, the size of the infarction can be small.

The area that is affected by an MI depends on which coronary artery is involved. The left anterior descending (LAD) branch of the left main coronary artery is the area that feeds the lateral wall. The right coronary artery (RCA) feeds the anterior wall and parts of the atrioventricular node and the sinoatrial node. An occlusion of the RCA leads to an inferior MI and to abnormalities of impulse conduction and formation. The left circumflex coronary artery feeds the inferior wall and part of the posterior wall of the heart.

Pain is the least common symptom. The pain does not radiate. The patient usually believes that an MI is occurring. Other symptoms may include restlessness, a feeling of impending doom, nausea, diaphoresis, and cold, clammy, ashen skin. The only symptom that might be present in the older adult is vomiting. Women may have atypical symptoms of an MI.

The three strong indicators of an MI are patient history, abnormal electrocardiographic (ECG) readings, and high triglyceride levels.

Initially, patients are kept on bedrest to increase myocardial oxygen demand. Patients are medicated promptly when

experiencing chest pain. Meperidine (Demerol) is the most widely used narcotic for MI. It helps decrease anxiety, increases respirations, and vasoconstricts the coronary arteries. Oxygen is given usually at 1 L/hr via nasal cannula. Nitroglycerin sublingual, topical, or by intravenous (IV) drip can also be administered. Percutaneous coronary intervention is a frequent treatment option for an occluded coronary artery.

A nursing care plan should include factors that may contribute to decreased cardiac workload. Changes in diet, stress reduction, regular exercise program, smoking cessation, and following a medication schedule require extensive patient and family teaching.

## PHARMACOLOGICAL TREATMENT

Match the medication to the appropriate description.

- |   |                                   |
|---|-----------------------------------|
| 1. _____ Calcium channel blocker            | 1. Nitroglycerin                  |
| 2. _____ Beta blocker                       | 2. Cholestyramine (Questran)      |
| 3. _____ Drug of choice for anginal attacks | 3. Propranolol (Inderal)          |
| 4. _____ Does not dissolve existing clots   | 4. Amlodipine (Norvasc)           |
| 5. _____ Bile acid sequestrant              | 5. Reteplase (Retavase)           |
| 6. _____ Antiplatelet                       | 6. Clopidogrel (Plavix)           |
| 7. _____ Long-acting nitrate                | 7. Heparin                        |
| 8. _____ Thrombolytic therapy agent         | 8. Pentoxifylline (Trental)       |
| 9. _____ Decreases blood viscosity          | 9. Isosorbide dinitrate (Isordil) |
| 10. _____ Reduces cholesterol synthesis     | 10. Atorvastatin (Lipitor)        |

## CRITICAL THINKING

Read the following case study and answer the questions.

Mr. Edwards is a 43-year-old man with a history of peripheral vascular disease and hypertension. He smokes two packs of cigarettes per day. He reports calf pain during minimal exercise that decreases with rest.

1. Which of the following nursing diagnoses would be the most appropriate relating to Mr. Edwards's symptoms, and what would be the patient outcome? \_\_\_\_\_

- A. *Ineffective Tissue Perfusion* related to compromised circulation
- B. *Fatigue* related to pain on exertion
- C. *Impaired Mobility* relating to stress associated with pain
- D. *Self-Care Deficit* related to pain and muscle spasms

2. Explain what happens when intermittent claudication occurs. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
3. Why does rest decrease the pain? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. Describe how smoking contributes to decreased circulation. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. Before a cardiac catheterization and coronary arteriogram, it is essential that the nurse ask a patient if the patient is allergic to which of the following?
  1. Eggs
  2. Codeine
  3. Iodine
  4. Penicillin
2. A patient, hospitalized with an MI, suddenly begins having severe respiratory distress with frothy sputum. These signs indicate that the patient probably has developed which of the following?
  1. Pneumonia
  2. Cardiac tamponade
  3. Pulmonary edema
  4. Pneumothorax
3. As the nurse examines a patient for decreased circulation in the lower extremities, which of the following findings would indicate adequate circulation?
  1. Loss of hair on the extremity
  2. Capillary refill less than 3 seconds
  3. Diminished pulses in the extremity
  4. Thickened nails of the extremity
4. The nurse is teaching the patient about diet. Which of the following dietary actions may reduce low-density lipid (LDL) cholesterol?
  1. Consuming <5 grams of soluble fiber daily
  2. Consuming >200 mg cholesterol daily
  3. <7% Kcal as saturated fat
  4. Using whole milk
5. The nurse understands that pain associated with coronary artery disease occurs from which of the following?
  1. Lack of nutrients to the heart
  2. Interrupted electrical activity to the areas of the heart
  3. Lack of sufficient oxygen to the myocardium
  4. Overexertion of heart muscle due to the workload

**REVIEW QUESTIONS—TEST PREPARATION**

*Choose the best answer unless directed otherwise.*

6. A patient who has been scheduled for a stress electrocardiogram (ECG) asks why this ECG is needed. Which of the following is the nurse’s best response?
  1. “It can predict whether the patient may soon have a heart attack.”
  2. “It verifies how much more physically fit the patient needs to become.”
  3. “It determines the patient’s potential target heart rate.”
  4. “It shows how the heart performs during exercise.”
7. During a stress ECG, a patient reports chest pain, and the test is stopped. When the patient is asked to undergo a heart catheterization, the patient appears apprehensive and worried. Which of the following is the most appropriate action for the nurse to take to reduce the patient’s anxiety?
  1. Explain how coronary artery disease is treated.
  2. Avoid discussing the heart catheterization until the patient has relaxed.
  3. Explain how well others have done after having this procedure.
  4. Listen to the patient express feelings about the situation.



8. Which of the following statements by a patient demonstrates to the nurse that the patient understands when to replace nitroglycerin tablets?
  1. Pills no longer cause tingling sensation when used.
  2. Pills disintegrate when touched.
  3. Pills smell like vinegar.
  4. Pills become discolored.
9. After hospitalization for a myocardial infarction, a patient is placed on a low-sodium diet. In discussing foods allowed on this diet, the nurse should inform the patient that this list includes which of the following?
  1. Hot dogs
  2. Fresh vegetables
  3. Milk and cheese
  4. Canned soups
10. Which of the following does the nurse correctly include in a teaching plan as modifiable risk factors for coronary artery disease? **Select all that apply.**
  1. Hypertension
  2. Gender
  3. Age
  4. Smoking
  5. Diabetes
11. Which of the following should the nurse correctly include in a teaching plan as being high in saturated fat? **Select all that apply.**
  1. Avocado
  2. Tuna fish
  3. Beef
  4. Olive oil
  5. Poultry
  6. Coconut oil
12. The nurse is collecting data on a patient. Which of the following clinical manifestations would the nurse expect to find with acute venous insufficiency? **Select all that apply.**
  1. Full superficial veins
  2. An aching, cramping type of pain
  3. Initial absence of edema
  4. Cool and cyanotic skin
  5. Positive Homans' sign
  6. Hyperemia
13. The nurse understands that which of the following are the most characteristic symptoms of Buerger's disease? **Select all that apply.**
  1. Numbness
  2. Pain
  3. Cramping
  4. Swelling
  5. Bounding pulses
  6. Intermittent claudication
14. A patient has been diagnosed with Raynaud's disease and asks the nurse what occurs with this disease. Which of the following is the most appropriate response?
  1. "Arterial vessel occlusion is caused by many clots that develop in the heart and are carried to the bloodstream."
  2. "Arteriolar vasoconstriction occurs, most often in the fingertips with symptoms of coldness, pain, and pale skin."
  3. "Peripheral vasospasm occurs in the lower limbs as a result of valve damage from long-standing venous stasis."
  4. "Thrombosis related to prolonged vasoconstriction caused by overexposure to the cold occurs."

# 25

## Nursing Care of Patients With Cardiac Dysrhythmias

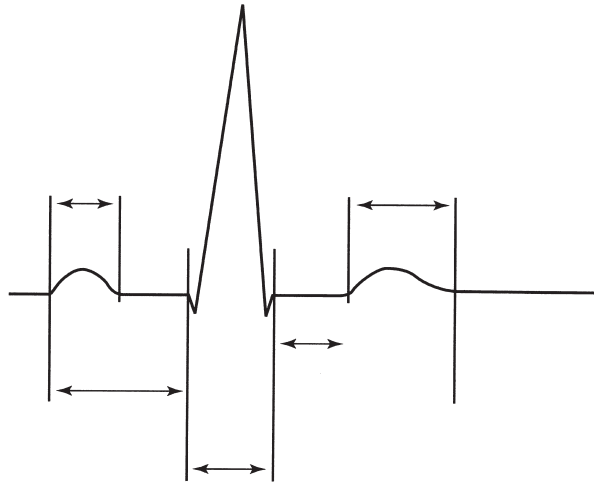
### VOCABULARY

Match the words and definitions.

- \_\_\_\_\_ Amplitude
- \_\_\_\_\_ Atrial depolarization
- \_\_\_\_\_ Atrial systole
- \_\_\_\_\_ Bigeminy
- \_\_\_\_\_ Cardioversion
- \_\_\_\_\_ Complete heart block
- \_\_\_\_\_ Contractility
- \_\_\_\_\_ Decompensation
- \_\_\_\_\_ Defibrillate
- \_\_\_\_\_ Inherent
- \_\_\_\_\_ Ischemia
- \_\_\_\_\_ Isoelectric line
- \_\_\_\_\_ Multifocal
- \_\_\_\_\_ Quadrigeminy
- \_\_\_\_\_ Right bundle branch block
- \_\_\_\_\_ Trigeminy
- \_\_\_\_\_ Unifocal
- \_\_\_\_\_ Ventricular diastole
- \_\_\_\_\_ Ventricular escape rhythm
- \_\_\_\_\_ Ventricular repolarization
- \_\_\_\_\_ Ventricular systole
- Beat occurring every fourth complex, as in premature ventricular contractions (PVCs)
- Belonging to anything naturally
- Coming or originating from one site
- Condition in which there is a complete dissociation between atrial and ventricular systoles
- Contraction of the atria
- Contraction of the two ventricles
- Defect in heart conduction system in which right bundle does not conduct impulses normally
- Elective procedure in which synchronized shock of 25 to 50 joules is delivered to restore normal sinus rhythm
- Electrical activation of the atria
- Electrical tracing is at zero and is neither positive nor negative
- Failure of the heart to maintain adequate circulation
- Force with which left ventricular ejection occurs
- Local deficiency of blood supply resulting from obstruction of the circulation to another part
- Occurring every third beat, as in PVCs
- Occurs every second beat, as in PVCs
- Originating from many foci or sites
- Period of relaxation of the ventricle
- Reestablishment of the polarized state of the muscle after contraction
- Size or fullness of voltage
- Naturally occurring rhythm of the ventricles when the rest of the conduction system fails
- Use of electrical device to apply countershocks to the heart through electrodes placed on the chest wall to stop fibrillation

### COMPONENTS OF A CARDIAC CYCLE

Label the components of a cardiac cycle.



### HEART RATE

Calculate the heart rate using the 6-second method.



Heart rate = \_\_\_\_\_



Heart rate = \_\_\_\_\_



Heart rate = \_\_\_\_\_

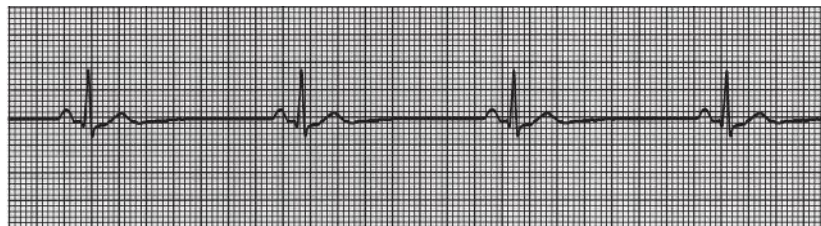
## CARDIAC CONDUCTION

Match the words and definitions.

- |   |  |
|---|--|
| 1. _____ Sinoatrial node                    | 1. Rate less than 60   |
| 2. _____ Atrioventricular node              | 2. No QRS complexes seen—straight line   |
| 3. _____ Normal sinus rhythm                | 3. An early beat   |
| 4. _____ Right atrium                       | 4. An early beat that has a P wave and a normal QRS complex                                      |
| 5. _____ Right ventricle                    | 5. Where normal cardiac impulse originates   |
| 6. _____ Left atrium                        | 6. A chaotic pattern—no visible cardiac cycles   |
| 7. _____ Left ventricle                     | 7. No identifiable P waves with a normal QRS complex; irregularly irregular                      |
| 8. _____ Bradycardia                        | 8. Wave that precedes a QRS complex  |
| 9. _____ Tachycardia                        | 9. Where an impulse is delayed before going to the Purkinje fibers                               |
| 10. _____ Q wave                            | 10. An early beat with no P wave and a wide, bizarre QRS complex                                 |
| 11. _____ P wave                            | 11. Successive beats of three or more wide, bizarre QRS complexes                                |
| 12. _____ R wave                            | 12. Rhythm with normal P waves, QRS, T waves with a heart rate of 60 to 100 beats per minute     |
| 13. _____ S wave                            | 13. The first negative deflection of a QRS complex   |
| 14. _____ T wave                            | 14. A small wave seen after the T wave   |
| 15. _____ U wave                            | 15. The first positive deflection on a QRS complex   |
| 16. _____ Premature                         | 16. Rhythm with normal P waves, QRS, T waves with a heart rate of less than 60 beats per minute  |
| 17. _____ Sinus tachycardia                 | 17. The chamber of the heart that pumps the blood to the rest of the body                        |
| 18. _____ Sinus bradycardia                 | 18. The chamber that receives blood returning to the heart                                       |
| 19. _____ Premature atrial contraction      | 19. Rhythm with normal P waves, QRS, T waves with a heart rate of more than 100 beats per minute |
| 20. _____ Atrial fibrillation               | 20. The wave that follows the QRS complex  |
| 21. _____ Premature ventricular contraction | 21. The chamber that receives blood from the pulmonary veins                                     |
| 22. _____ Ventricular tachycardia           | 22. The downward deflection after the R wave   |
| 23. _____ Ventricular fibrillation          | 23. Heart rate of more than 100 beats per minute   |
| 24. _____ Asystole                          | 24. Chamber that propels blood into the pulmonary artery   |

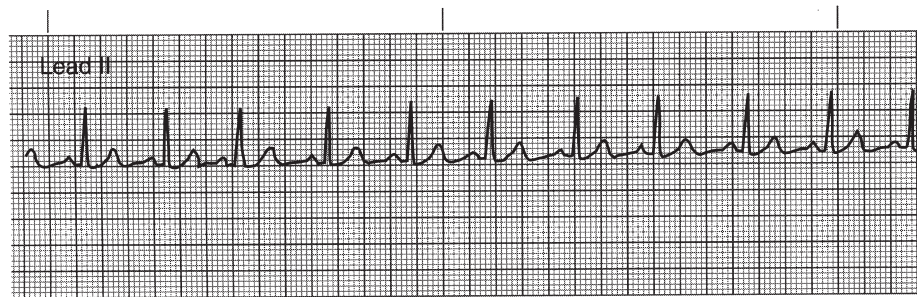
## ELECTROCARDIOGRAM INTERPRETATION

Analyze the electrocardiogram (ECG) rhythms using the six-step interpretation process.



- A.
1. Rhythm: \_\_\_\_\_
  2. Heart rate: \_\_\_\_\_
  3. P waves: \_\_\_\_\_
  4. PR interval: \_\_\_\_\_

5. QRS interval: \_\_\_\_\_
6. QT interval: \_\_\_\_\_
7. ECG interpretation: \_\_\_\_\_



- B.
1. Rhythm: \_\_\_\_\_
  2. Heart rate: \_\_\_\_\_
  3. P waves: \_\_\_\_\_
  4. PR interval: \_\_\_\_\_
  5. QRS interval: \_\_\_\_\_
  6. QT interval: \_\_\_\_\_
  7. ECG interpretation: \_\_\_\_\_

**CRITICAL THINKING**

Read the following case study and answer the questions.

Mrs. Samuels is admitted to the hospital for chest pain. Tests are run, and her electrocardiogram (ECG) shows bigeminal PVCs of more than 6 per minute that are close to her T wave. Her potassium level is 2.8 mEq/L. She is short of breath on exertion. Her blood pressure is 104/56 mm Hg, pulse is 72 beats per minute, and respirations are 16 per minute.

1. What should the nurse do first? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. What actions should the nurse take regarding the dysrhythmia? \_\_\_\_\_  
 \_\_\_\_\_

3. What might some of the causes be for this dysrhythmia?  
 \_\_\_\_\_  
 \_\_\_\_\_
4. What additional symptoms might the nurse anticipate?  
 \_\_\_\_\_  
 \_\_\_\_\_
5. What type of orders should the nurse expect from the health care provider? \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

1. The nurse understands that which of the following defines a cardiac cycle?
  1. Circulation of the blood through the body
  2. Circulation of the blood through the heart
  3. Depolarization and repolarization of heart chambers
  4. Pumping action of the heart
2. The heart receives blood returning from the body through which of the following?
  1. Pulmonary vein
  2. Aorta
  3. Vena cavae
  4. Right coronary artery

3. Which of the following separates the right side of the heart from the left?
  1. Chamber
  2. Pericardium
  3. Valve
  4. Septum
4. Which of the following chambers of the heart is largest and has the thickest myocardium?
  1. Left ventricle
  2. Right ventricle
  3. Right atrium
  4. Left atrium
5. Which of the following waveforms represents the resting state of the ventricle on the ECG?
  1. P wave
  2. QRS complex
  3. U wave
  4. T wave
6. Which of the following is the normal rate for the sinoatrial node?
  1. 20 to 40 beats per minute
  2. 40 to 60 beats per minute
  3. 60 to 100 beats per minute
  4. More than 100 beats per minute
7. The nurse understands that rhythms arising from the primary pacing node of the heart are referred to as which of the following?
  1. Escape beats
  2. Bundle branch blocks
  3. Sinus rhythms
  4. Ectopic rhythms

## REVIEW QUESTIONS—TEST PREPARATION

*Choose the best answer unless directed otherwise.*

8. The nurse notes a life-threatening dysrhythmia on a patient's cardiac monitor. Which of the following is the nurse's first appropriate action?
  1. Notify the health care provider immediately.
  2. Assess the patient.
  3. Administer the appropriate medication for the noted dysrhythmia.
  4. Obtain vital signs.
9. The nurse is teaching a patient about digoxin. Which of the following should the nurse include in the teaching?
  1. Digoxin decreases ectopic beats.
  2. The force of contractions is increased with digoxin.
  3. The resting heart rate increases when digoxin is taken.
  4. Digoxin raises the resting blood pressure.
10. The nurse is providing care to a patient with atrial fibrillation. Which of the following statements, if made by the patient, would be of the most concern?
  1. "Aspirin upsets my stomach, so I quit taking it."
  2. "It seems like my feet are a little swollen."
  3. "My wife and I got a membership at the local health club."
  4. "I've been having trouble falling asleep at night."
11. Which of the following treatments can be appropriate for a patient with atrial fibrillation? **Select all that apply.**
  1. Amiodarone (Cordarone)
  2. Nitroglycerin
  3. Warfarin (Coumadin)
  4. Digoxin (Lanoxin)
  5. Cardioversion
  6. Epinephrine
12. The nurse is caring for a patient who has had a run of three or more PVCs together. The nurse should document this as which of the following?
  1. Ventricular tachycardia
  2. Bigeminy
  3. Trigeminy
  4. Multifocal PVCs
13. The nurse is caring for a patient in ventricular tachycardia who is hemodynamically stable. Which of the following is the initial treatment for this dysrhythmia?
  1. Cardioversion
  2. Pacemaker
  3. Defibrillation
  4. Antiarrhythmic intravenous (IV) medication

14. The nurse is caring for a patient whose ECG monitor shows a total absence of electrical impulse. The nurse does not detect a pulse. The nurse would document this as which of the following rhythms?
1. Agonal
  2. Asystole
  3. Sinus arrest
  4. Ventricular standstill
15. A patient with a cardiac disorder is having increased PVCs and feels “anxious.” After assessment and vital signs, what is the next action for the nurse to take?
1. Order an ECG and cardiac enzymes.
  2. Call the health care provider.
  3. Elevate the head of the bed and start oxygen at 2 L/min.
  4. Put the bed in modified Trendelenburg’s position.
16. The nurse is caring for a patient who is fatigued and undergoing cardiac testing. For which of the following dysrhythmias will the nurse anticipate the patient’s need for a permanent pacemaker? **Select all that apply.**
1. Ventricular fibrillation
  2. First-degree heart block
  3. Atrial fibrillation
  4. Third-degree heart block
  5. Symptomatic bradycardia
  6. Premature atrial contractions (PACs)

# 26

## Nursing Care of Patients With Heart Failure

### VOCABULARY

Fill in the blank with the appropriate word found in the word list.

Afterload	Peripheral vascular resistance
Cor pulmonale	Preload
Hepatomegaly	Pulmonary edema (acute heart failure)
Orthopnea	Splenomegaly
Paroxysmal nocturnal dyspnea	

1. \_\_\_\_\_ is the acute inability of the heart to pump enough blood to meet the body's oxygen and nutrient needs.
  2. \_\_\_\_\_ occurs when the right side of the heart fails because of an increased workload caused by pulmonary disease.
  3. Organ enlargement that may occur with right-sided heart failure (HF) is known as \_\_\_\_\_ and \_\_\_\_\_.
  4. The goal of treatment for HF is to improve the heart's pumping ability and decrease the heart's workload by reducing \_\_\_\_\_.
  5. \_\_\_\_\_ causes supine patients to awaken suddenly with a feeling of suffocation.
  6. The end-diastole stretch in the ventricles produced by ventricular volume is \_\_\_\_\_.
  7. The tension in the ventricular wall during systole necessary to overcome vascular resistance is \_\_\_\_\_.
  8. \_\_\_\_\_ is dyspnea that occurs when the patient lies down.
-

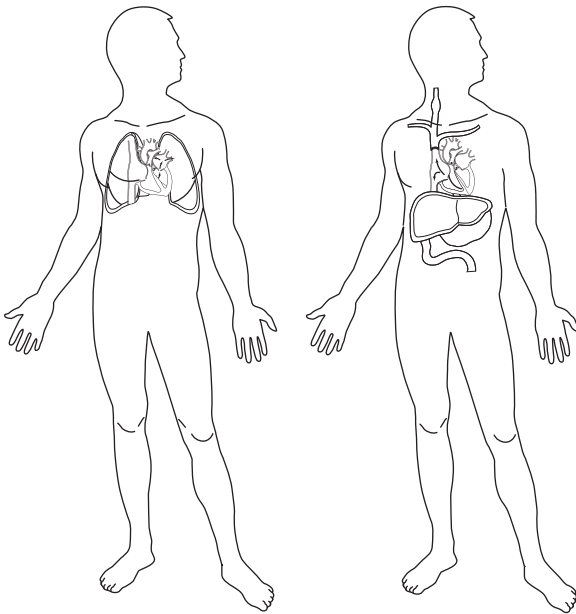


## FLUID ACCUMULATION PATTERNS

Label the backward accumulation of fluid and shade areas of fluid congestion.

The heart pumps blood in a closed circuit. If one side of the heart fails to adequately pump blood forward, it pools and backs up from the failing chamber. On the drawing, use arrows to mark the path of the backward accumulation of fluid from the side of the heart that is failing. Shade in areas where fluid congestion occurs.

To increase your understanding of where the backward accumulation of fluid occurs from a certain side of the heart, use blue shading to illustrate the side with deoxygenated blood accumulation. Use red shading for the side with oxygenated blood accumulation.



## SIGNS AND SYMPTOMS OF HEART FAILURE

In HF, certain signs and symptoms occur based on the side of the heart that is failing as a pump.

Match the following sign or symptom to the failing side of the heart that is causing it.

- |                                  |                   |
|----------------------------------|-------------------|
| 1. _____ Dry cough               | 1. Left-sided HF  |
| 2. _____ Peripheral edema        | 2. Right-sided HF |
| 3. _____ Crackles                |                   |
| 4. _____ Hepatomegaly            |                   |
| 5. _____ Jugular vein distention |                   |
| 6. _____ Dyspnea                 |                   |
| 7. _____ Splenomegaly            |                   |
| 8. _____ Orthopnea               |                   |

## CRITICAL THINKING

Read the following case study and answer the questions.

Mr. Donner, age 72, is admitted to the cardiac unit for increasing dyspnea on exertion and fatigue.

### Subjective Data

History of HF for 2 years  
 Unable to walk one block without increasing dyspnea  
 Sleeps at 60-degree angle in reclining chair  
 Increasing fatigue during the last 2 weeks

### Objective Data

BP 140/78 mm Hg, P 108 beats per minute, R 24 per minute, T 98.8°F (37.1°C)  
 Jugular vein distention at 45 degrees  
 Has frequent dry cough  
 Bilateral crackles in lung bases  
 Nonpitting edema  
 Diagnostic studies  
 Chest x-ray examination: left and right ventricular hypertrophy, bilateral fluid in lower lung lobes

1. Explain the cause of Mr. Donner's fatigue, cough, and shortness of breath. \_\_\_\_\_  
 \_\_\_\_\_
2. Which of Mr. Donner's signs and symptoms are from left-sided HF and which are from right-sided HF?  
 Left: \_\_\_\_\_  
 Right: \_\_\_\_\_  
 \_\_\_\_\_
3. Explain the purpose of each of the following therapies. How would they be beneficial in treating Mr. Donner's heart failure?
  1. Furosemide (Lasix) 40 mg by mouth (PO) twice daily: \_\_\_\_\_
  2. Benazepril (Lotensin) 10 mg PO daily: \_\_\_\_\_  
 \_\_\_\_\_
  3. 2 g sodium diet: \_\_\_\_\_
  4. Oxygen 4 L/min: \_\_\_\_\_  
 \_\_\_\_\_
4. Mr. Donner suddenly becomes dyspneic and anxious, has moist crackles throughout his lungs, and pink frothy sputum. Explain what is happening. \_\_\_\_\_  
 \_\_\_\_\_

5. Explain the purpose of each of the following therapies. How are they beneficial in treating Mr. Donner’s acute HF? \_\_\_\_\_

1. High Fowler’s position: \_\_\_\_\_  
\_\_\_\_\_
2. Oxygen 6 L/min: \_\_\_\_\_  
\_\_\_\_\_
3. Furosemide (Lasix) intravenous push (IVP): \_\_\_\_\_  
\_\_\_\_\_
4. Nitroglycerin IV infusion: \_\_\_\_\_  
\_\_\_\_\_
5. Morphine 2 mg IVP: \_\_\_\_\_  
\_\_\_\_\_

7. What are Mr. Donner’s health learning needs to manage his chronic condition?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. List two priority nursing diagnoses and goals for Mr. Donner’s chronic HF.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. A patient is being given digoxin (Lanoxin) to treat heart failure. Which of the following is a usual adult daily dosage of digoxin (Lanoxin)?
  1. 0.005 mg
  2. 0.025 mg
  3. 0.25 mg
  4. 2.5 mg
  
2. When the nurse is reviewing a patient’s daily laboratory test results, which of the following electrolyte imbalances should the nurse recognize as predisposing the patient to digoxin toxicity?
  1. Hypokalemia
  2. Hyperkalemia
  3. Hyponatremia
  4. Hypernatremia

3. If a patient has elevated pulmonary vascular pressures, the nurse understands that the patient is most likely to develop which of the following physiological cardiac changes?
  1. Left atrial atrophy
  2. Right atrial atrophy
  3. Left ventricular hypertrophy
  4. Right ventricular hypertrophy

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. A patient is admitted to a medical unit with a diagnosis of heart failure. The patient reports increasing fatigue during the past 2 weeks. Which of the following is the most likely cause of this fatigue?
  1. Dyspnea
  2. Decreased cardiac output
  3. Dry cough
  4. Orthopnea
5. A patient asks the nurse what a diagnosis of heart failure means. Which of the following is the nurse's best response?
  1. "Your heart briefly stops."
  2. "Your heart has an area of muscle that is dead."
  3. "Your heart is pumping too much blood."
  4. "Your heart is not an efficient pump."
6. A patient's chest x-ray examination indicates fluid in both lung bases. Which of the following signs or symptoms present during the nurse's data collection most reflects these x-ray examination findings?
  1. Fatigue
  2. Peripheral edema
  3. Bilateral crackles
  4. Jugular vein distention
7. To monitor the severity of a patient's heart failure, which of the following information is the most appropriate for the nurse to gather daily?
  1. Weight
  2. Calorie count
  3. Appetite
  4. Abdominal girth
8. Which of the following signs indicates to the nurse that digoxin (Lanoxin) has been effective for a patient?
  1. Urine output decreases
  2. Urine output increases
  3. Heart rate higher than 95 beats per minute
  4. Heart rate lower than 50 beats per minute
9. For a patient who is being discharged on digoxin (Lanoxin), the nurse should include which of the following in an explanation to the patient on the signs and symptoms of digoxin toxicity?
  1. Poor appetite
  2. Constipation
  3. Halos around lights
  4. Tachycardia
10. The patient is being discharged on furosemide (Lasix). The nurse evaluates the patient as understanding medication teaching if the patient states that which of the following laboratory tests will be monitored as ordered?
  1. "I will have my urine sodium checked."
  2. "I will have my calcium level checked."
  3. "I will have my prothrombin time checked."
  4. "I will have my potassium level checked."
11. Which of the following does the nurse understand are the reasons a patient with pulmonary edema is given morphine sulfate? **Select all that apply.**
  1. To reduce anxiety
  2. To relieve chest pain
  3. To strengthen heart contractions
  4. To increase blood pressure
  5. To reduce preload and afterload
  6. To induce amnesia
12. The nurse evaluates that bumetanide (Bumex) IV is effective in treating pulmonary edema if which of the following patient signs or symptoms is resolved?
  1. Pedal edema
  2. Jugular venous distention
  3. Pink, frothy sputum
  4. Bradycardia
13. A patient is being taught the action of digoxin, which is an inotropic agent. The nurse defines an inotropic agent as a medication that has which of the following actions?
  1. Decreases heart rate.
  2. Increases heart rate.
  3. Increases conduction time.
  4. Strengthens heart contraction.
14. For a patient receiving furosemide, the nurse evaluates the medication as being effective if which of the following effects occurs?
  1. Bilateral crackles diminish.
  2. Serum potassium decreases.
  3. Heart rate increases.
  4. Pulse pressure increases.
15. When caring for an anxious patient with dyspnea, which of the following nursing actions is most helpful to include in the plan of care to relieve anxiety?
  1. Increase activity levels.
  2. Stay at patient's bedside.
  3. Pull the privacy curtain.
  4. Close the patient's door.



# unit SIX

## Understanding the Hematologic and Lymphatic Systems

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Blood components
- Functions of different blood cells
- Lymphatic system structures and functions
- Effects of aging

#### Major Disorders

- Anemias
- Polycythemia
- Disseminated intravascular coagulation
- Idiopathic thrombocytopenic purpura
- Hemophilia
- Leukemias
- Multiple myeloma
- Hodgkin's disease
- Lymphomas
- Spleen disorders

#### Nursing Assessment

- Signs and symptoms of anemias
- Signs and symptoms of bleeding
- Lymph nodes
- Skin

#### Diagnostic Tests

- Complete blood cell count (CBC)
- White blood cell (WBC) differential
- Coagulation tests
- Bone marrow biopsy
- Lymphangiography
- Lymph node biopsy

#### Interventions

- Blood product administration
- Chemotherapy
- Thrombocytopenia precautions
- Infection precautions
- Bone marrow transplant
- Splenectomy

#### Common Medications

- Iron
- Colony-stimulating factors
- Chemotherapy
- Clotting factors

# 27

## Hematologic and Lymphatic System Function, Assessment, and Therapeutic Measures

### VOCABULARY

Fill in the blank with the appropriate word.

1. \_\_\_\_\_ is a blue-black discoloration from hemorrhage under the skin.
2. \_\_\_\_\_ is the term used to describe swelling from blockage of lymph circulation.
3. Tiny hemorrhages into the skin creating a polka-dot appearance are called \_\_\_\_\_.
4. \_\_\_\_\_ is caused by hemorrhages into the skin, mucous membranes, or internal organs.
5. The patient with \_\_\_\_\_ has an increased risk for bleeding because of insufficient platelets.

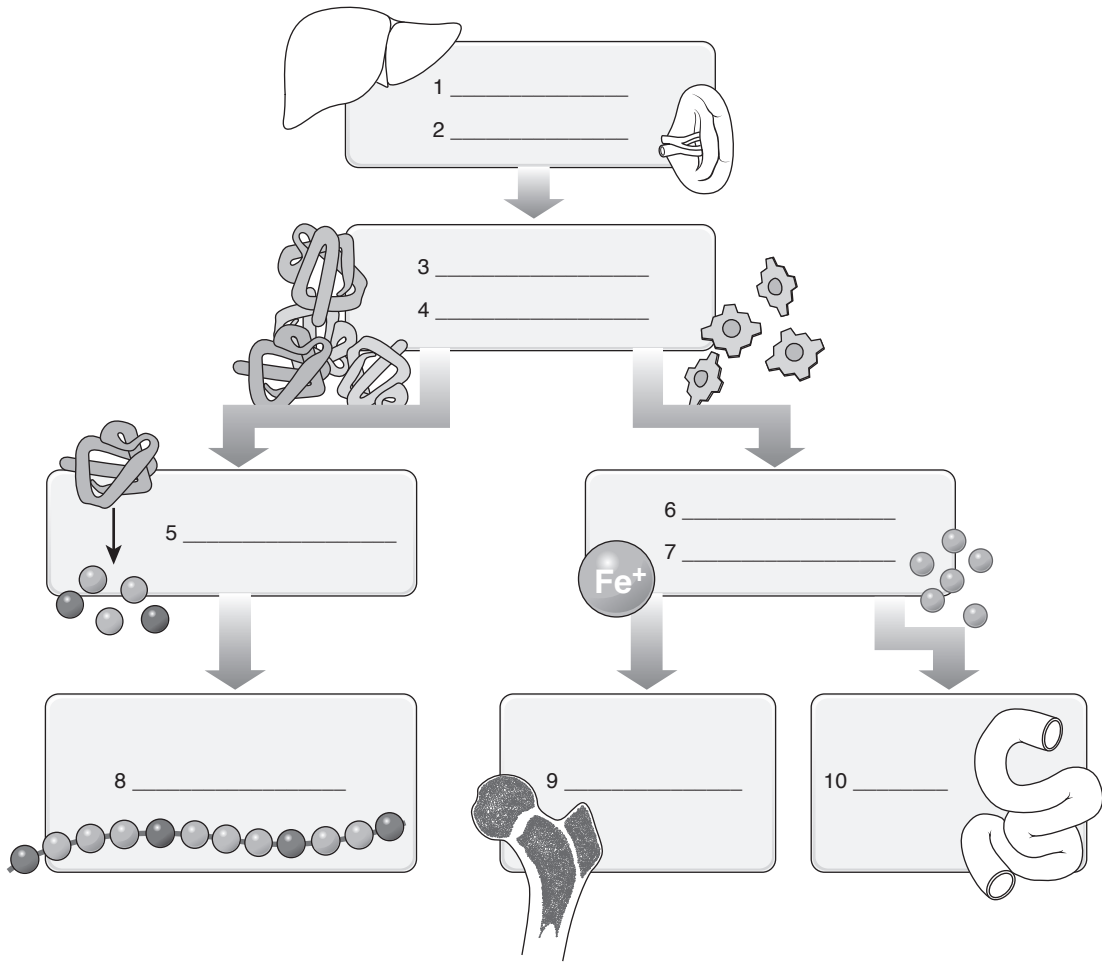
### LYMPHATIC SYSTEM REVIEW

Match each part of the lymphatic system with its proper description.

- |                            |  |
|----------------------------|--|
| 1. _____ Lymph capillaries | 1. Destroy pathogens in the lymph from the extremities before the lymph is returned to the blood |
| 2. _____ Lymph nodules     | 2. Collect tissue fluid from intercellular spaces  |
| 3. _____ Thoracic duct     | 3. Prevent backflow of lymph in larger lymph vessels   |
| 4. _____ Lymph nodes       | 4. Destroy pathogens that penetrate mucous membranes   |
| 5. _____ Valves            | 5. Empties lymph from the lower body and upper left quadrant into the left subclavian vein       |

### STRUCTURES OF THE LYMPHATIC SYSTEM

Label the following structures.



### HEMATOLOGIC SYSTEM REVIEW

Match each term with its definition.

- 1. \_\_\_\_\_ Albumin
- 2. \_\_\_\_\_ Macrophages
- 3. \_\_\_\_\_ Calcium ions
- 4. \_\_\_\_\_ Intrinsic factor
- 5. \_\_\_\_\_ Hemoglobin
- 6. \_\_\_\_\_ Basophils
- 7. \_\_\_\_\_ Red bone marrow
- 8. \_\_\_\_\_ Stem cell
- 9. \_\_\_\_\_ Megakaryocyte
- 10. \_\_\_\_\_ Lymphocytes

- 1. May become any kind of blood cell
- 2. Essential for chemical clotting
- 3. Release histamine
- 4. A hematopoietic tissue
- 5. May become cells that produce antibodies
- 6. Large phagocytic cells
- 7. Promotes absorption of vitamin B<sub>12</sub>
- 8. Its fragments become platelets
- 9. Carries oxygen in red blood cells (RBCs)
- 10. Pulls tissue fluid into capillaries to maintain blood volume

## CRITICAL THINKING

Read the case study and answer the questions.

Mr. Foster is receiving a unit of packed RBCs. You assist with identification of the patient before the transfusion begins. The registered nurse (RN) then delegates monitoring of his vital signs every half hour to you.

1. Why should Mr. Foster be monitored for each of the following symptoms?

1. Fever \_\_\_\_\_

2. Back pain \_\_\_\_\_

3. Respiratory distress \_\_\_\_\_

4. Crackles \_\_\_\_\_

5. Hives \_\_\_\_\_

2. Mr. Foster's respiratory rate increases from 16 to 20 breaths per minute. What do you do?

\_\_\_\_\_

3. The physician asks that the transfusion be slowed down. How many hours can the blood hang before it must be stopped?

\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. What is the mineral necessary for chemical clotting?

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

2. Through which of the following does lymph return to the blood?

1. Carotid arteries
2. Aorta
3. Inferior vena cava
4. Subclavian veins

3. Which of the following is a normal hemoglobin value?

1. 38% to 48%
2. 12 to 18 g/100 mL
3. 48 to 54 mg %
4. 27 to 36 g/dL

4. Which laboratory study is monitored for the patient receiving heparin therapy?

1. International normalized ratio (INR)
2. Prothrombin time (PT)
3. Partial thromboplastin time (PTT)
4. Bleeding time

5. Which blood product replaces missing clotting factors in the patient who has a bleeding disorder?

1. Platelets
2. Packed RBCs
3. Albumin
4. Cryoprecipitate

6. Which of the following items are transported in blood plasma? **Select all that apply.**

1. Oxygen
2. Nutrients
3. Carbon dioxide
4. Hormones
5. Wastes
6. Electrolytes



**REVIEW QUESTIONS—TEST PREPARATION**

*Choose the best answer unless directed otherwise.*

7. A patient is on warfarin (Coumadin) therapy and has an INR of 1.6. Which action by the nurse is appropriate?
  1. Observe the patient for abnormal bleeding.
  2. Notify the physician and expect an order to increase the warfarin dose.
  3. Advise the patient to double today's dose of warfarin.
  4. Administer vitamin K per protocol.
8. A patient receiving a transfusion of packed RBCs reports chest and back pain. How should the nurse respond?
  1. Do a complete head-to-toe examination.
  2. Ask the patient to rate the pain on a 0 to 10 scale.
  3. Stop the transfusion and call the RN stat depending on agency policy.
  4. Administer an analgesic, as needed (prn).
9. The nurse is preparing to assist the physician with a bone marrow biopsy. Which of the following interventions is most important for the nurse to carry out before the procedure?
  1. Explain the procedure to the patient's family.
  2. Administer an analgesic to the patient.
  3. Observe the patient for bleeding.
  4. Drape the biopsy site.
10. The nurse is providing care for patients on a medical surgical unit. Which of the following patients is at increased risk for infection?
  1. A 57-year-old whose WBC count =  $6500/\text{mm}^3$
  2. A 63-year-old with a platelet count =  $110,000/\text{mm}^3$
  3. A 49-year-old with a hematocrit = 44%
  4. An 88-year-old with a neutrophil count of 32%

# 28

## Nursing Care of Patients With Hematologic and Lymphatic Disorders

### VOCABULARY

Label each statement true or false.

- \_\_\_\_\_ Anemia is a reduction in white blood cells (WBCs).
- \_\_\_\_\_ Hemolysis is the destruction of red blood cells (RBCs).
- \_\_\_\_\_ Pancytopenia is reduced numbers of all blood cells.
- \_\_\_\_\_ Polycythemia is the production of excess blood cells.
- \_\_\_\_\_ Phlebotomy is the excision of a vessel.
- \_\_\_\_\_ Disseminated intravascular coagulation (DIC) involves accelerated clotting throughout the circulation.
- \_\_\_\_\_ Thrombocytopenia is an increase in platelets.
- \_\_\_\_\_ Hemarthrosis is bleeding into the muscles.
- \_\_\_\_\_ Leukemia literally means “white blood.”
- \_\_\_\_\_ Cancer of the lymph system is called lymphemia.
- \_\_\_\_\_ Abnormalities in B cells and T cells can result in lymphoma.
- \_\_\_\_\_ Enlargement of the spleen is called splenomegaly.

### CRITICAL THINKING: LEUKEMIA

Read the case study and answer the questions.

Mr. Frantzis is a 60-year-old man in the acute stage of chronic lymphocytic leukemia. He is admitted to a nursing home because he has no family to help care for him. He has had chemotherapy in the past but has decided against further treatment. You are assigned to his care today. You find him pale and weak, with no energy to get out of bed. He also reports pain in his chest.

- Mr. Frantzis says he is too weak to get up for breakfast. What do you do? \_\_\_\_\_  
\_\_\_\_\_
- How do you follow up on the pain in his chest?  
\_\_\_\_\_  
\_\_\_\_\_

- The nursing assistant assigned to Mr. Frantzis has a runny nose. What should you do? \_\_\_\_\_  
\_\_\_\_\_
- Mr. Frantzis calls you “Jennifer” when you enter his room, but that is not your name. How do you respond?  
\_\_\_\_\_  
\_\_\_\_\_
- You note bleeding from Mr. Frantzis’s gums. What care can you provide? \_\_\_\_\_  
\_\_\_\_\_

**CRITICAL THINKING: HODGKIN'S DISEASE**

*Circle the errors in the following paragraph and write in the correct information.*

Joe is a 28-year-old construction worker diagnosed with stage I Hodgkin's disease. He initially went to his physician because

of a painful lump in his neck. He is also experiencing high fevers and weight loss. The diagnosis was confirmed in a laboratory test by the presence of Reed-Sternberg cells. He expresses his fears to his nurse, who tells him that Hodgkin's disease is not really cancer, and that it is often curable. Joe takes a leave from work and begins palliative radiation therapy.

**SICKLE CELL ANEMIA REVIEW**

*Fill in the signs and symptoms of sickle cell anemia.*

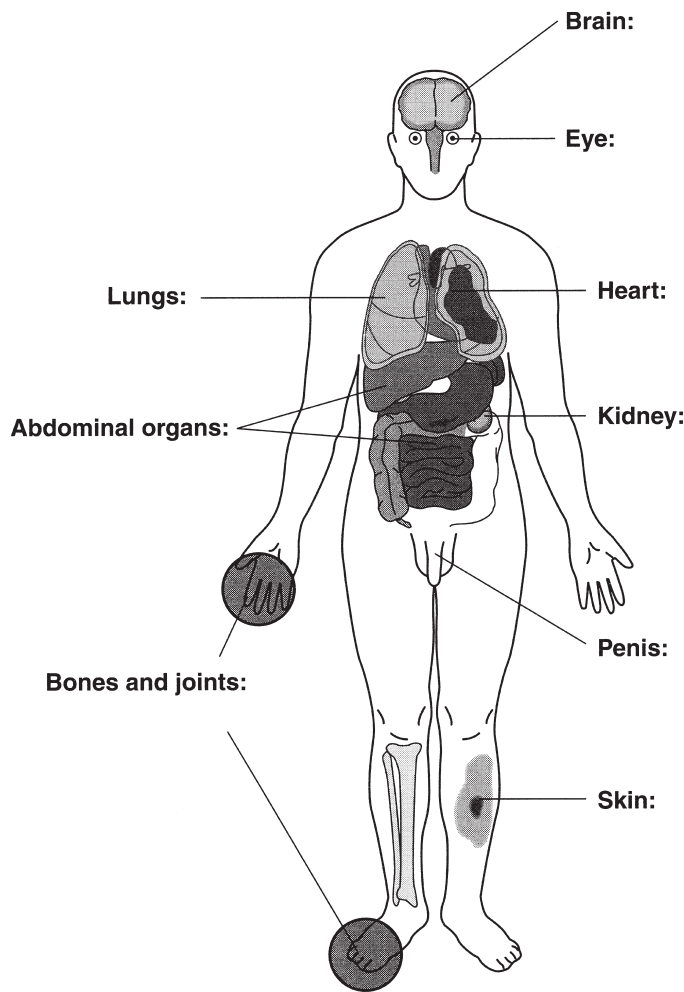
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## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following foods will best help provide dietary iron for a patient who has iron-deficiency anemia?
  - Fresh fruits
  - Lean red meats
  - Dairy products
  - Breads and cereals
- A 50-year-old African American patient is diagnosed with anemia. Where can the nurse best observe for pallor?
  - Scalp
  - Axillae
  - Chest
  - Conjunctivae
- Which of the following is an early sign of anemia?
  - Palpitations
  - Glossitis
  - Pallor
  - Weight loss
- For which of the following problems should the nurse monitor in the patient with multiple myeloma?
  - Uncontrolled bleeding
  - Respiratory distress
  - Liver engorgement
  - Pathological fractures
- Which of the following interventions can help minimize complications related to hypercalcemia?
  - Encourage 3 to 4 L of fluid daily.
  - Have the patient cough and deep breathe every 2 hours.
  - Place the patient on bedrest.
  - Apply heat to painful areas.
- A patient is admitted for a splenectomy. Why is an injection of vitamin K ordered before surgery?
  - To correct clotting problems
  - To promote healing
  - To prevent postoperative infection
  - To dry secretions

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- Which of the following conditions places a patient at risk for respiratory complications following splenectomy?
  - A low platelet count
  - An incision near the diaphragm
  - Early ambulation
  - Early discharge
- Patients are at risk for overwhelming postsplenectomy infection (OPSI) following splenectomy. Which of the following symptoms alerts the nurse to this possibility?
  - Bruising around the operative site
  - Irritability
  - Pain
  - Fever
- A nurse is caring for a patient admitted with gastrointestinal tract bleeding and a hemoglobin level of 6 g/dL. The patient asks the nurse why the low hemoglobin causes shortness of breath. Which response is best?
  - “Anemia prevents your lungs from absorbing oxygen effectively.”
  - “You do not have enough hemoglobin to carry oxygen to your tissues.”
  - “You don’t have enough blood to feed your cells.”
  - “You have lost a lot of blood, and that has damaged your lungs.”
- A 27-year-old African American man is admitted in sickle cell crisis. Which of the following events most likely contributed to the onset of the crisis?
  - He started a new job last week.
  - He walked home in a cold rain yesterday.
  - He had seafood for dinner last night.
  - He has not exercised for a week.
- A patient has hand-foot syndrome related to sickle cell anemia. What findings does the nurse expect to see as the patient is examined?
  - Unequal growth of fingers and toes
  - Webbing between fingers and toes
  - Purplish discoloration of hands and feet
  - Deformities of the wrists and ankles
- The nurse has taught a patient with thrombocytopenia how to prevent bleeding. Which of the following is the best evidence that the teaching has been effective?
  - The patient states the importance of avoiding injury.
  - The patient can list signs and symptoms of bleeding.
  - The patient uses an electric razor instead of a safety razor.
  - The patient lists symptoms that should be reported to the doctor.

13. A patient with a history of hemophilia A arrives in the emergency department with a “funny feeling” in his elbow. The patient states that he thinks he is bleeding into the joint. Which response by the nurse is correct?
1. Palpate the patient’s elbow to assess for swelling.
  2. Notify the physician immediately and expect an order for factor VIII.
  3. Prepare the patient for an x-ray examination to determine whether bleeding is occurring.
  4. Apply heat to the elbow and wait for the physician to examine the patient.
14. A patient with a new diagnosis of lymphoma is experiencing fatigue. Which of the following is the best way to assess the fatigue?
1. Observe the patient’s activity level.
  2. Monitor for changes in vital signs.
  3. Monitor hemoglobin and hematocrit values.
  4. Have the patient rate the fatigue on a scale of 0 to 10.
15. A patient diagnosed with lymphoma is being discharged from the hospital. Which of the following statements should the nurse include in the patient teaching?
1. “It is important to avoid crowds to reduce your risk of infection.”
  2. “Taking a walk outside will help reduce your stress level.”
  3. “It is important for you to increase your dietary intake of iron.”
  4. “Your disease often affects the eyes, so television viewing should be minimized.”
16. A patient is having difficulty coping with a new diagnosis of leukemia. Which response by the nurse is most helpful initially?
1. “Don’t worry. You’ll be okay.”
  2. “The treatments you are receiving will make you feel better very soon.”
  3. “Who do you usually go to when you have a problem?”
  4. “Have you made end-of-life decisions?”
17. What discharge teaching is most important to help the patient who has had a splenectomy prevent infection?
1. Avoid showering for 1 week.
  2. Sleep in a semi-Fowler’s position.
  3. Receive a yearly flu vaccine.
  4. Stay on antibiotics for life.



# unit SEVEN

## Understanding the Respiratory System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Lungs and bronchial tree
- Mechanisms of breathing
- Acid–base balance
- Protective mechanisms
- Aging changes

#### Major Disorders

- Epistaxis
- Upper respiratory infections
- Influenza
- Cancer of the larynx
- Pneumonia
- Tuberculosis (TB)
- Restrictive disorders
- Chronic obstructive pulmonary disease (COPD)
- Chronic bronchitis
- Asthma
- Emphysema
- Cystic fibrosis
- Pulmonary embolism
- Chest trauma
- Pneumothorax
- Respiratory failure
- Lung cancer

#### Nursing Assessment

- Respiratory history
- Adventitious lung sounds
- Dyspnea
- Activity tolerance

#### Diagnostic Tests

- Complete blood count (CBC)
- D-dimer
- Culture and sensitivity (C&S)
- TB skin test
- Oximetry
- Capnography
- Arterial blood gases (ABGs)
- Chest x-ray
- CT scan
- Ventilation-perfusion scan
- Pulmonary function studies
- Pulmonary angiography
- Bronchoscopy

#### Interventions

- Smoking cessation
- Interventions for ineffective airway clearance
- Interventions for impaired gas exchange
- Positioning
- Oxygen therapy
- Nebulized mist treatments
- Metered-dose inhalers
- Chest physiotherapy
- Incentive spirometry
- Chest drainage
- Tracheostomy care/suctioning
- Mechanical ventilation
- Noninvasive positive pressure ventilation (NIPPV)

# 29

## Respiratory System Function, Assessment, and Therapeutic Measures

### VOCABULARY

Complete the sentences with the terms provided below.

Adventitious      Barrel      Dyspnea      Thoracentesis      Tracheostomy  
Apnea      Crepitus      Excursion      Tidalting      Tracheotomy

1. A patient with a low oxygen saturation may develop \_\_\_\_\_.
2. \_\_\_\_\_ may develop if air leaks into tissues from a chest tube site.
3. A \_\_\_\_\_ may be necessary to reduce distress from severe pleural effusion.
4. The patient with air trapping may develop a \_\_\_\_\_-shaped chest.
5. The nurse can measure respiratory \_\_\_\_\_ to check chest expansion.
6. Crackles are an example of a/an \_\_\_\_\_ sound.
7. A patient who is choking may need an emergency \_\_\_\_\_.
8. The \_\_\_\_\_ in the water-seal chamber shows that a chest tube is intact.
9. The absence of respirations is called \_\_\_\_\_.
10. A patient is taught to remove the inner cannula of a \_\_\_\_\_ tube every 8 hours for cleaning.

### ANATOMY REVIEW

Number the following structures in the order in which air flows through them.

- \_\_\_\_\_ Nose
- \_\_\_\_\_ Trachea
- \_\_\_\_\_ Secondary bronchi
- \_\_\_\_\_ Primary bronchi
- \_\_\_\_\_ Bronchioles
- \_\_\_\_\_ Alveoli
- \_\_\_\_\_ Larynx
- \_\_\_\_\_ Nasopharynx

### VENTILATION REVIEW

Number the events of breathing in proper sequence beginning with the medulla.

- \_\_\_\_\_ The medulla generates motor impulses.
- \_\_\_\_\_ The chest cavity is enlarged in all directions.
- \_\_\_\_\_ The diaphragm and external intercostal muscles contract.
- \_\_\_\_\_ Intrapulmonic pressure decreases.
- \_\_\_\_\_ Motor impulses travel along the phrenic and intercostal nerves.
- \_\_\_\_\_ The chest wall expands the parietal pleura, which expands the visceral pleura, which in turn expands the lungs.
- \_\_\_\_\_ Air enters the lungs until intrapulmonic pressure equals atmospheric pressure.



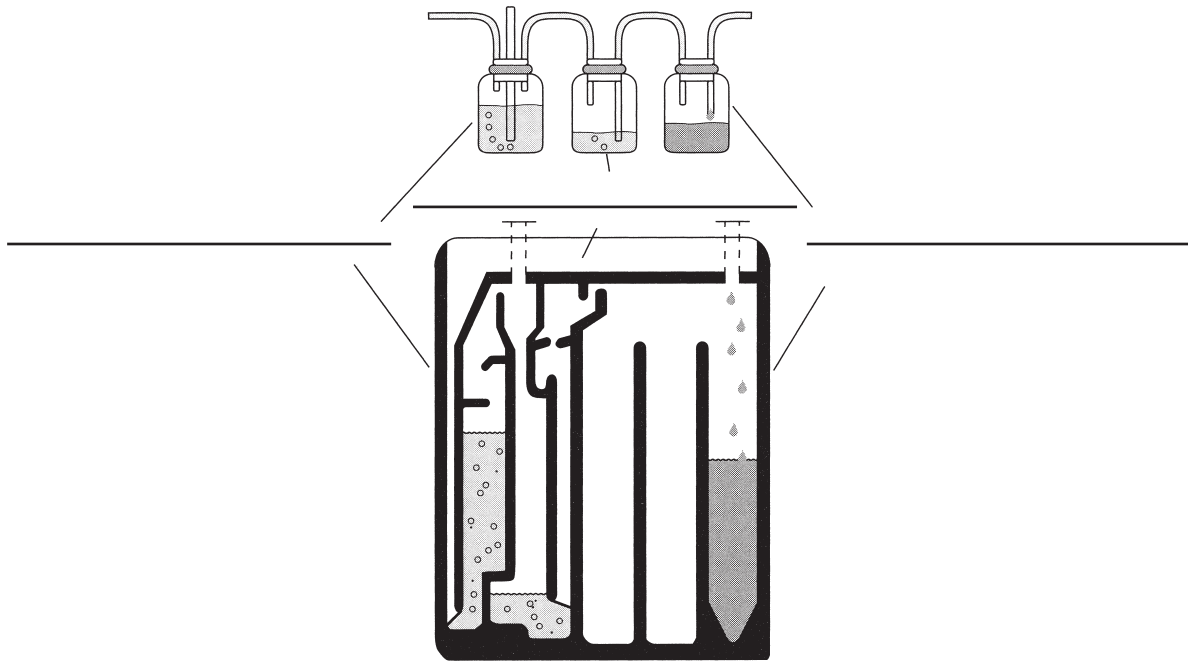
## ADVENTITIOUS LUNG SOUNDS

Match the adventitious lung sound to its description.

- |                               |                             |
|-------------------------------|-----------------------------|
| 1. _____ Coarse crackles      | 1. Velcro® being torn apart |
| 2. _____ Fine crackles        | 2. Faint lung sounds        |
| 3. _____ Wheezes              | 3. Leather rubbing together |
| 4. _____ Stridor              | 4. Loud crowing noise       |
| 5. _____ Pleural friction rub | 5. Moist bubbling           |
| 6. _____ Diminished           | 6. High-pitched violins     |

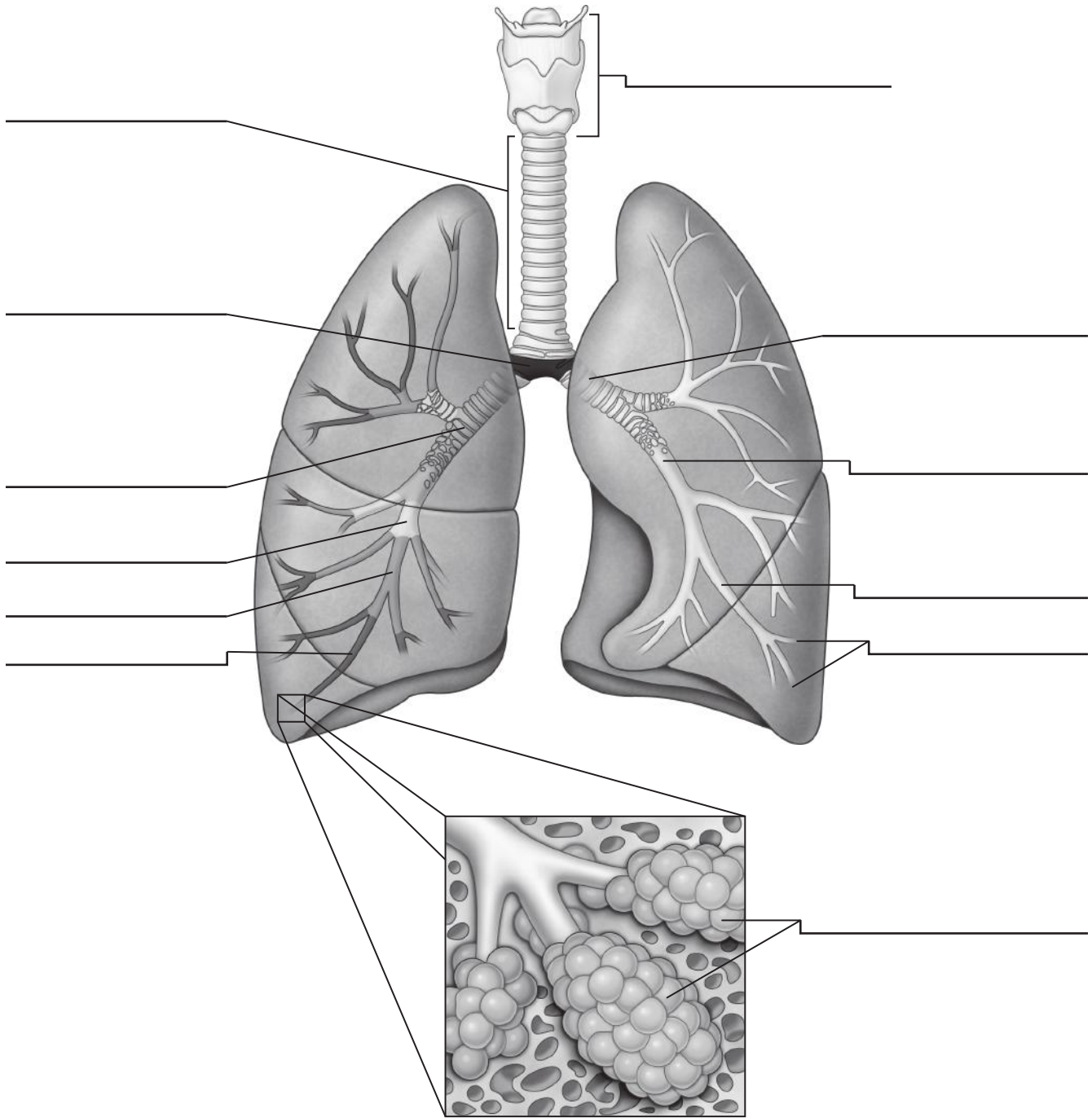
## CHEST DRAINAGE

Label the three chambers of the chest drainage system and explain the function of each.



### THE RESPIRATORY SYSTEM

Label the parts of the respiratory system.



**CRITICAL THINKING**

Read the following case study and answer the questions.

Bill, a licensed practical nurse (LPN), is collecting admission data on Mr. Howe, who has been admitted for dyspnea and weight loss. While questioning Mr. Howe, Bill learns that he has had progressive weight loss during the past several months and that he has a productive cough. He also reports waking up at night “wringing wet,” and his wife has to help him change the bed sheets.

1. What additional questions should Bill ask about Mr. Howe’s cough?

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2. What disorder is suggested by Mr. Howe’s symptoms?

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3. What diagnostic tests would you expect to be ordered?

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4. Mr. Howe is scheduled for a bronchoscopy. What preprocedure care should Bill provide? Postprocedure?

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**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

- Which of the following structures covers the larynx during swallowing?
  - Hyoid cartilage
  - Vocal cords
  - Soft palate
  - Epiglottis
- Where are the respiratory centers located in the brain?
  - Cerebral cortex and cerebellum
  - Medulla and pons
  - Hypothalamus and cerebral cortex
  - Hypothalamus and temporal lobes
- What is the purpose of the serous fluid between the pleural membranes?
  - Enhance exchange of gases.
  - Facilitate coughing.
  - Destroy pathogens.
  - Prevent friction.
- Within the alveoli, surface tension is decreased and inflation is possible because of the presence of which substance?
  - Tissue fluid
  - Surfactant
  - Pulmonary blood
  - Mucus
- What is the function of the nasal mucosa?
  - Assist with gas exchange.
  - Sweep mucus and pathogens to the trachea.
  - Warm and moisten the incoming air.
  - Increase the oxygen content of the air.
- Deteriorating cilia in the respiratory tract predispose older adults to which of the following problems?
  - Chronic hypoxia
  - Pulmonary hypertension
  - Respiratory infection
  - Decreased ventilation

7. Which of the following adventitious lung sounds is a violin-like sound?
1. Crackles
  2. Wheezes
  3. Friction rub
  4. Crepitus
8. The purpose of pursed-lip breathing is to promote which of the following?
1. Carbon dioxide excretion
  2. Carbon dioxide retention
  3. Oxygen excretion
  4. Oxygen retention

## REVIEW QUESTIONS—TEST PREPARATION

*Choose the best answer unless directed otherwise.*

9. An LPN enters the room of a patient with chronic lung disease. The patient has removed the oxygen cannula, and it is lying on the bed. The patient does not appear to be in any distress. The pulse oximeter shows an oxygen saturation of 79%. Which of the following actions should the nurse take?
1. Call the registered nurse (RN) STAT.
  2. Put the oxygen cannula back on the patient.
  3. Do a nebulized mist treatment.
  4. No action necessary; this is a normal oxygen saturation.
10. A patient hospitalized with a right-sided pleural effusion calls the nurse and reports feeling short of breath. Which of the following positions should the nurse suggest?
1. Prone
  2. Supine with head on pillow
  3. Trendelenburg
  4. Side lying with good lung dependent
11. The nurse is caring for a patient with a transtracheal catheter. Which of the following would the LPN expect to be included in the plan of care?
1. Assist with cleaning the catheter two to three times a day.
  2. Provide supplemental oxygen via mask at all times.
  3. Help remove the catheter at night for sleeping.
  4. Assist to connect the catheter to a humidification source.
12. The wife of a man with cystic fibrosis has been taught how to perform chest physiotherapy. She asks the nurse to explain why this must be done. Which of the following responses is best?
1. “It helps strengthen chest muscles.”
  2. “It humidifies thick respiratory secretions.”
  3. “It promotes lung expansion.”
  4. “It helps him expectorate secretions.”
13. The nurse notes that the suction control chamber on a chest drainage system is bubbling vigorously. Which intervention is appropriate?
1. Check the system for leaks.
  2. Replace the drainage system with a new one.
  3. Reduce the level of wall suction.
  4. Increase the water level in the suction control chamber.

# Nursing Care of Patients With Upper Respiratory Tract Disorders

# 30

## VOCABULARY

Unscramble the letters of the following words to fill in the blanks in the statements below.

hiitsrin                      aadihpysg  
pixessait                    daxueet  
laiohnpstry                cayetorlmyng

1. Surgical removal of the voice box is called a \_\_\_\_\_.
2. A nosebleed is called \_\_\_\_\_.
3. \_\_\_\_\_ is the term used to describe drainage or pus.
4. A “nose job” is called \_\_\_\_\_.
5. Difficulty swallowing is called \_\_\_\_\_.
6. \_\_\_\_\_ is the correct term for a runny nose.

## CRITICAL THINKING: NASAL SURGERY

Read the following case study and answer the questions.

Mr. Jones had a broken nose as a young man, and now has a deviated nasal septum. He undergoes nasoseptoplasty for a deviated nasal septum.

1. After surgery, you note that Mr. Jones is swallowing repeatedly while he sleeps. What do you do?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Before discharge you explain to Mr. Jones that he should not do anything that can increase bleeding, such as sneezing, coughing, or straining to have a bowel movement. He says, “How can I avoid doing those things? It sounds impossible.” How do you respond?  
\_\_\_\_\_  
\_\_\_\_\_

3. Mr. Jones asks if he can use aspirin for pain. What do you say?  
\_\_\_\_\_  
\_\_\_\_\_

**CRITICAL THINKING: INFLUENZA**

*Read the following case study and answer the questions.*

Your neighbor calls and describes symptoms of influenza. He is feverish, tired, and has a sore throat and headache. You advise him to go to the urgent care center. The center does a throat culture and determines that the infection is viral. Your neighbor is encouraged to drink fluids and take acetaminophen.

1. Why didn't the health care provider (HCP) order antibiotics? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. How will fluids help? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
3. When should the acetaminophen be taken? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
4. Your neighbor's wife develops the same symptoms. Is it necessary to take her to the urgent care center? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
5. Your neighbor's older grandmother was visiting when your neighbor first developed symptoms. She now thinks she has caught the flu, and her chest hurts. She asks what she should do. What should you tell her? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS – CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. When evaluating the effectiveness of nursing interventions for sinusitis pain, which data does the nurse collect?                     <ol style="list-style-type: none"> <li>1. White blood cell (WBC) count</li> <li>2. Amount and color of sinus drainage</li> <li>3. Capillary refill</li> <li>4. Pain level on a 0 to 10 scale</li> </ol> </li> <li>2. Which of the following communication methods is inappropriate for a patient following laryngectomy surgery?                     <ol style="list-style-type: none"> <li>1. Placing a finger over the stoma</li> <li>2. Using a special valve that diverts air into the esophagus</li> <li>3. Using a picture board</li> <li>4. Learning esophageal speech</li> </ol> </li> <li>3. Why are narcotics given in low doses for pain to the patient who has had a laryngectomy?                     <ol style="list-style-type: none"> <li>1. They depress the respiratory rate and cough reflex.</li> <li>2. They increase respiratory tract secretions.</li> <li>3. They have a tendency to cause stomal edema.</li> <li>4. They can cause addiction.</li> </ol> </li> </ol> | <ol style="list-style-type: none"> <li>4. A 58-year-old man is diagnosed with cancer of the larynx. Which of the following are early symptoms of this cancer?                     <ol style="list-style-type: none"> <li>1. Anemia and fatigue</li> <li>2. Crackles and stridor</li> <li>3. A noticeable lump in the neck</li> <li>4. Dysphagia or hoarseness</li> </ol> </li> <li>5. A patient visits a nurse practitioner (NP) after having a cold for a week; the patient is now experiencing a severe headache and fever. The NP diagnoses a sinus infection. Which of the following additional symptoms is the patient likely to exhibit?                     <ol style="list-style-type: none"> <li>1. Facial tenderness</li> <li>2. Chest pain</li> <li>3. Photophobia</li> <li>4. Ear drainage</li> </ol> </li> </ol> |
|---|---|

**REVIEW QUESTIONS—TEST PREPARATION**

Choose the best answer unless directed otherwise.

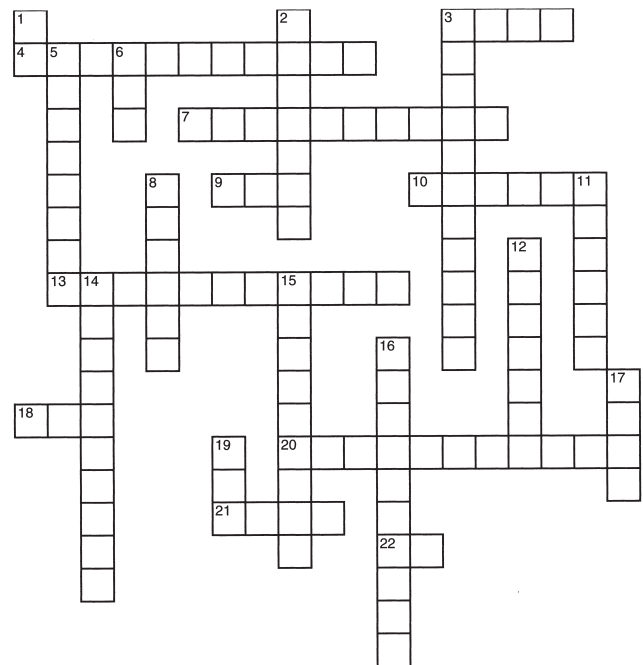
6. In addition to antibiotics, which of the following recommendations can the nurse make to increase comfort for a patient experiencing sinusitis? **Select all that apply.**
  1. Coughing and deep breathing
  2. Sinus irrigation
  3. Hot moist packs
  4. Room humidifier
  5. Percussion and postural drainage
  6. Semi-Fowler's position
7. Place the following four nursing actions for a patient who has just had a laryngectomy in correct order of priority.
  1. Assist with ambulation.
  2. Set up a visit from a well-adjusted patient who has had a laryngectomy.
  3. Maintain a patent airway.
  4. Control postoperative pain.
8. The nurse teaches a patient how to live with a new tracheostomy. Which of the following instructions is appropriate?
  1. "Never suction your tracheostomy; you might damage your trachea."
  2. "You should not feel bad about the tracheostomy—you should feel lucky to be alive."
  3. "Be sure to protect your tracheostomy from pollutants such as powders or hair."
  4. "Your tracheostomy will be cleaned each time you visit your doctor."
9. A 17-year-old student enters the emergency department with a nosebleed that won't stop. Which of the following positions should the nurse assist the patient to assume?
  1. Lying down with feet elevated
  2. Sitting up with neck extended
  3. Lying down with a small pillow under the head
  4. Sitting up leaning slightly forward
10. The physician orders local application of phenylephrine solution to treat a nosebleed. The patient asks how this will help. Which of the following responses by the nurse is best?
  1. "It will raise your blood pressure, which is necessary because of blood loss."
  2. "It will dilate your bronchioles and make your breathing easier."
  3. "It will help your blood to clot to reduce bleeding."
  4. "It will constrict your vessels and slow down the bleeding."
11. A nurse is providing community education related to swine flu. Which of the following statements by a participant indicates that teaching has been effective?
  1. "I've eliminated all pork from my diet."
  2. "Swine flu can only be transmitted by pigs."
  3. "Symptoms of swine flu are similar to other types of flu."
  4. "There is a new medication just for swine flu treatment."

# 31

## Nursing Care of Patients With Lower Respiratory Tract Disorders

### VOCABULARY

Complete the crossword puzzle.



#### Across

3. Acronym for a syndrome that is also called “white lung”
4. Chest collapses during inspiration with this type of respiration
7. Bloody sputum
9. Abbreviation for inhaler
10. Respiratory membrane secretion
13. Incision into the chest
18. Abbreviation for inhaled nebulized medication
20. Treatment for repeat pneumothorax
21. Blister on lung
22. Abbreviation for tuberculosis

#### Down

1. Abbreviation for “front to back” when referring to the chest
2. Term used to describe hormones produced by tumors
3. Medication that relieves coughing
5. Treatment in addition to standard therapy
6. Abbreviation for laboratory tests done to measure respiratory status
8. Unable to react, as in skin testing
11. Continuous asthma is called \_\_\_\_\_ asthmaticus.
12. Drainage on infected tonsils
14. Blood in the chest
15. Rapid respirations
16. Firm raised area in positive tuberculosis skin test
17. Smoking is a \_\_\_\_\_ factor for cancer
19. Abbreviation for short of breath



## RESPIRATORY MEDICATIONS

Match the medication with its action.

- |                                  |   |
|----------------------------------|---|
| 1. _____ Prednisone              | 1. Expectorant  |
| 2. _____ Albuterol (Ventolin)    | 2. Potent anti-inflammatory                               |
| 3. _____ Tiotropium (Spiriva)    | 3. Leukotriene inhibitor (reduces inflammation in asthma) |
| 4. _____ Cromolyn sodium (Intal) | 4. Short-acting beta-agonist bronchodilator               |
| 5. _____ Guaifenesin (Humibid)   | 5. Anticholinergic bronchodilator                         |
| 6. _____ Zafirlukast (Accolate)  | 6. Mast cell stabilizer to prevent asthma symptoms        |
| 7. _____ Codeine                 | 7. Antitussive  |

## CRITICAL THINKING

Read the following case study and answer the questions.

Edith is a 56-year-old homemaker admitted to the hospital with emphysema and acute dyspnea. She is a smoker with a 48-pack-year history.

1. What data do you collect for Edith's admission database?

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2. What does a 48-pack-year history mean?

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3. Explain the pathophysiology involved in emphysema. How does the disease cause dyspnea?

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4. What do you expect Edith's lungs to sound like when you auscultate?

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5. Why is it important for Edith to receive no more than 2 L of oxygen per minute, unless she is closely monitored?

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6. Why might Edith be at risk for pneumothorax?

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7. What position will help Edith's shortness of breath? Why?

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8. How can you encourage Edith to stop smoking?

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## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- A patient is treated with intravenous (IV) methylprednisolone (Solu-Medrol) for emphysema. What is the purpose of corticosteroid treatment in lung disease?
  - Dry secretions.
  - Treat the infection that causes an exacerbation.
  - Improve the oxygen-carrying capacity of hemoglobin.
  - Reduce airway inflammation.
- How many liters per minute of oxygen should be administered to the patient with emphysema?
  - 2 L/min
  - 6 L/min
  - 10 L/min
  - 95 L/min
- Which of the following medications can be used to quickly reduce shortness of breath in a crisis situation for a patient with end-stage respiratory disease?
  - Oral cortisone
  - Intramuscular meperidine (Demerol)
  - IV morphine
  - IV propranolol (Inderal)
- Which of the following risk factors presents the greatest threat for respiratory disease?
  - Smoking
  - High-fat diet
  - Exposure to radiation
  - Alcohol consumption

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- A 72-year-old retired chemist has left lower lobe pneumonia. The nurse checks the patient's oxygen saturation and the result is 86%. Which of the following actions by the nurse is best?
  - Contact the registered nurse (RN) or physician for an order for oxygen.
  - No action necessary; this is a normal SpO<sub>2</sub>.
  - Call the respiratory therapist STAT for assistance.
  - Walk the patient in the hall and recheck the O<sub>2</sub> saturation.
- The nurse is caring for a patient who is scheduled for a bronchoscopy. Which of the following would be included in preprocedure teaching?
  - "The physician will place a small tube through your nose or mouth and into the bronchi to look at your airways."
  - "You will breathe a radioactive substance that will show diseased areas in your lungs."
  - "You will need to drink a thick white liquid, which will be opaque on the x-rays."
  - "A dye will be injected to help visualize the structures of the bronchioles. Do you have any allergies?"
- A patient is returned to the room after a bronchoscopy. Which of the following actions should the nurse take first?
  - Order a meal because the patient has been nil per os (NPO) for 8 hours.
  - Encourage fluids to flush dye from the patient's system.
  - Monitor the patient for return to consciousness.
  - Check for a gag reflex before allowing the patient to drink.
- A patient asks how to avoid lung cancer. Which of the following should the nurse include in the patient teaching? **Select all that apply.**
  - Live in a cold climate.
  - Stop smoking.
  - Avoid exposure to passive smoke.
  - Avoid air pollution.
  - Avoid crowded living conditions.
  - Consume a diet high in fruits and vegetables.
- A patient with a new diagnosis of small cell lung cancer decides to have radiation therapy. Which of the following expectations of this treatment is most appropriate?
  - Complete cure of the cancer
  - Increased comfort
  - Prevention of the need for oxygen
  - Prevention of cancer spread

10. A newly diagnosed patient asks the nurse to explain asthma. Which of the following explanations by the nurse is correct?
1. "Your airways are inflamed and spastic."
  2. "You have fluid in your lungs that is causing shortness of breath."
  3. "Your airways are stretched and nonfunctional."
  4. "You have a low-grade infection that keeps your bronchial tree irritated."
11. Which of the following is the best explanation of emphysema for a newly diagnosed patient?
1. "You have inflamed bronchioles, which causes a lot of secretions."
  2. "The blood vessels that supply your lungs are damaged, so you can't absorb oxygen."
  3. "Your lungs have lost some of their elasticity, and air gets trapped."
  4. "You have large dilated sacs of sputum in your lungs."
12. How can the nurse help monitor effectiveness of therapy for the patient with a pneumothorax and a chest drainage system?
1. Palpate for crepitus.
  2. Auscultate lung sounds.
  3. Document color and amount of sputum.
  4. Monitor suction level.



# unit EIGHT

## Understanding the Gastrointestinal, Hepatic, and Pancreatic Systems

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Gastrointestinal (GI):
- Oral cavity/pharynx
- Esophagus
- Stomach
- Small intestine
- Large intestine
- Aging
- Liver structure and function
- Gallbladder structure and function
- Pancreas structure and function
- Aging changes

#### Major Disorders

- Oral disorders
- Nausea/vomiting
- Eating disorders
- Oral/esophageal cancer
- Gastroesophageal reflux disease (GERD)
- Gastritis
- Peptic ulcer disease
- Gastric bleeding
- Gastric cancer
- Constipation/diarrhea
- Appendicitis
- Peritonitis
- Diverticulosis
- Inflammatory bowel disease
- Absorption disorders
- Intestinal obstructions
- Lower gastrointestinal (GI) bleeding
- Colon cancer
- Hepatitis
- Liver failure
- Pancreatitis
- Cholecystitis
- Cholelithiasis
- Cancer

#### Nursing Assessment

- Nursing data collection
- Medical history
- Physical examination
- Pain
- Alcohol use history
- Medication history
- GI signs and symptoms
- Skin
- Abdomen
- Mental status

#### Diagnostic Tests

- Laboratory tests
- Flat plate of abdomen
- Upper GI series
- Lower GI series
- Esophagogastroduodenoscopy (EGD)
- Colonoscopy
- Gastric analysis
- Stool studies
- Immunoglobulin G antibody test
- Alanine transaminase, Aspartate transaminase
- Albumin
- Amylase
- Ammonia
- Bilirubin
- Prothrombin time
- Occult blood
- Upper GI, lower GI series
- Cholecystogram
- Liver scan
- Endoscopic retrograde cholangiopancreatography
- Liver biopsy

#### Interventions

- GI intubation
- Tube feedings
- Parenteral nutrition
- GI decompression
- Gastric surgeries/ complications
- Nursing care after gastric surgery
- Ostomy management
- Transjugular intrahepatic portosystemic shunt
- Tamponade
- Transplant
- Cholecystectomy
- Nutrition
- Pain control

#### Common Medications

- Antacids
- Antidiarrheals
- Antiemetics
- Bulk-forming agents
- H<sub>2</sub> receptor antagonists
- Laxatives
- Proton pump inhibitors
- Stool softeners
- Vitamin B<sub>12</sub>
- Diuretics
- Analgesics
- Histamine antagonists
- Lactulose
- Neomycin

# 32

## Gastrointestinal, Hepatobiliary, and Pancreatic Systems Function, Assessment, and Therapeutic Measures

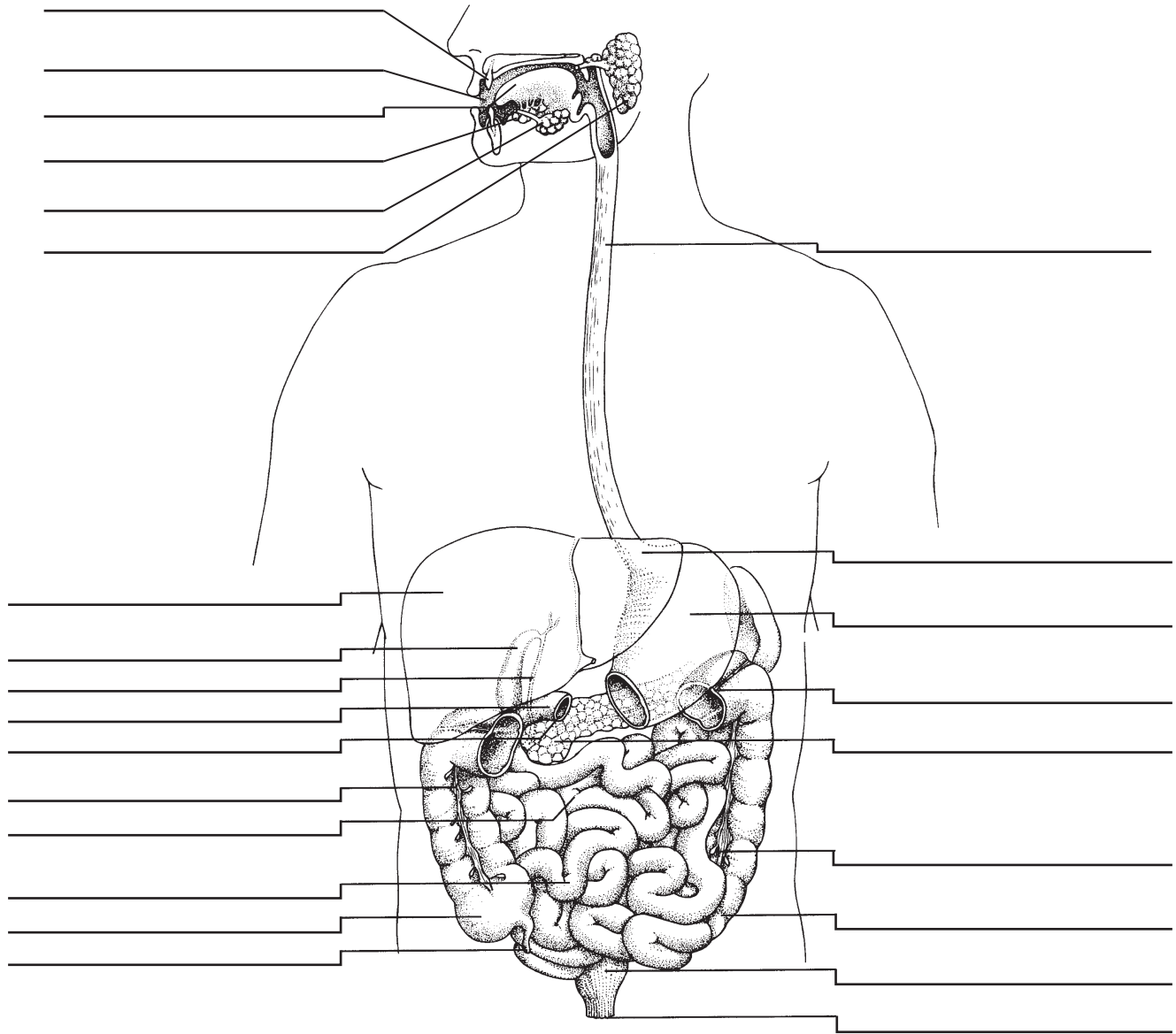
### FUNCTIONS OF THE GASTROINTESTINAL SYSTEM

Fill in the blanks with the appropriate parts of the gastrointestinal (GI) system.

1. The \_\_\_\_\_ sphincter prevents backup of stomach contents into the esophagus.
2. The \_\_\_\_\_ valve prevents backup of fecal material from the large intestine into the small intestine.
3. The \_\_\_\_\_ sphincter prevents backup of duodenal contents into the stomach.
4. The absorption of most of the end products of digestion occurs in the \_\_\_\_\_ intestine.
5. The digestion of protein begins in the \_\_\_\_\_.
6. Water and the vitamins produced by the normal flora are absorbed in the \_\_\_\_\_ intestine.
7. The \_\_\_\_\_ intestine is the site of action of bile and pancreatic enzymes.
8. The passageway for food into the stomach from the mouth is the \_\_\_\_\_.
9. Voluntary control of defecation is provided by the \_\_\_\_\_ sphincter.
10. The watery secretion that permits taste and swallowing is produced by the \_\_\_\_\_ glands.
11. The process of mechanical digestion is accomplished by the \_\_\_\_\_ and \_\_\_\_\_ in the mouth.
12. The structures in the small intestine that contain capillaries and lacteals for absorption are the \_\_\_\_\_.
13. The part of the colon that contracts in the defecation reflex is the \_\_\_\_\_.
14. The digestive function of the liver is the production of \_\_\_\_\_ by the hepatocytes.

## STRUCTURES OF THE GASTROINTESTINAL SYSTEM

Label the following structures.



### VOCABULARY

Unscramble the letters to identify the word described by the definition.

1. Flexible or rigid device consisting of a tube and optical system for observing the inside of a hollow organ or cavity. \_\_\_\_\_ donscepeo
2. Gurgling and clicking heard over the abdomen caused by air and fluid movement from peristaltic action normally occurring every 5 to 15 seconds at a rate of 5 to 35 per minute. \_\_\_\_\_ wlebo onudss
3. Examination of the upper portion of the rectum with an endoscope. \_\_\_\_\_ locnooscypo
4. Feeding via a tube placed in the stomach. \_\_\_\_\_
5. Immovable accumulation of feces in the bowels. \_\_\_\_\_ mipcaitno
6. Resin obtained from trees to test for occult blood in feces. \_\_\_\_\_ gaiuca
7. Device consisting of a fluorescent screen that makes the shadows of objects interposed between the tube and the screen visible. \_\_\_\_\_ ulfroocspeo
8. Fatty stools. \_\_\_\_\_ estaotrhrae
9. A test performed to measure secretions of hydrochloric acid and pepsin in the stomach. \_\_\_\_\_ stgairc naayliss
10. Examination of the stomach and abdominal cavity by use of an endoscope. \_\_\_\_\_ stgarsopcyo

## LABORATORY TESTS

Match the test with its definition.

- |   |   |
|---|---|
| 1. _____ Stool for lipids               | 1. Levels may indicate colorectal or other cancer.                        |
| 2. _____ Stool cultures                 | 2. Testing stool for blood that is not visible to the eye                 |
| 3. _____ Stool for occult blood         | 3. Testing stool for intestinal infections caused by parasites            |
| 4. _____ Carcinoembryonic antigen (CEA) | 4. Testing stool for the presence of pathogenic organisms in the GI tract |
| 5. _____ Stool for ova and parasites    | 5. Testing stool for excessive amounts of fat                             |

## BOWEL PREPARATION

Circle the eight errors in the following paragraph, and insert the correct information.

A stomach preparation is required for several procedures that visualize the lower bowel. This preparation is important for effective test results. An incomplete bowel preparation may prevent the test from being done or cause the need for it to be repeated. This can result in the patient's early discharge and cost savings. The patient usually receives a soft diet 24 hours before the test. A bowel preparation medication (liquid or pill) may be given. A cool tap-water enema or Fleet enema may be given once. Older or debilitated patients should be carefully assessed during the administration of multiple enemas, which can fatigue the patient and increase electrolytes. In patients with bleeding or constipation, the bowel preparation may not be ordered by the health care provider.

- After a liver biopsy, the patient lies on the right side for the first \_\_\_\_\_ hours.
- After a liver biopsy, nursing care focuses on monitoring for \_\_\_\_\_.

## CRITICAL THINKING

Read the following case study and answer the questions.

Mrs. Davis is a 41-year-old schoolteacher who is admitted to your unit with recurrent lung cancer. She is debilitated and her physician orders parenteral nutrition to be started.

## PANCREAS

State the pancreatic enzyme with its function.

- Digests polypeptides to short chains of amino acids.  
\_\_\_\_\_

- Digests emulsified fats to fatty acids and glycerol.  
\_\_\_\_\_

- Digests starch to maltose.  
\_\_\_\_\_

## LIVER

Fill in the blanks with the appropriate words.

- Liver or gallbladder disease may cause pale or \_\_\_\_\_ colored stools.
- Liver disease may cause \_\_\_\_\_ disorders.
- A liver scan records the amount of \_\_\_\_\_ material taken up by the liver to form a composite "picture" of the liver.

- Why is the parenteral nutrition rate started slowly at first?  
\_\_\_\_\_  
\_\_\_\_\_

- Why are serum glucose levels monitored on Mrs. Davis during parenteral nutrition administration?  
\_\_\_\_\_  
\_\_\_\_\_

- In what types of veins may parenteral nutrition be administered with (a) dextrose of 12% or less; (b) dextrose greater than 12%? \_\_\_\_\_  
\_\_\_\_\_

- Why is it necessary to use an infusion control pump for parenteral nutrition? \_\_\_\_\_  
\_\_\_\_\_

- The parenteral nutrition is behind schedule. What action should the nurse take? \_\_\_\_\_  
\_\_\_\_\_



6. When parenteral nutrition is discontinued, why might the infusion be slowly weaned off? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
7. When parenteral nutrition is ordered to be stopped, why should the patient be fed first, if it is not contraindicated? \_\_\_\_\_  
 \_\_\_\_\_
8. Identify one nursing diagnosis and outcome with interventions for the patient on parenteral nutrition.  
 Nursing Diagnosis \_\_\_\_\_  
 \_\_\_\_\_  
 Patient Outcome \_\_\_\_\_  
 \_\_\_\_\_  
 Interventions \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following structures are connected by the ileocecal valve?
  - Duodenum to the stomach
  - Colon to the small intestine
  - Stomach to the esophagus
  - Ileum to the jejunum
- Mechanical digestion in the stomach is accomplished by which of the following structures?
  - Mucosa
  - Smooth muscle layers
  - Striated muscle layers
  - Gastric glands
- Gastric juice contributes to the digestion of which of the following types of nutrients?
  - Proteins
  - Fats
  - Starch
- The enzymes of the small intestine contribute to the digestion of which of the following types of nutrients?
  - Proteins
  - Fats
  - Disaccharides
- Which of the following structures carries bile and pancreatic juices to the duodenum?
  - Pancreatic duct
  - Cystic duct
  - Hepatic duct
  - Common bile duct
- Which of the following is a function of the liver?
  - Synthesis of plasma proteins
  - Elimination of carbohydrates
  - Concentration of bile
  - Secretion of cholecystokinin
- Which of the following diagnostic procedures on stool specimens must the nurse collect using sterile technique?
  - Stool for ova and parasites
  - Stool for occult blood
  - Stool culture
  - Stool for lipids
- Which of the following colors would the nurse recognize as an expected finding for the patient's stools immediately after a barium swallow?
  - Brown
  - Black
  - White
  - Green
- Which of the following does the nurse understand is the primary reason a patient is non per os (NPO) until the gag reflex returns after an esophagogastroduodenoscopy (EGD) procedure?
  - To rest the vocal cords
  - To prevent aspiration
  - To keep the throat dry
  - To prevent vomiting
- Which of the following positions would the nurse be correct in using for nasogastric (NG) tube insertion?
  - Trendelenburg's
  - Prone
  - Sims'
  - High-Fowler's

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

11. Bowel sounds heard as soft clicks and gurgles at a rate of 4 per minute would be documented by the nurse as which of the following types of findings?
  1. Absent
  2. Hyperactive
  3. Hypoactive
  4. Normal
12. Which of the following diagnostic procedures requires that a patient be NPO? **Select all that apply.**
  1. Upper GI series (barium swallow)
  2. Flat plate of the abdomen
  3. EGD
  4. Computed tomography (CT) scan
  5. Endoscopic retrograde cholangiopancreatography (ERCP)
13. Which of the following nursing diagnoses would be most appropriate to include in the patient's plan of care after a barium swallow? **Select all that apply.**
  1. Risk for Constipation
  2. Risk for Diarrhea
  3. Risk for Pain
  4. Imbalanced Nutrition: More Than Body Requirements
  5. Deficient Knowledge
14. A patient who has an NG tube and an intravenous (IV) line states, "I'm so embarrassed to have my family here I have tubes coming out of me everywhere." Which of the following would be an appropriate nursing diagnosis?
  1. Fear
  2. Defensive Coping
  3. Disturbed Body Image
  4. Anxiety
15. In preparing a patient who is to have an NG tube inserted, which of the following statements would the nurse include in the patient teaching?
  1. "This procedure often makes you cough."
  2. "You can help by swallowing or drinking liquids during the procedure."
  3. "It is very important that you hold your breath when I tell you to do so."
  4. "When instructed, I want you to exhale as quickly and forcefully as you can."

# Nursing Care of Patients With Upper Gastrointestinal Disorders

# 33

## VOCABULARY

Unscramble the letters to identify a word described by the definition.

1. Most common cause of peptic ulcers; its discovery has revolutionized treatment and cure of most peptic ulcers. \_\_\_\_\_ lehicbocatre ypoilr
2. Loss of appetite \_\_\_\_\_ noraxeai
3. Inflammation of the stomach \_\_\_\_\_ sagrtisti
4. Small, white, painful ulcers that appear on the inner cheeks, lips, gums, tongue, palate, and pharynx \_\_\_\_\_ hpatouhs tsoamtisti
5. Recurrent episodes of binge eating and self-induced vomiting \_\_\_\_\_ lubiami ernvsoa
6. Rapid entry of food into the jejunum causing dizziness, tachycardia, fainting, sweating, nausea, diarrhea, and abdominal cramping \_\_\_\_\_ umdpnig nysdomre
7. Surgical removal of the stomach \_\_\_\_\_ gtrasetcmyo
8. 20% to 30% over average weight for age, sex, and height \_\_\_\_\_ boesiyt
9. Condition in which the stomach may protrude above the diaphragm \_\_\_\_\_ ihaatl erhian
10. Following surgical removal of part of the stomach, reanastomosis of the remaining portion to the proximal jejunum \_\_\_\_\_ satgorjujeonsotym

## GASTRITIS

Match the description with the type of gastritis associated with it.

- |  |                             |
|--|-----------------------------|
| 1. _____ Heartburn or indigestion  | 1. Acute gastritis          |
| 2. _____ Autoimmune gastritis  | 2. Chronic gastritis type A |
| 3. _____ Often caused by overeating                                      | 3. Chronic gastritis type B |
| 4. _____ Associated with the bacteria <i>Helicobacter pylori</i>         |                             |
| 5. _____ Associated with difficulty in absorbing vitamin B <sub>12</sub> |                             |
| 6. _____ Can lead to peritonitis   |                             |
| 7. _____ Can be treated with antibiotics                                 |                             |
| 8. _____ Treatment includes a bland diet                                 |                             |

**PEPTIC ULCER DISEASE**

Circle the seven errors in the following paragraph and write the correct information.

Most peptic ulcers are caused by stress. Peptic ulcers are commonly found in the sigmoid colon. Symptoms of peptic ulcers include burning and a gnawing pain in the chest. With a duodenal ulcer, there is pain and discomfort with a full stomach, which may be relieved by avoiding food. Peptic ulcers cannot be cured. Medication treatment for most peptic ulcers should include anticoagulants as indicated.

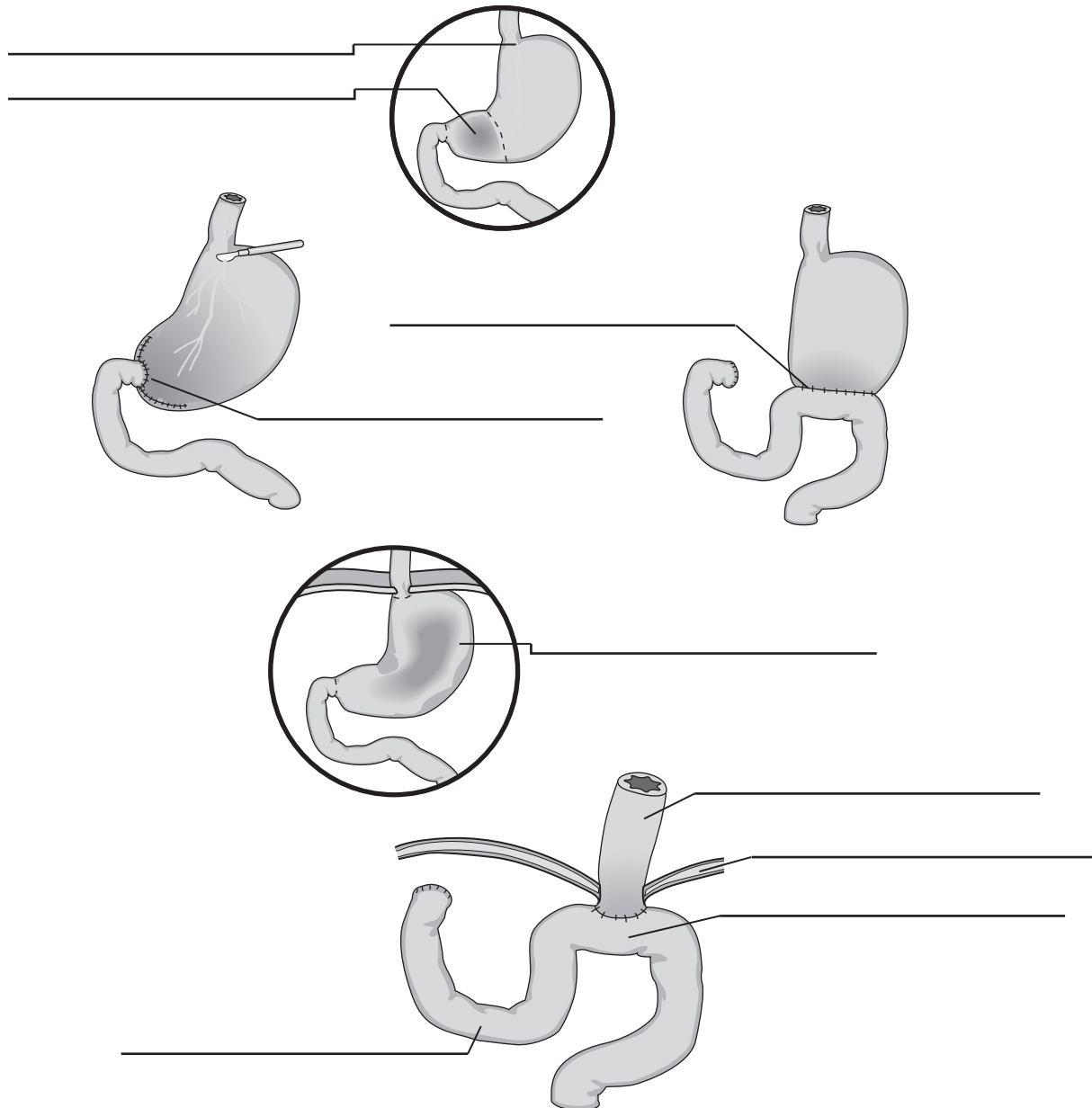
**GASTRECTOMY**

Label the structures as they appear following various types of gastric surgery.

**CRITICAL THINKING**

Read the following case study and answer the questions.

Mrs. Sheffield has just returned from surgery. She had a gastroduodenostomy (Billroth I) procedure. She has a nasogastric (NG) tube, a 1000-mL intravenous (IV) of lactated Ringer’s solution infusing at 100 mL/hr, and a Foley catheter. She is nil per os (NPO). Her vital signs are stable: blood pressure 118/90 mm Hg, pulse 80 beats per minute, respirations 16 per minute, and temperature 98°F (36.6°C). Her abdominal dressing is clean, dry, and intact. She is drowsy but easily aroused. After getting Mrs. Sheffield settled in bed, the nurse connects her NG tube to intermittent low-wall suction as ordered by her health care provider (HCP) and adds another blanket to warm her. Mrs. Sheffield requests something for pain. The nurse administers morphine 5 mg intramuscularly



and allows her to rest. An hour later, the nursing assistant tells the nurse that Mrs. Sheffield is vomiting bright red blood. The nurse goes to her room and finds her lying on her side propped up on one arm vomiting into an emesis basin. Her NG suction catheter contains 250 mL of bright red drainage. Her dressing remains clean and dry. She is diaphoretic and reporting nausea.

1. What should be the nurse's first response?  
\_\_\_\_\_
2. What is the nurse's next action?  
\_\_\_\_\_
3. Vital signs are now blood pressure 86/60 mm Hg, pulse 96 beats per minute, respirations 24 per minute, and temperature 97.6°F (36.4°C). What is the nurse's assessment of the new data, and what is the nurse's next step?  
\_\_\_\_\_
4. As the nurse lightly palpates Mrs. Sheffield's abdomen, it feels slightly distended, and the nurse suspects that she may be bleeding into her peritoneum. What is the nurse's next step? \_\_\_\_\_
5. What should the nurse tell the HCP?  
\_\_\_\_\_
6. The HCP orders a stat hematocrit and hemoglobin, electrolytes, and oxygen at 2 L/min via nasal cannula. The HCP also tells the nurse to get Mrs. Sheffield ready to return to surgery. What is the nurse's priority nursing action?  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Which of the following surgical procedures is the most likely treatment for a patient with gastric cancer?
  1. Gastroplasty
  2. Gastrorrhaphy
  3. Gastric stapling
  4. Gastrectomy
2. Which of the following does the nurse understand is a sign or symptom of oral cancer?
  1. Painless ulcer
  2. White painful ulcers
  3. Feeling of fullness
  4. Heartburn
3. Which of the following procedures does the nurse understand is done palliatively for the dysphagia that occurs in inoperable esophageal cancer?
  1. Gastrectomy
  2. Esophageal dilation
  3. Radical neck dissection
  4. Modified neck dissection

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. A patient has a duodenal peptic ulcer and is taking cimetidine (Tagamet). Which of the following side effects related to cimetidine should be included in the teaching plan?
  1. Confusion
  2. Hypertension
  3. Blurred vision
  4. Dry mouth
5. A patient is admitted with chronic gastritis type B. Which of the following signs and symptoms is the nurse likely to find on assessment?
  1. Anorexia
  2. Dysphagia
  3. Diarrhea
  4. Feeling of fullness

6. An asymptomatic patient is admitted with gastric bleeding. For which of the following signs or symptoms of severe gastric bleeding should the nurse monitor? **Select all that apply.**
1. Hypertension
  2. Diaphoresis
  3. Bounding pulse
  4. Hypotension
  5. Confusion
7. A patient had a gastrectomy 2 months ago. The patient comes to the clinic for treatment for greasy stools and frequent bowel movements. After the patient's surgical recovery and current eating habits are assessed, which of the following types of diet would be most appropriate for the nurse to teach the patient to use?
1. Bland diet
  2. High-carbohydrate diet
  3. Low-fat diet
  4. Pureed diet
8. A patient visits her HCP and reports that she is very unhappy with her weight, which is 310 lb on her 5-foot 7-inch frame. When planning her care, the nurse knows that the initial treatment for obesity includes which of the following?
1. Gastroplasty
  2. Billroth I procedure
  3. Billroth II procedure
  4. Diet management
9. A patient has been diagnosed with a hiatal hernia. The patient has heartburn and occasional regurgitation. Which of the following interventions should the nurse teach the patient to reduce the symptoms?
1. Eat small, frequent meals.
  2. Recline for 1 hour after meals.
  3. Sleep flat without a pillow.
  4. Eat a bedtime snack.
10. A patient is having an acute episode of gastric bleeding. The HCP orders an IV of 1000 mL of 0.9% normal saline, a complete blood cell (CBC) count, a nasogastric tube to low-wall suction, and oxygen by nasal cannula. Which of the following orders should the nurse perform first?
1. Administer the IV of 1000 mL of 0.9% normal saline.
  2. Draw the blood for the CBC cell.
  3. Insert the NG tube.
  4. Apply oxygen by nasal cannula.
11. A patient is taught preventive measure for gastroesophageal reflux disease. Which of the following patient statements indicates that teaching has been effective?
1. "I need to eat large meals."
  2. "I will sleep without pillows."
  3. "I need to lie down for 2 hours after each meal."
  4. "I will identify foods that cause discomfort."
12. The nurse is caring for a patient who recently returned from surgery after fundoplication. Which of the following symptoms is essential to report to the physician?
1. Nausea
  2. Pain rated as 4 out of 10
  3. Dysphagia
  4. Thirst

# Nursing Care of Patients With Lower Gastrointestinal Disorders

# 34

## VOCABULARY

Match the vocabulary word to the correct definition.

- |                          |   |
|--------------------------|---|
| 1. _____ Appendicitis    | 1. Outpouchings in colon                                |
| 2. _____ Colectomy       | 2. Inflammation of colon                                |
| 3. _____ Colitis         | 3. Telescoping of the bowel                             |
| 4. _____ Colostomy       | 4. Tunnel connection between bowel and another organ    |
| 5. _____ Diverticulosis  | 5. Blood in stool                                       |
| 6. _____ Fistula         | 6. Twisting of bowel                                    |
| 7. _____ Hernia          | 7. Inflammation or infection of peritoneum              |
| 8. _____ Ileostomy       | 8. Bulging of abdominal contents through abdominal wall |
| 9. _____ Intussusception | 9. Diversion of small bowel through abdominal wall      |
| 10. _____ Melena         | 10. Removal of large bowel                              |
| 11. _____ Peritonitis    | 11. Diversion of large bowel through abdominal wall     |
| 12. _____ Volvulus       | 12. Inflamed appendix                                   |

## OSTOMIES

Circle the four errors in each of the following paragraphs and insert the correct information.

1. Michelle Braun is a 16-year-old with ulcerative colitis. She is taking cortisone. She is on a high-residue diet. She has just been admitted to the hospital for a colectomy and elective loop ostomy. The nurse monitors her intake and output (I&O), daily weights, and electrolytes. The nurse also monitors for signs of inflammation in her joints, skin, and other parts of her body. The nurse teaches her to restrict fluids following surgery to limit the number of stools she has daily.
- \_\_\_\_\_
- \_\_\_\_\_

2. James Key is a 46-year-old with a new sigmoid colostomy. Following surgery the nurse monitors his stoma every shift for 3 days to ensure that it remains gray and moist. The nurse explains that the stool will be

semiformed and that he will have to irrigate his ostomy every 1 to 2 days to have bowel movements. The nurse contacts the dietitian to provide a list of the high-fiber foods that he should eat.

## CRITICAL THINKING

Read the following case study and answer the questions.

Mrs. Millie Hendricks is a 90-year-old resident in a nursing home. Mrs. Hendricks has a history of severe osteoarthritis, and she has no teeth or dentures, but otherwise she is quite healthy. She normally has a bowel movement every other day but has occasional constipation, which she takes care of herself by requesting a dose of milk of magnesia. Today when the nurse takes Mrs. Hendricks's medications to her, she says, "I think I need a second dose of that milk of magnesia; my bowels haven't moved in 3 days." The nurse looks at the medication administration record and finds as needed (prn) orders for milk of magnesia, psyllium (Metamucil), senna (Senokot), or a tap water enema.

1. What should the nurse do before administering more medication?

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2. What factors most likely led to Mrs. Hendricks's constipation?

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---



---

3. What will happen if Mrs. Hendricks's bowels do not move today?

---



---



---

4. What nondrug interventions will help Mrs. Hendricks move her bowels?

---



---



---

5. After Mrs. Hendricks's bowels have moved, what measures can be instituted to prevent constipation next time?

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---



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## REVIEW QUESTIONS—CONTENT REVIEW

*Choose the best answer unless directed otherwise.*

1. What differentiates diverticulitis from diverticulosis?

**Select all that apply.**

1. Presence of weakness in bowel wall
2. Presence of outpouchings on bowel mucous membrane
3. Presence of inflammation and infection
4. Lack of symptoms
5. Involves the large intestine.

2. A pattern of alternating constipation and diarrhea is most characteristic of which of the following gastrointestinal (GI) tract disorders?

1. Crohn's disease
2. Ulcerative colitis
3. Irritable bowel syndrome (IBS)
4. Large bowel obstruction

3. Which of the following drugs would the nurse expect to be prescribed for a woman with IBS and constipation?

1. Amitriptyline (Elavil)
2. Dicyclomine (Bentyl)
3. Paroxetine HCl (Paxil)
4. Hyoscyamine (Levbid)



## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. A patient who has ulcerative colitis is taken to the emergency department with severe rectal bleeding. Which of the following is the best option for maintaining nutritional status for this patient with ulcerative colitis who must be nil per os (NPO) for an extended period of time?
  1. Nasogastric (NG) tube feedings
  2. Percutaneous endoscopic gastrostomy (PEG) tube feedings
  3. Parenteral nutrition (PN)
  4. Intravenous (IV) 5% dextrose and water
5. A patient is diagnosed with acute diverticulitis. Which of the following may have placed the patient at risk for developing diverticulitis?
  1. Eating a low-fiber diet
  2. Chronic diarrhea
  3. History of nonsteroidal anti-inflammatory drug (NSAID) use
  4. Family history of colon cancer
6. Which of the following foods might a patient with diverticulitis be instructed to avoid?
  1. Peanuts and raspberries
  2. Apples and pears
  3. Red meat and dairy products
  4. Bran and whole grains
7. Which of the following nursing diagnoses is most appropriate to include in the plan of care for a patient with symptoms of a bowel obstruction?
  1. *Risk for Impaired Swallowing* related to NPO status
  2. *Risk for Urinary Retention* related to fluid volume depletion
  3. *Risk for Deficient Fluid Volume* related to nausea and vomiting
  4. *Risk for Ineffective Coping* related to prolonged hospitalization
8. Which of the following explanations by the nurse to reinforce the patient's preoperative education for a loop ostomy would be correct?
  1. "You will have a stoma in the middle of your abdomen that will constantly drain liquid stool."
  2. "You will have a looped bag system to collect stool from your stoma."
  3. "You will have a loop of bowel on your abdomen, but it will not drain stool."
  4. "You will have a loop of bowel on your abdomen that can be returned to your abdomen after your bowel has healed."
9. Which of the following dietary instructions is most important to include in the plan of care to prevent complications for a patient with an ileostomy?
  1. "Drink lots of fluids to prevent dehydration."
  2. "Avoid fruits and vegetables to prevent diarrhea."
  3. "Avoid milk products to prevent gas."
  4. "Eat plenty of fiber to prevent constipation."
10. A patient is concerned about ileostomy odor. Which of the following responses by the nurse would be best?
  1. "A teaspoon of baking soda in your pouch will absorb all the odor."
  2. "The plastic your pouch is made of is odor-proof. You shouldn't have to worry about odor as long as you don't have a leak."
  3. "Effluent from an ileostomy has no odor. It is colostomies that can smell bad from time to time."
  4. "Changing your pouch and face plate daily will help prevent odor."
11. The nurse is counseling a patient with frequent anal fissures and a history of constipation. Which of the following indicates that teaching has been effective?
  1. "I guess there isn't much I can do except seek pain relief whenever I have a fissure."
  2. "It is important that I not ignore the urge to have a bowel movement."
  3. "Decreasing the amount of fluid I drink each day will reduce stool frequency and subsequent irritation."
  4. "Narcotic pain medications are probably needed to help with this condition."

# 35

## Nursing Care of Patients With Liver, Pancreatic, and Gallbladder Disorders

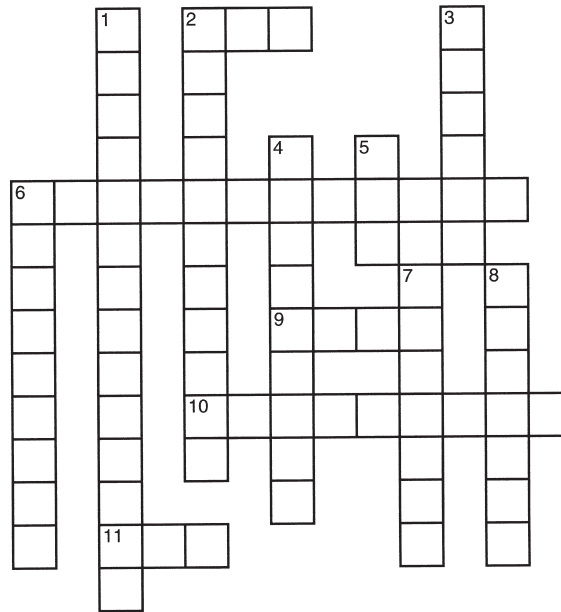
### VOCABULARY

Match the following terms with the appropriate description.

- |                               |  |
|-------------------------------|--|
| 1. _____ Ascites              | 1. Yellowing of the sclerae and skin from excess bilirubin |
| 2. _____ Asterixis            | 2. Removal of all or part of the pancreas                  |
| 3. _____ Cirrhosis            | 3. Liver flap  |
| 4. _____ Encephalopathy       | 4. Fluid in the abdomen from decreased albumin             |
| 5. _____ Feter hepaticus      | 5. Neurologic changes from excess ammonia                  |
| 6. _____ Hepatorenal syndrome | 6. Weakened, swollen veins                                 |
| 7. _____ Hepatitis            | 7. Foul breath   |
| 8. _____ Jaundice             | 8. Fatty, foul-smelling stools                             |
| 9. _____ Portal hypertension  | 9. Increased pressure in the portal circulation            |
| 10. _____ Pancreatectomy      | 10. Scarring and hardening of the liver from inflammation  |
| 11. _____ Steatorrhea         | 11. Oliguria and sodium retention without kidney defects   |
| 12. _____ Varices             | 12. Inflammation of the liver cells                        |

**LIVER**

Fill in the crossword with terms related to the liver.

**Across**

2. Abbreviation for serum hepatitis
6. Visible veins around umbilicus
9. Abbreviation for liver shunt
10. Liver flap
11. Abbreviation for infectious hepatitis

**Down**

1. Confusion and coma are symptoms
2. This syndrome causes oliguria
3. Abdomen circulation
4. Liver inflammation
5. Abbreviation for liver location
6. Progressive, irreversible replacement of liver tissue with scar tissue
7. Collection of fluid in peritoneal cavity
8. Dilated esophageal veins

**GALLBLADDER**

Match the following terms with the appropriate description.

- |   |   |
|---|---|
| 1. _____ Cholecystitis                                | 1. Pigment from the breakdown of hemoglobin in red blood cells                                |
| 2. _____ Cholesterol                                  | 2. Dissolves cholesterol gallstones   |
| 3. _____ Flatulence                                   | 3. Use of an endoscope to explore the common bile duct  |
| 4. _____ Murphy's sign                                | 4. Inflammation of the gallbladder  |
| 5. _____ Bilirubin                                    | 5. Inability to take a deep breath when fingers are pressed under liver margin                |
| 6. _____ Extracorporeal shock wave lithotripsy (ESWL) | 6. Substance found in gallstones  |
| 7. _____ T-tube                                       | 7. Intestinal gas expelled via the rectum   |
| 8. _____ Laparoscopic cholecystectomy                 | 8. A procedure that shatters gallstones using sound waves                                     |
| 9. _____ Chenodeoxycholic acid                        | 9. A surgical drain used to ensure that bile drains freely from the gallbladder after surgery |
| 10. _____ Choledochoscopy                             | 10. Removal of the gallbladder through a small abdominal incision                             |

**PANCREAS**

*In the space on the left, write N or A to indicate whether the assessment finding is normal or abnormal. If the finding is abnormal, indicate the possible (liver-, gallbladder-, or pancreas-related) cause for the finding.*

1. \_\_\_\_\_ Serum glucose >150 mg%
2. \_\_\_\_\_ Serum amylase >500 international unit/L
3. \_\_\_\_\_ Serum lipase = 15 unit/L
4. \_\_\_\_\_ Pleural effusion
5. \_\_\_\_\_ Blood pressure and pulse 15% from patient's baseline
6. \_\_\_\_\_ Serum albumin <3.2 g/dL
7. \_\_\_\_\_ Positive Cullen's sign
8. \_\_\_\_\_ Urinary output <30 mL/hr
9. \_\_\_\_\_ Positive Chvostek's sign
10. \_\_\_\_\_ Foul-smelling, fatty stools

**CRITICAL THINKING**

*Read the following case study and answer the questions.*

Ms. Bettina Smythe has been diagnosed with hepatic encephalopathy secondary to cirrhosis. During the admission process, the nurse notes the following findings: abdomen grossly distended, yellow sclerae and skin, multiple bruises, and pitting edema of the lower extremities. The nurse also notes that Ms. Smythe is irritable and has difficulty answering questions and appears to doze off frequently during the interview. The nurse observes that Ms. Smythe scratches her arms and legs frequently. Her laboratory data indicate that her serum bilirubin, ammonia, and prothrombin time are elevated and that her serum albumin, total protein, and potassium are below normal.

1. What data support the diagnosis of cirrhosis?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
2. What data suggest that Ms. Smythe has hepatic encephalopathy? What other evidence might be observed?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

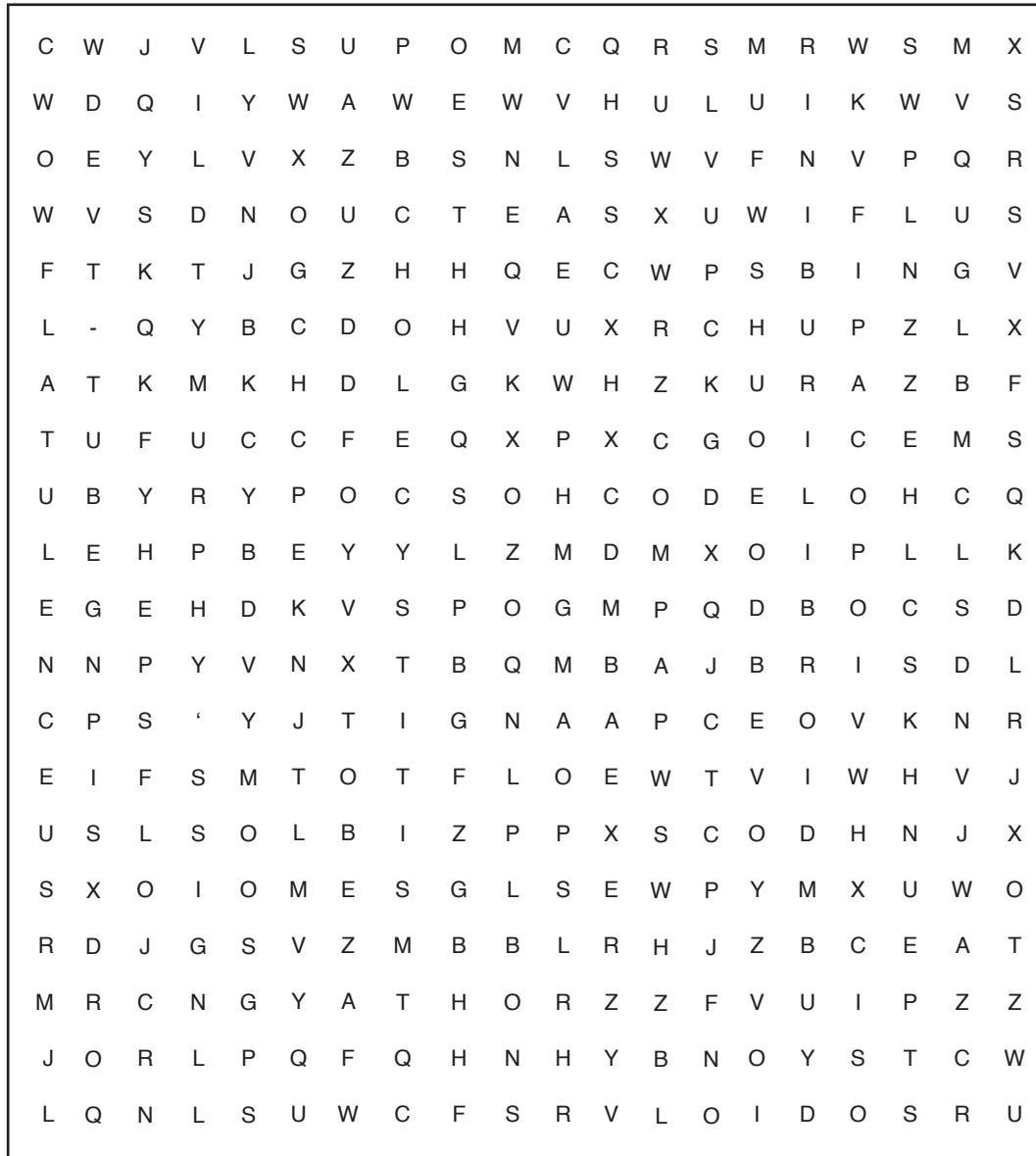
3. Why is Ms. Smythe exhibiting pitting edema and abdominal distention? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
4. What medical treatments can the nurse expect will be ordered for hepatic encephalopathy? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Two days after Ms. Smythe was admitted, there is bright red blood in her emesis. Ms. Smythe also reports feeling cold, and her pulse is 115 beats per minute and thready. The nurse calls for help and places Ms. Smythe on her side.

5. What further treatment can be anticipated for Ms. Smythe?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
6. What observations should be made to detect bleeding from lack of clotting factors? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
7. What nursing measures can be provided to help Ms. Smythe maintain her fluid balance? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
8. What should Ms. Smythe be taught about taking acetaminophen (Tylenol)? Why? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**WORD SEARCH**

Gallbladder



Write the definition of the word and then find the word on the preceding figure.

- |                          |                        |
|--------------------------|------------------------|
| 1. Bilirubin _____       | 6. Flatulence _____    |
| 2. Choledochoscopy _____ | 7. Murphy's sign _____ |
| 3. Cholesterol _____     | 8. T-tube _____        |
| 4. Cholecystitis _____   | 9. Ursodiol _____      |
| 5. ESWL _____            |                        |

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following precautions will protect the nurse who is caring for the patient with hepatitis B?
  - Reverse isolation
  - Standard precautions
  - Respiratory precautions
  - Enteric precautions
- Acute liver failure is most often caused by which of the following?
  - Antibiotic use
  - Daily vitamins
  - Alcohol use
  - Acetaminophen (Tylenol) overdose
- Which of the following is a treatment for bleeding esophageal varices? **Select all that apply.**
  - Variceal ligation (banding)
  - Octreotide (Sandostatin) intravenous (IV)
  - Soft diet
  - Sclerotherapy
- Which of the following is a nonsurgical intervention for the management of biliary colic?
  - Encouraging a high-fat diet
  - Administering vitamin K
  - Administering chenodeoxycholic acid (Chenodiol)
  - Administering propantheline (Pro-Banthine)
- Patients with a history of pancreatic disease commonly have a history of which of the following?
  - High-protein diet
  - Very-low-fat diet
  - Excessive alcohol consumption
  - Excessive intake of vitamin C
- Patients with acute pancreatitis frequently describe their pain as which of the following?
  - Dull, boring, beginning in the mid epigastrium and radiating to the back
  - Knifelike, centered in the left lower quadrant
  - Burning, focused over the left flank and radiating to the shoulder
  - Sharp, severe pain that begins in the right upper quadrant

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- A patient with ascites is placed on a low-sodium diet. The nurse knows that diet teaching has been successful if the patient selects which of the following meals?
  - Cottage cheese and peaches with tomato juice
  - Frankfurter on a bun with pickle relish and skim milk
  - Baked chicken, white rice, and apple juice
  - Turkey and lettuce sandwich on whole-wheat bread with tomato soup
- Which of the following are risk factors for gallbladder disease? **Select all that apply.**
  - Male gender
  - Obesity
  - Multiple pregnancies
  - Age 40 or older
  - Fasting
  - Diabetes mellitus
- Which of the following instructions should be given to the patient with portal hypertension? **Select all that apply.**
  - Cough and deep breathe every 2 hours.
  - Avoid straining to have a bowel movement.
  - Avoid heavy lifting
  - Increase fluid intake.
  - Take vitamin K supplements.
- A patient with cirrhosis has asterixis and fetor hepaticus and is confused. The nurse recognizes these as symptoms of which complication?
  - Hepatic encephalopathy
  - Hepatorenal syndrome
  - Portal hypertension
  - Ascites

# unit NINE

## Understanding the Urinary System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Kidneys
- Urine
- Elimination of urine
- Aging effects

#### Major Disorders

- Incontinence
- Urinary retention
- Urinary tract infections
- Urological obstructions
- Tumors
- Polycystic kidney disease
- Chronic renal diseases
- Acute kidney injury
- Chronic kidney disease
- Kidney transplantation

#### Nursing Assessment

- Medical history
- Medications
- Vital signs
- Physical examination
- Intake and output
- Daily weights

#### Diagnostic Tests

- Urinalysis
- Urine culture
- Blood urea nitrogen
- Creatinine
- Creatinine clearance
- Kidneys-ureter-bladder
- Intravenous (IV) pyelogram
- Cystoscopy and pyelogram

#### Interventions

- Urinary catheters
- Lithotripsy
- Hemodialysis
- Peritoneal dialysis
- Continuous renal replacement therapy
- Urinary diversion

#### Common Medications

- Diuretics
- Sodium polystyrene sulfonate (Kayexalate)
- Phosphate binder

# 36

## Urinary System Function, Assessment, and Therapeutic Measures

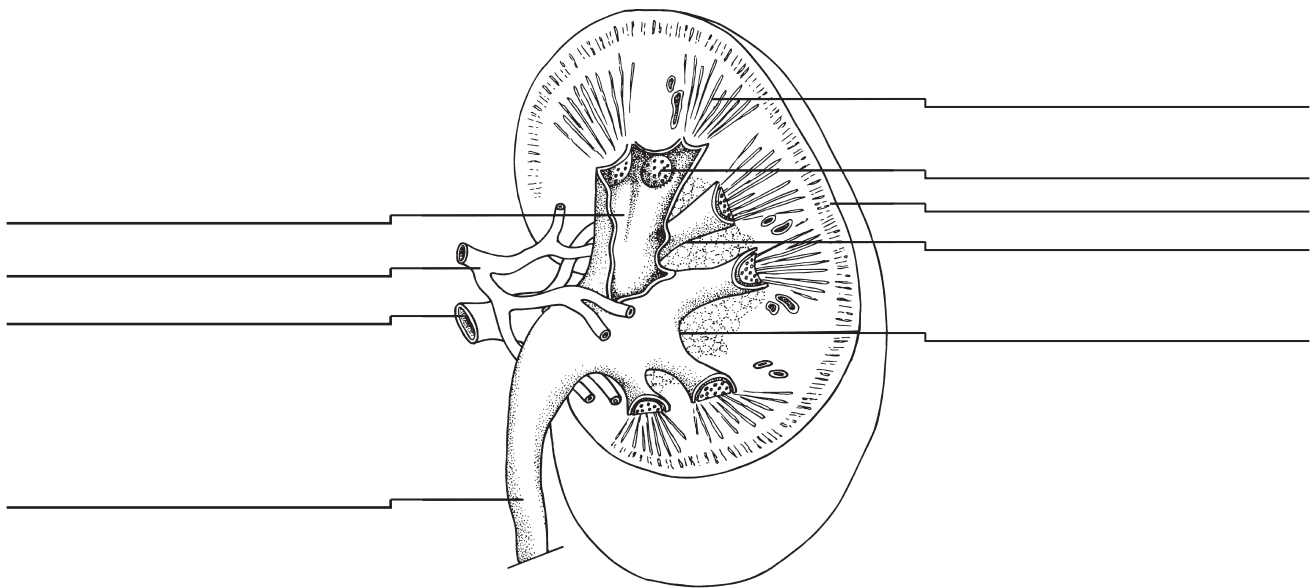
### VOCABULARY

Match the term for an abnormality of the urine or urination with the correct description.

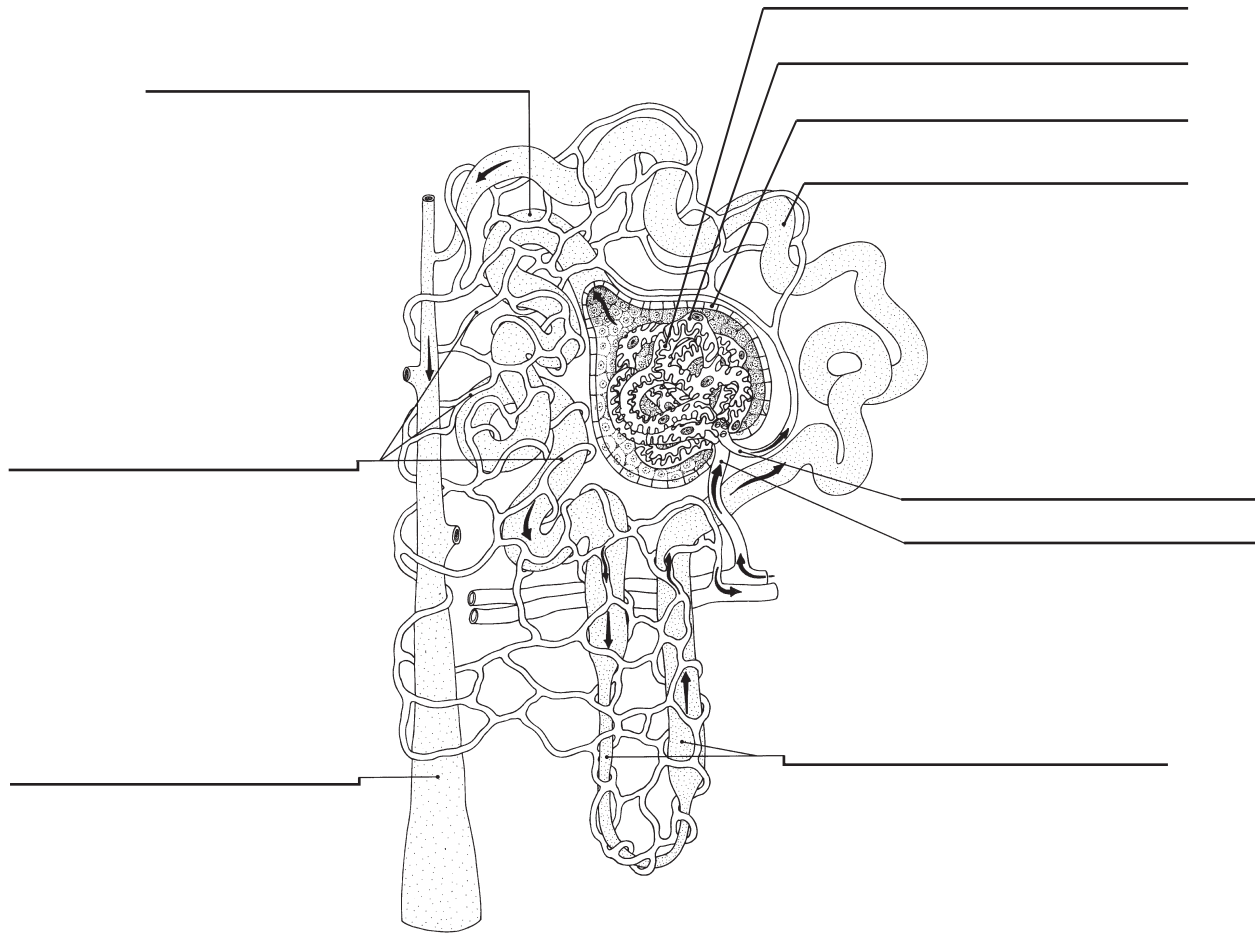
- |                    |  |
|--------------------|--|
| 1. _____ Hematuria | 1. Painful urination                             |
| 2. _____ Dysuria   | 2. Decreased urine output (<400 mL per 24 hours) |
| 3. _____ Nocturia  | 3. Blood in the urine                            |
| 4. _____ Oliguria  | 4. Voiding during the night                      |
| 5. _____ Enuresis  | 5. Excessive urination (>2000 mL per 24 hours)   |
| 6. _____ Anuria    | 6. Absence of urination                          |
| 7. _____ Polyuria  | 7. Presence of pus in the urine                  |
| 8. _____ Pyuria    | 8. Bedwetting                                    |

### ANATOMY REVIEW

Label the parts of the kidney and nephron.







### SAMPLE URINALYSIS RESULTS

Review the urinalysis results of the following three patients and determine the most likely cause of the abnormal results.

	Patient A	Patient B	Patient C
Color	Yellow	Dark amber	Yellow-green
Character	Cloudy	Concentrated	Clear
Glucose	Negative	Negative	Negative
Bilirubin	Negative	Negative	2+
Ketones	Small	Negative	Negative
Specific gravity (1.010–1.025)	1.024	1.035	1.025
Hemoglobin	Small	Negative	Negative
pH (5.0–9.0)	6.0	5.2	5.5
Protein	100	Negative	Negative
Urobilinogen (0.2–1.0)	0.2	0.2	0.2
Nitrite	Positive	Negative	Negative
Urine microscopic casts	White blood cell (WBC), red blood cell (RBC)	Negative	Negative
WBCs (0–4 HPF)	400	4	1
RBCs (0–4 HPF)	90	2	2
Crystals	Negative	2	Negative
Amorphous	Negative	Negative	Negative
Epithelial cells (negative)	3	Negative	2
Bacteria (negative)	4+	Negative	Negative
Yeast (negative)	Negative	Negative	Negative

Patient A: \_\_\_\_\_

Patient B: \_\_\_\_\_

Patient C: \_\_\_\_\_

**RENAL DIAGNOSTIC TESTS**

*Label each statement as true or false and correct the false statements.*

1. \_\_\_\_\_ An x-ray of the renal structures after injection of a radiopaque dye into the venous system is called a renal ultrasound.
2. \_\_\_\_\_ A diagnostic test in which sound waves are used to outline the structure of the kidney is a pyelogram.
3. \_\_\_\_\_ A urine sample that is cultured to determine the kind of bacteria it contains is called a creatinine clearance urine test.
4. \_\_\_\_\_ A diagnostic test in which the inside of the bladder is visualized is called a cystoscopy.
5. \_\_\_\_\_ The radiopaque dye used when doing diagnostic tests of the renal system is harmless.

**CRITICAL THINKING**

*Read the following case studies and answer the questions.*

Mrs. Bohke is a 64-year-old female patient admitted to the hospital with a diagnosis of pneumonia. During her stay, she tells the nurse she has trouble getting to the bathroom on time and often dribbles before she can get to the bathroom.

1. What type of urinary incontinence does she have?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. What teaching could be done to help her decrease her incontinence? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Mrs. Simmon is a 79-year-old woman with a fractured hip and a previous cerebrovascular accident (CVA). She has poor vision but is alert mentally. The nurse finds her lying in bed in a puddle of urine, crying. She explains that she was unable to find her call light. The nurse finds it lying on the floor out of her reach.

3. What kind of incontinence did Mrs. Simmon experience?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What actions should the nurse take to ensure that this does not happen again? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. When caring for a patient with incontinence, is it helpful to decrease fluid intake? Why or why not? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless otherwise directed.*

1. Which of the following is secreted when the blood level of oxygen decreases?
  1. Erythropoietin
  2. Renin
  3. Angiotensin II
  4. Vitamin D
2. Urea is a nitrogenous waste product from the metabolism of which of the following?
  1. Nucleic acids
  2. Amino acids
  3. Muscle tissue
  4. Carbohydrates

3. The kidneys are located behind which of the following structures?
  1. Spinal column
  2. Diaphragm
  3. Peritoneum
  4. Inferior vena cava
4. The renal pyramids make up which kidney structure?
  1. Renal cortex
  2. Renal medulla
  3. Renal pelvis
  4. Renal fascia

5. The process of tubular resorption takes place in which of the following parts of the kidney?
  1. From the glomerulus to Bowman's capsule
  2. From the afferent arteriole to the efferent arteriole
  3. From the peritubular capillaries to the glomerulus
  4. From the renal tubule to the peritubular capillaries
6. Where is urine formed?
  1. Nephrons
  2. Ureters
  3. Urethra
  4. Bladder
7. Which of the following are functions of the kidney?  
**Select all that apply.**
  1. Maintaining acid–base balance
  2. Removal of waste products
  3. Regulation of the blood volume
  4. Regulation of electrolytes
  5. Removal of CO<sub>2</sub>
  6. Production of erythropoietin

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless otherwise directed.

8. When collecting a urine specimen on a newly admitted female patient, the nurse should take which of the following actions?
  1. Direct the patient to wash perineum before collecting the urine specimen.
  2. Have the patient void, throw that urine away, and then collect another specimen.
  3. Obtain the last voided urine of the day.
  4. Direct the patient to drink at least three glasses of water.
9. A patient's urinalysis results show the following findings: urine, dark amber; bacteria, small amount; nitrite, negative; specific gravity, 1.035. Which of the following is the best explanation for these results?
  1. Dehydration
  2. Urinary tract infection
  3. Contamination of the specimen from bacteria on the perineum
  4. Contamination from menstruation
10. Which of the following diagnostic test results would the nurse evaluate as being related to renal disease?  
**Select all that apply.**
  1. Hematocrit: 39%
  2. Potassium: 4.0 mEq/L
  3. Uric acid: 2 ng/dL
  4. Creatinine: 3 mg/dL
  5. BUN: 35 mg/dL
  6. Urine specific gravity: 1.020
11. A patient is scheduled for a pyelogram with contrast. When giving care, the nurse should recognize that restriction of which of the following is part of the preparation for a pyelogram?
  1. Salt intake
  2. Fluid intake
  3. Use of tobacco
  4. Physical activities
12. The patient is scheduled for a cystoscopy. Which of the following is the most important nursing care after this kind of surgery?
  1. Measuring urine output
  2. Monitoring daily weights
  3. Observing for symptoms of acute kidney injury
  4. Limiting fluid intake
13. A patient, age 48, has urge incontinence. When assessing the patient, the nurse would expect to find which of the following symptoms?
  1. Patient is unable to reach the bathroom in time and ends up urinating in underwear.
  2. Patient is incontinent of small amounts of urine when coughs, sneezes, or bears down.
  3. Patient is incontinent of urine when has many responsibilities and becomes overloaded.
  4. Patient is incontinent because unable to tell when needs to urinate and unable to control urination.
14. Which of the following actions should the nurse take to prevent development of a urinary tract infection in a patient who has a urinary catheter inserted?
  1. Limit fluid intake to 2000 mL per 24 hours to decrease the flow of urine, which can result in increased contamination.
  2. Wash the perineum with an antibacterial soap three times per 24 hours.
  3. Keep catheter securely taped to the patient, preventing back-and-forth motion of the catheter.
  4. Empty the urinary catheter bag only when needed to prevent contamination of the exit spout.
15. Which of the following actions should the nurse take for a patient who has total urinary incontinence?
  1. Give patient cranberry juice to keep the urine acidic.
  2. Ensure that patient has ready access to the urinal.
  3. Teach patient how to do Kegel exercises to increase perineal tone.
  4. Apply an adult incontinence brief to catch urine and change when necessary.

# 37

## Nursing Care of Patients With Disorders of the Urinary System

### VOCABULARY

Fill in the blank with the correct term.

- \_\_\_\_\_ is inflammation of the urethra.
- \_\_\_\_\_ is inflammation of the bladder.
- \_\_\_\_\_ is inflammation of the kidney.
- Surgical repair of the urethra is called \_\_\_\_\_.
- Kidney stones are also called \_\_\_\_\_.
- \_\_\_\_\_ is surgical incision into the kidney to remove a stone.
- Unrelieved obstruction of the urinary tract can lead to \_\_\_\_\_.
- A \_\_\_\_\_ tube may be inserted directly into the kidney pelvis to drain urine.
- Surgical removal of a kidney is called a \_\_\_\_\_.
- Thickening and hardening of the renal blood vessels is called \_\_\_\_\_.

### URINARY TRACT INFECTIONS.

Answer the following questions.

- What is the usual cause of urinary tract infections (UTIs) in women? \_\_\_\_\_  
\_\_\_\_\_
- What is the usual cause of UTIs in men? \_\_\_\_\_  
\_\_\_\_\_
- What advice regarding fluids should be given to patients who are susceptible to UTIs? \_\_\_\_\_  
\_\_\_\_\_
- What is the single most important thing a patient with a history of UTIs should be taught? \_\_\_\_\_  
\_\_\_\_\_

- Compare cystitis (bladder infection) versus pyelonephritis (kidney infection) by filling out the following table.

Things to Compare	Cystitis	Pyelonephritis
Symptoms	_____	_____
	_____	_____
	_____	_____
Urinalysis Results	_____	_____
	_____	_____
	_____	_____
Prognosis	_____	_____

### URINARY TRACT OBSTRUCTIONS

Answer the following questions.

- What is the most common symptom of cancer of the bladder? \_\_\_\_\_  
\_\_\_\_\_

2. What is the most common risk factor for cancer of the bladder? \_\_\_\_\_  
\_\_\_\_\_
3. What is the most common symptom of cancer of the kidney? \_\_\_\_\_  
\_\_\_\_\_
4. What does the urine look like when a patient has an ileal conduit? \_\_\_\_\_  
\_\_\_\_\_
5. What nursing care should be provided for a patient with an ileal conduit? \_\_\_\_\_  
\_\_\_\_\_
6. What is the most important care that should be given a patient with a kidney stone? \_\_\_\_\_  
\_\_\_\_\_
7. What teaching should be done for the patient to prevent further stone formation if the stone is composed of calcium oxalate? Uric acid? \_\_\_\_\_  
\_\_\_\_\_

Hemoglobin (Hgb): 7.2 g/100 mL  
Hematocrit (Hct): 22%

1. Mrs. Zins has been having incidents of hypoglycemia. Why is this happening? \_\_\_\_\_  
\_\_\_\_\_
2. With Mrs. Zins present blood sugar of 56, what kind of juice should the nurse give her? \_\_\_\_\_  
\_\_\_\_\_
3. How does diabetes cause chronic kidney disease? \_\_\_\_\_  
\_\_\_\_\_
4. Is there anything Mrs. Zins could have done to decrease the possibility of developing chronic kidney disease? \_\_\_\_\_  
\_\_\_\_\_
5. Identify two nursing diagnoses that would be appropriate for Mrs. Zins based on her assessment. \_\_\_\_\_  
\_\_\_\_\_
6. What diagnostic test was most indicative of chronic kidney disease for Mrs. Zins? \_\_\_\_\_  
\_\_\_\_\_
7. Why is Mrs. Zins anemic? \_\_\_\_\_  
\_\_\_\_\_
8. What would be the three most important areas for nursing data collection for Mrs. Zins related to her chronic kidney disease? \_\_\_\_\_  
\_\_\_\_\_
9. What kind of diet will Mrs. Zins most likely receive? \_\_\_\_\_  
\_\_\_\_\_

**CRITICAL THINKING**

Read the following case study and answer the questions.

Mrs. Zins is a 27-year-old woman who has had Type 1 diabetes mellitus for more than 20 years. Recently she has begun having incidents of hypoglycemia, she is edematous, and her blood pressure has elevated. She is admitted to the hospital for diagnosis and treatment of probable chronic kidney disease.

**History: Subjective Data**

States that she has been exhausted lately and her skin is itchy.  
States that she has been very irritable and her husband says she is difficult to live with.

**Physical: Objective Data**

BP 194/104 mm Hg, P 98 beats per minute, R 22 per minute, T 98.4°F (36.9°C)  
Jugular vein distention present at 45 degrees  
Generalized edema throughout body, including periorbital edema  
Pitting edema of feet and ankles  
Weight gain of 20 pounds in 2 months  
Skin very dry, flaky

**Diagnostic Tests**

Fasting blood sugar: 56 mg/100 L  
Serum sodium: 145 mEq/L  
Serum creatinine: 5.4 mg/100 L  
Serum potassium: 5.9 mEq/L  
Uric acid: 8.2 ng/dL

### CHRONIC KIDNEY DISEASE

Fill in the signs and symptoms of kidney disease under the body systems on the figure that follows.

The diagram shows a human figure with internal organs highlighted. Labels on the left side include: Oral cavity, Cardiovascular system, Gastrointestinal system, Reproductive system, and Musculoskeletal system. Labels on the right side include: Neurological system, Respiratory system, Renal system, Skin, and Fluid volume. Each label is connected to a set of horizontal lines for writing.

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following is the most common symptom of cancer of the bladder?
  - Nocturia
  - Dysuria
  - Urinary retention
  - Hematuria
- When examining the patient, the nurse notes the following diagnostic tests on the patient's chart. Which of the following diagnostic tests results is most indicative of acute kidney injury?
  - BUN: 80 mg/100 mL (8–25 mg/100 L)
  - 24-hour creatinine clearance: 5 mL/min (100 mL/min)
  - Uric acid: 8 ng/dL (2.5–5.5 ng/dL)
  - Serum creatinine: 1.7 mg/100 L (0.5–1.5 mg/100 L)
- Which of the following foods should the patient be taught to avoid for a kidney stone composed of calcium oxalate?
  - Bread
  - Beer
  - Beef
  - Beans

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- Postoperatively, the nurse notes the presence of mucus in the urinary drainage. Which of the following actions should the nurse take?
  - Notify the health care provider (HCP).
  - Collect a urine specimen for culture and sensitivity.
  - Measure the specific gravity of the urine.
  - Recognize that this is a normal occurrence.
- Which of the following is the most significant sign of acute kidney injury that the nurse should recognize during data collection?
  - A rise in blood pressure
  - An elevation in body temperature
  - A decrease in urine output
  - An increase in urine specific gravity
- A patient with acute kidney injury has been instructed to limit potassium intake. The nurse recognizes that teaching has been effective if the patient chooses which of the following snacks? **Select all that apply.**
  - Chocolates
  - An orange
  - Grapefruit juice
  - A gelatin dessert
  - Cranberry juice
- A patient with severe right flank pain, general weakness, and fever is hospitalized. The patient has a history of recurrent urinary tract infection, and renal calculi are suspected. On the second hospital day, the patient's urine output drops to 300 mL/24 hr, and the patient has distention and pain in the suprapubic area. The nurse would suspect which of the following to be the most likely cause for this sudden change?
  - Sudden decreased renal perfusion
  - Inadequate fluid intake
  - Interstitial fluid shift
  - Urinary tract obstruction
- Which of the following is appropriate patient teaching to obtain a midstream urine specimen for culture and sensitivity?
  - A second-voided specimen is preferred.
  - The specimen should be collected early in the morning.
  - The patient should begin voiding, collect the specimen, and then finish voiding in the toilet.
  - A 24-hour urine specimen is needed; the first void should be discarded.

9. A patient is admitted with chronic kidney disease. The patient has a potassium level of 6.4 mEq/L, is placed on a cardiac monitor and given sodium polystyrene sulfonate (kayexalate) by retention enema. Which of the following is the most significant symptom that the nurse should recognize during data collection?
1. Diarrhea
  2. Irregular heart rhythm
  3. Increased blood pressure
  4. Increased respiratory rate
10. The nursing diagnosis of *Excess Fluid Volume* is made for a patient with chronic kidney disease. Which of the following information is most important for the nurse to collect for this patient based on the nursing diagnosis?
1. Intake and output
  2. Vital signs
  3. Daily weight
  4. Skin turgor
11. A patient with newly diagnosed chronic kidney disease has elevated sodium, potassium, and serum creatinine levels. When the breakfast tray is served, there is a glass of orange juice on it. Which of the following actions should the nurse take?
1. Encourage the patient to drink the orange juice for vitamin C to help fight the infection.
  2. Remove the orange juice from the tray because it is high in potassium.
  3. Give the patient a smaller glass of orange juice because the patient is on a fluid restriction.
  4. Check the kind of diet the patient is on to determine any restrictions.
12. A patient goes to surgery for fistula creation for dialysis. The patient asks why it needs to be done. Which of the following is the best explanation by the nurse on the advantages of a fistula over a two-tailed subclavian catheter?
1. "There is a larger blood flow, and dialysis is more efficient."
  2. "There is less risk of clotting with the fistula."
  3. "It is easier to access the fistula than the two-tailed subclavian."
  4. "It is less likely to be damaged by trauma."
13. After hemodialysis, which of the following nursing interventions is imperative for the nurse to carry out? **Select all that apply.**
1. Document stool output.
  2. Weigh the patient.
  3. Check for jugular vein distention.
  4. Obtain vital signs.
  5. Allow patient to rest.
14. The patient has a permanent peritoneal catheter inserted and is begun on continuous ambulatory peritoneal dialysis (CAPD). The patient asks how it works. Which of the following would be the best explanation of how this type of dialysis works?
1. The peritoneum allows solutes in the dialysate to pass into the intravascular system.
  2. The peritoneum acts as a semipermeable membrane through which solutes move by diffusion and osmosis.
  3. The presence of excess metabolites causes increased permeability of the peritoneum and allows excess fluid to drain.
  4. The peritoneum permits diffusion of metabolites from the intravascular to the interstitial space.
15. A patient on dialysis has a severe cerebrovascular accident and is now semicomatose. His family decides that dialysis should be stopped. He is sent home with his daughter and hospice to die. As part of discharge planning, his daughter should be taught to expect which of the following symptoms of untreated end-stage renal failure?
1. Polyuria, pruritus, and extreme irritability
  2. Dehydration with sunken eyeballs and oliguria
  3. Edema, possible convulsions, then coma
  4. Decreased respiratory rate and cyanosis
16. A patient is admitted who was involved in a motor vehicle accident resulting in trauma to the abdomen and back. The patient has a ruptured spleen and probable trauma to the kidneys. For which of the following changes in the patient's urine should the nurse observe?
1. Dysuria
  2. Pyuria
  3. Polyuria
  4. Hematuria
17. A patient is admitted with symptoms of a recent weight gain, pitting edema of his feet, jugular vein distension, and lung crackles. Which of the following nursing diagnoses is most appropriate for this patient's plan of care?
1. Deficient Fluid Volume
  2. Excess Fluid Volume
  3. Imbalanced Nutrition: More Than Body Requirements
  4. Noncompliance



# unit TEN

## Understanding the Endocrine System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Antidiuretic hormone
- Growth hormone
- Thyroid-stimulating hormone
- Adrenocorticotropic hormone
- T<sub>3</sub> and T<sub>4</sub>
- Calcitonin
- Parathyroid hormone
- Glucagon
- Insulin
- Norepinephrine
- Epinephrine
- Aldosterone
- Cortisol
- Aging changes

#### Major Disorders

- Diabetes insipidus
- Syndrome of inappropriate antidiuretic hormone secretion (SIADH)
- Acromegaly
- Hypothyroidism
- Hyperthyroidism
- Goiter
- Thyroid cancer
- Hypoparathyroidism
- Hyperparathyroidism
- Pheochromocytoma
- Addison's disease
- Cushing's syndrome
- Diabetes mellitus
- Reactive hypoglycemia

#### Nursing Assessment

- History
- Fluid balance
- Mood, affect
- Exophthalmos
- Skin
- Vital signs
- Tremor
- Polyuria, polydipsia, polyphagia
- Self-monitoring of blood glucose (SMBG)
- Knowledge of self-care

#### Diagnostic Tests

- 24-hour urine
- Hormone levels
- Stimulation tests
- Suppression tests
- Thyroid scan
- Blood glucose
- Glycohemoglobin
- Glucose tolerance test
- Ultrasound
- Biopsy

#### Interventions

- Interventions for fluid imbalances
- Pre- and post-thyroidectomy care
- Pre- and post-hypophysectomy care
- Teaching related to self-care
- Diabetes education

#### Common Medications

- Hormone replacement
- Calcium
- Calcitonin
- Thyroid hormone
- Insulin
- Oral hypoglycemic agents

# 38

## Endocrine System Function and Assessment

### VOCABULARY

Complete the following sentences with the appropriate words.

1. Glucose is converted to \_\_\_\_\_ for storage.
2. High blood glucose is called \_\_\_\_\_.
3. Emotional tone is called \_\_\_\_\_.
4. Bulging eyes, or \_\_\_\_\_, is a symptom of hyperthyroidism.
5. Hormone secretion is regulated through a \_\_\_\_\_ system.

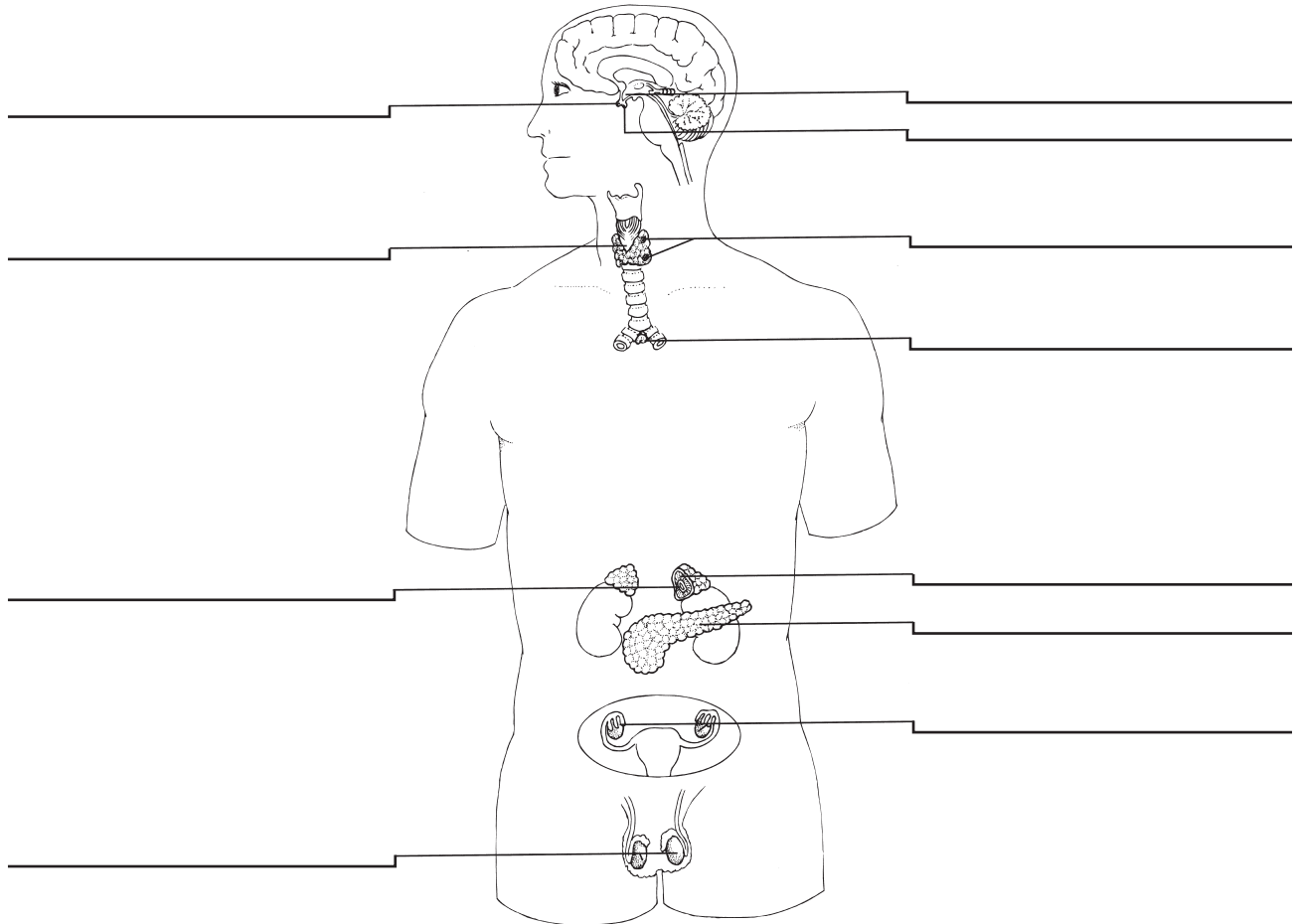
### HORMONES

Match each hormone with its function. Use each number only once.

- |                                       |   |
|---------------------------------------|---|
| 1. _____ Antidiuretic hormone (ADH)   | 1. Stimulates growth and secretions of the thyroid gland                                    |
| 2. _____ Oxytocin                     | 2. Increases glucose uptake by cells and glycogen storage in the liver                      |
| 3. _____ Thyroid-stimulating hormone  | 3. Decreases the resorption of calcium from bones; lowers blood calcium level               |
| 4. _____ Adrenocorticotrophic hormone | 4. Increases the use of fats and amino acids for energy and has an anti-inflammatory effect |
| 5. _____ Growth hormone (GH)          | 5. Stimulates mitosis and protein synthesis   |
| 6. _____ Prolactin                    | 6. Increases heart rate and force of contraction  |
| 7. _____ Follicle-stimulating hormone | 7. Causes vasoconstriction throughout the body  |
| 8. _____ Luteinizing hormone          | 8. Increases secretion of cortisol by the adrenal cortex                                    |
| 9. _____ Thyroxine                    | 9. Increases energy production for a normal metabolic rate                                  |
| 10. _____ Calcitonin                  | 10. Directly increases water reabsorption by the kidneys                                    |
| 11. _____ Parathyroid hormone (PTH)   | 11. In men, stimulates secretion of testosterone  |
| 12. _____ Epinephrine                 | 12. Increases the conversion of glycogen to glucose in the liver between meals              |
| 13. _____ Norepinephrine              | 13. Initiates milk production in the mammary glands   |
| 14. _____ Cortisol                    | 14. Increases the resorption of calcium from bones; raises blood calcium level              |
| 15. _____ Aldosterone                 | 15. Increases the resorption of sodium by the kidneys                                       |
| 16. _____ Insulin                     | 16. In women, initiates development of ova in ovaries                                       |
| 17. _____ Glucagon                    | 17. Causes contraction of the myometrium during labor                                       |

## ENDOCRINE GLANDS AND HORMONES

Label the figure with the glands of the endocrine system. List the hormone(s) secreted by each gland.



### REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which two hormones help regulate the blood calcium level?
  - Insulin and glucagon
  - Calcitonin and PTH
  - Thyroxine and epinephrine
  - Cortisol and aldosterone
- Which hormone is most important for day-to-day regulation of metabolic rate?
  - Insulin
  - Epinephrine
  - GH
  - Thyroxine
- What happens when aldosterone increases the reabsorption of sodium ions by the kidneys?
  - Water is also reabsorbed back to the blood.
  - Bicarbonate ions are excreted in urine.
  - More water is excreted in urine.
  - Potassium ions are also reabsorbed back into the blood.
- Which of the following hormones has an anti-inflammatory effect?
  - Epinephrine
  - Cortisol
  - Aldosterone
  - Thyroxine

**REVIEW QUESTIONS—TEST PREPARATION**

Choose the best answer unless directed otherwise.

5. Which of the following hormones help maintain blood volume and blood pressure? **Select all that apply.**
  1. Thyroxine
  2. Glucagon
  3. Aldosterone
  4. Cortisol
  5. ADH
  6. Insulin
  
6. A patient is completing a 24-hour urine test. What should the nurse do to complete the test at the end of the 24 hours?
  1. Have the patient void exactly 24 hours after the test was begun and discard the specimen.
  2. Save the last specimen and send it in a separate container.
  3. Have the patient void exactly 24 hours after the test was begun, and add this urine to the remainder of the specimen.
  4. Send only the specimen voided at 24 hours.
  
7. A female patient is admitted to the hospital with hyperthyroidism. What related assessment should the nurse perform?
  1. Check the patient's heart rate.
  2. Palpate the thyroid gland for enlargement.
  3. Do a capillary blood glucose level.
  4. Observe for a "buffalo hump" on the patient's back.
  
8. A patient asks the nurse, "My doctor told me my thyroid scan showed a 'cold spot.' What does that mean?" Which of the following responses by the nurse is best?
  1. "That means you have cancer of the thyroid gland."
  2. "Cold spots are areas that have no living tissue."
  3. "A cold spot is an area that did not pick up the radioactive material they injected."
  4. "It doesn't mean anything. A cold spot is just part of your thyroid gland."
  
9. A patient with a suspected autoimmune disease has laboratory work ordered, including a cortisol level. The nurse recognizes that cortisol is responsible for which of the following? **Select all that apply.**
  1. Stimulates conversion of triglycerides to glucose.
  2. Stimulates the storage of excess glucose.
  3. Increases the breakdown of lipids to fatty acids.
  4. Increases the breakdown of proteins to amino acids.
  5. Blocks the effect of histamine.

# Nursing Care of Patients With Endocrine Disorders

# 39

## VOCABULARY

Use the following terms to fill in the blanks.

Amenorrhea	Myxedema
Dysphagia	Nocturia
Ectopic	Polydipsia
Euthyroid	Polyuria
Goiter	Pheochromocytoma

1. A normally functioning thyroid gland produces a \_\_\_\_\_ state.
2. Enlargement of the thyroid gland is called a \_\_\_\_\_.
3. Excessive thirst is called \_\_\_\_\_.
4. Excessive urination is called \_\_\_\_\_.
5. A \_\_\_\_\_ is a tumor of the adrenal medulla.
6. Difficulty swallowing is called \_\_\_\_\_.
7. Untreated hypothyroidism can lead to \_\_\_\_\_ coma.
8. \_\_\_\_\_ is the word for getting up to void during the night.
9. Absence of menses is called \_\_\_\_\_.
10. Sometimes hormones are produced outside the endocrine gland in a/an \_\_\_\_\_ site.

## HORMONES

Match the disorder in column 1 to a hormone imbalance in column 2 and signs and symptoms in column 3.

Disorder	Hormone Problem	Major Signs and Symptoms
Diabetes insipidus	Antidiuretic hormone (ADH)	Polyuria
Syndrome of inappropriate antidiuretic hormone (SIADH)	deficiency	Growing hands and feet
Cushing's syndrome	Growth hormone (GH) deficiency	Moon face
Addison's disease	High serum calcium	Labile hypertension
Graves' disease	ADH excess	Tetany
Hypothyroidism	Steroid excess	Muscle weakness, brittle bones
Pheochromocytoma	Deficient steroids	Failure to grow and develop
Hyperparathyroidism	Epinephrine excess	Water retention
Short stature	GH excess	Weight gain and fatigue
Acromegaly	Low T <sub>3</sub> and T <sub>4</sub>	Exophthalmos
Hypoparathyroidism	Low serum calcium	Hypotension
	High T <sub>3</sub> and T <sub>4</sub>	

**CRITICAL THINKING**

Read the following case studies and answer the questions.

Mr. Samuels is diagnosed with SIADH related to lung cancer. He enters the hospital for treatment of symptoms.

1. What (fluid-related) nursing diagnosis would be most appropriate for Mr. Samuels? \_\_\_\_\_  
\_\_\_\_\_
2. How will you monitor Mr. Samuels' fluid balance?  
\_\_\_\_\_  
\_\_\_\_\_
3. Why is Mr. Samuels at risk for seizures? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. How will you reduce his risk for injury from seizures?  
\_\_\_\_\_  
\_\_\_\_\_
5. What do you expect Mr. Samuels's urine to look like?  
\_\_\_\_\_  
\_\_\_\_\_
6. How will Mr. Samuels's urine look after treatment is begun? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Mrs. Jorgensen is hospitalized following a motor vehicle accident in which she sustained a head injury. She develops diabetes insipidus (DI).

7. Why does head injury place Mrs. Jorgensen at risk for DI?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. What symptoms do diabetes insipidus and diabetes mellitus (DM) have in common? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. Will Mrs. Jorgensen's urine specific gravity be high or low? Why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. Will Mrs. Jorgensen's serum osmolality be high or low? Why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
11. For which (fluid-related) nursing diagnosis is Mrs. Jorgensen at risk? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
12. Mrs. Jorgensen begins treatment with DDAVP (desmopressin acetate tablets). To what signs of overdose should Mrs. Jorgensen be alert?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**THYROID DISORDERS**

Label each symptom with an R if it suggests hyperthyroidism or an O if it suggests hypothyroidism.

1. \_\_\_\_\_ Bradycardia
2. \_\_\_\_\_ Lethargy
3. \_\_\_\_\_ Restlessness
4. \_\_\_\_\_ Frequent stools
5. \_\_\_\_\_ Hypercholesterolemia
6. \_\_\_\_\_ Dry hair
7. \_\_\_\_\_ Tremor
8. \_\_\_\_\_ Insomnia
9. \_\_\_\_\_ Mental dullness, confusion
10. \_\_\_\_\_ Warm, diaphoretic skin
11. \_\_\_\_\_ Weight loss
12. \_\_\_\_\_ Decreased appetite

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Following surgery for thyroidectomy, the nurse watches carefully for which of the following signs and symptoms of tetany?
  - Numb fingers, muscle cramps
  - Weakness, muscle fatigue
  - Hallucinations, delusions
  - Dyspnea and tachycardia
- What assessment findings should the nurse monitor to detect the onset of thyrotoxicosis in a patient with hyperthyroidism?
  - Peripheral pulses
  - Serum sodium
  - Vital signs
  - Incision site
- Which of the following dietary recommendations will reduce the risk of kidney stones in the patient with hyperparathyroidism?
  - Limit meat products
  - Limit bread products
  - Increase fluids
  - Increase citrus fruits
- An excess of which hormone is responsible for acromegaly?
  - Thyroid stimulating hormone (TSH)
  - Insulin
  - Growth hormone (GH)
  - Adrenocorticotropic hormone (ACTH)
- Which of the following nursing diagnoses is most appropriate for the patient admitted in Addisonian crisis?
  - Imbalanced Nutrition: More than Body Requirements
  - Disturbed Body Image
  - Deficient Fluid Volume
  - Acute Pain

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- A 42-year-old patient enters an outpatient clinic with symptoms of weight gain and fatigue. Laboratory studies are done, and a diagnosis of primary hypothyroidism is made. The patient asks why the TSH level is elevated. Which of the following is the best response by the nurse?
  - “The thyroid makes more TSH to take the place of the deficient T<sub>3</sub> and T<sub>4</sub>.”
  - “The TSH tries to directly raise the metabolic rate when there is not enough T<sub>3</sub> and T<sub>4</sub>.”
  - “The pituitary makes more TSH to try to stimulate the underactive thyroid.”
  - “The extra fat cells from your weight gain make excess TSH.”
- Which of the following nursing diagnoses would be most appropriate for a patient with fatigue related to hypothyroidism?
  - Imbalanced Nutrition: More Than Body Requirements* related to excessive food intake
  - Impaired Gas Exchange* related to weight gain
  - Activity Intolerance* related to fatigue
  - Ineffective Coping* related to depression
- A patient with hypothyroidism is started on levothyroxine (Synthroid). Which of the following statements shows that the patient understands teaching related to the new medication?
  - “I know I should call my doctor if my heart races.”
  - “I understand that I may develop a moon-shaped face.”
  - “The sleepiness I experience when I start this medication will subside within 2 weeks.”
  - “I’ll have to watch my diet to avoid further weight gain while on this medication.”
- A 26-year-old patient is hospitalized for radioactive iodine treatment for hyperthyroidism. Which of the following precautions by the nurse is appropriate?
  - Talk with the patient only over the intercom system.
  - Wear gloves when emptying the bedside commode.
  - Maintain reverse isolation for 3 months.
  - No precautions are necessary because the dose is so small.

10. The nurse needs to accomplish all the following interventions for a patient who is 24 hours post-thyroidectomy. Place the interventions in the correct order in which they should be completed.
1. Check the surgical site dressing for signs of bleeding.
  2. Verify that the airway is patent.
  3. Assess vital signs.
  4. Administer an analgesic for postoperative pain.
  5. Teach the patient about Synthroid (levothyroxine) use after discharge.
  6. Assist with range of motion exercises of the neck.
11. The nurse develops the nursing diagnosis of *Acute Pain* related to bone demineralization for a patient with hypoparathyroidism. Which of the following goals is most appropriate?
1. Serum calcium level will be  $<20\text{mg/dL}$ .
  2. Patient will state correct dietary restrictions.
  3. Patient will perform activities of daily living (ADLs) without injury.
  4. Patient will verbalize acceptable pain level.
12. A patient enters a clinic with possible Cushing's syndrome. Which of the following physical examination findings support this diagnosis?
1. Weight loss, pale skin
  2. Buffalo hump, easy bruising
  3. Nausea, vomiting
  4. Polyuria, polydipsia
13. Which data is most important for the nurse to monitor in a patient with a pheochromocytoma?
1. Vital signs
  2. Daily weights
  3. Peripheral pulses
  4. Bowel sounds



# Nursing Care of Patients With Disorders of the Endocrine Pancreas

# 40

## VOCABULARY

*Fill in the blanks.*

1. Glucose in the urine is called \_\_\_\_\_.
2. \_\_\_\_\_ is too much sugar in the blood.
3. \_\_\_\_\_ is too little sugar in the blood.
4. Deep, sighing respirations from diabetic acidosis are called \_\_\_\_\_ respirations.
5. Excessive hunger is called \_\_\_\_\_.
6. Excessive thirst is called \_\_\_\_\_.
7. The term used to document getting up to urinate at night is \_\_\_\_\_.
8. The time when insulin is working its hardest after injection is called its \_\_\_\_\_ action time.
9. The length of time insulin works is called its \_\_\_\_\_.
10. The Diabetes Control and Complications Trial (DCCT) found that individuals who maintain \_\_\_\_\_ control of their diabetes will have fewer long-term complications.

## HYPOGLYCEMIA AND HYPERGLYCEMIA

*Place an R in front of each symptom of hyperglycemia and an O in front of each symptom of hypoglycemia.*

1. \_\_\_\_\_ Tremor
2. \_\_\_\_\_ Polydipsia
3. \_\_\_\_\_ Polyuria
4. \_\_\_\_\_ Lethargy
5. \_\_\_\_\_ Irritability
6. \_\_\_\_\_ Fruity breath
7. \_\_\_\_\_ Sweating
8. \_\_\_\_\_ Abdominal pain

## LONG-TERM COMPLICATIONS OF DIABETES

Match the complication with its signs and symptoms.

- |   |   |
|---|---|
| 1. _____ Retinopathy                      | 1. Ketones in the blood and urine           |
| 2. _____ Neuropathy                       | 2. Burning pain in legs and feet            |
| 3. _____ Hyperosmolar hyperglycemic state | 3. Fever                                    |
| 4. _____ Diabetic ketoacidosis (DKA)      | 4. Profound hyperglycemia without ketonemia |
| 5. _____ Nephropathy                      | 5. Impaired vision                          |
| 6. _____ Gastroparesis                    | 6. Food intolerance                         |
| 7. _____ Infection                        | 7. Microalbuminuria                         |

## CRITICAL THINKING

Read the following case study and answer the questions.

Jennie is a 56-year-old overweight woman admitted to your medical unit with cellulitis of the left leg. She has a long history of diabetes mellitus; her blood sugar level is 436. She tells you that she takes insulin glargine (Lantus) 18 units every bedtime and insulin lispro (Humalog) 12 units with each meal. She also takes metformin (Glucophage) twice a day.

1. Jennie tells you that her physician wants her to keep her blood sugar level between 100 and 150 mg/dL. You know that a normal blood sugar level is 70 to 100. Why the discrepancy? \_\_\_\_\_

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2. When you enter Jennie's room to check her 1600 vital signs, she says she has a headache. By the time you finish taking her blood pressure, she has developed a cold sweat. What is happening? What should you do? \_\_\_\_\_

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3. At 1700, you check Jennie's blood sugar level and find that it is 80 mg/dL. What is your next step? \_\_\_\_\_

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4. List three things that may have caused Jennie's blood sugar level to drop.

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5. You explain to Jennie the importance of eating three meals a day on a regular schedule. She asks why. How do you explain this to her? \_\_\_\_\_

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6. Jennie is discharged and follows her diet, exercise, and insulin regimen carefully. She even loses 50 lb. One year after her first admission, she is brought into the emergency department with a blood sugar level of 32. Why has her blood sugar level dropped? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
7. What are two ways that metformin works? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
8. Does Jennie have type 1 or type 2 diabetes? How do you know? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

*Choose the best answer unless directed otherwise.*

- Which of the following is an acceptable premeal blood sugar range for most patients with diabetes?
  - 46 to 98 mg/dL
  - 70 to 130 mg/dL
  - 180 to 250 mg/dL
  - 350 to 600 mg/dL
- Before giving insulin, the nurse always checks which test result?
  - Recent potassium level
  - Blood glucose level
  - Urine ketones
  - White blood cell count
- At what point after injection does the peak action of insulin lispro (Humalog) occur?
  - 30 to 90 minutes
  - 2 to 3 hours
  - 4 to 5 hours
  - 8 to 12 hours
- Which of the following are symptoms of hypoglycemia?
  - Nausea and vomiting
  - Glycosuria
  - Cold sweat and tremor
  - Polyuria and polydipsia
- In addition to stimulating insulin production, glyburide (Micronase) has which of the following effects?
  - Stimulates gluconeogenesis.
  - Promotes fat breakdown.
  - Increases tissue sensitivity to insulin.
  - Enhances appetite.

## REVIEW QUESTIONS—TEST PREPARATION

*Choose the best answer unless directed otherwise.*

- A 26-year-old patient is admitted to the hospital with a new diagnosis of diabetes, a blood glucose of 680 mg/dL, and ketones in the blood and urine. Which type of diabetes should the nurse suspect?
  - Type 1
  - Type 2
  - Prediabetes
  - Gestational
- A patient with diabetes forgot to take a daily dose of glyburide (Micronase). For which of the following symptoms should the nurse be vigilant?
  - Cold, clammy sweat
  - Tachycardia, nervousness, hunger
  - Chest pain, shortness of breath
  - Fatigue, thirst, blurred vision

8. By which routes can insulin be administered? **Select all that apply.**
1. Oral
  2. Topical
  3. Intravenous (IV)
  4. Subcutaneous
  5. Intramuscular
9. While providing discharge instructions to a patient newly taking NPH insulin every morning, the nurse recognizes that teaching has been effective if the patient knows to observe for signs and symptoms of low blood sugar level at which of the following times?
1. 1 hour after administration of insulin
  2. 6 to 12 hours after administration of insulin
  3. 24 to 36 hours after administration of insulin
  4. NPH insulin does not cause low blood sugar level
10. A patient with newly diagnosed diabetes asks the nurse what to take for low blood sugar. Which of the following would be most appropriate for the nurse to suggest?
1. Raisins
  2. Cheese
  3. acetaminophen (Tylenol)
  4. Beef jerky
11. The nurse recognizes that teaching is effective if a patient with diabetes knows to use subcutaneous glucagon for an emergency episode of which of the following conditions?
1. Hyperglycemia
  2. Ketonuria
  3. Diabetic ketoacidosis
  4. Hypoglycemia
12. A patient on an American Diabetes Association diet receives a breakfast tray and does not care for the oatmeal. Which of the following foods can the nurse substitute for a half cup of oatmeal?
1. 4 oz of orange juice
  2. Two strips of bacon
  3. 1 oz of cheese
  4. A slice of wheat toast

# unit ELEVEN

## Understanding the Genitourinary and Reproductive System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Female reproductive system
- Female hormones
- The menstrual cycle
- Male reproductive system
- Male hormones
- Aging changes

#### Major Disorders

- Breast cancer
- Menstrual disorders
- Endometriosis
- Infections
- Displacement disorders
- Fertility disorders
- Tumors of the cervix, uterus, and ovaries
- Prostatitis
- Benign prostatic hypertrophy (BPH)
- Prostate cancer
- Penile disorders
- Testicular disorders
- Erectile dysfunction
- Sexually transmitted infections (STIs)

#### Nursing Assessment

- History
- Breast examination
- Breast self-examination (BSE)
- Sexual function
- Testicular self-examination (TSE)

#### Diagnostic Tests

- Mammogram
- Biopsy
- Bone health assessment
- Hormone tests
- Pelvic examination
- Papanicolaou (Pap) smear
- Swabs and smears
- Endoscopic examinations
- Cystourethroscopy
- Digital rectal examination (DRE)
- Prostate-specific antigen (PSA)
- Fertility testing

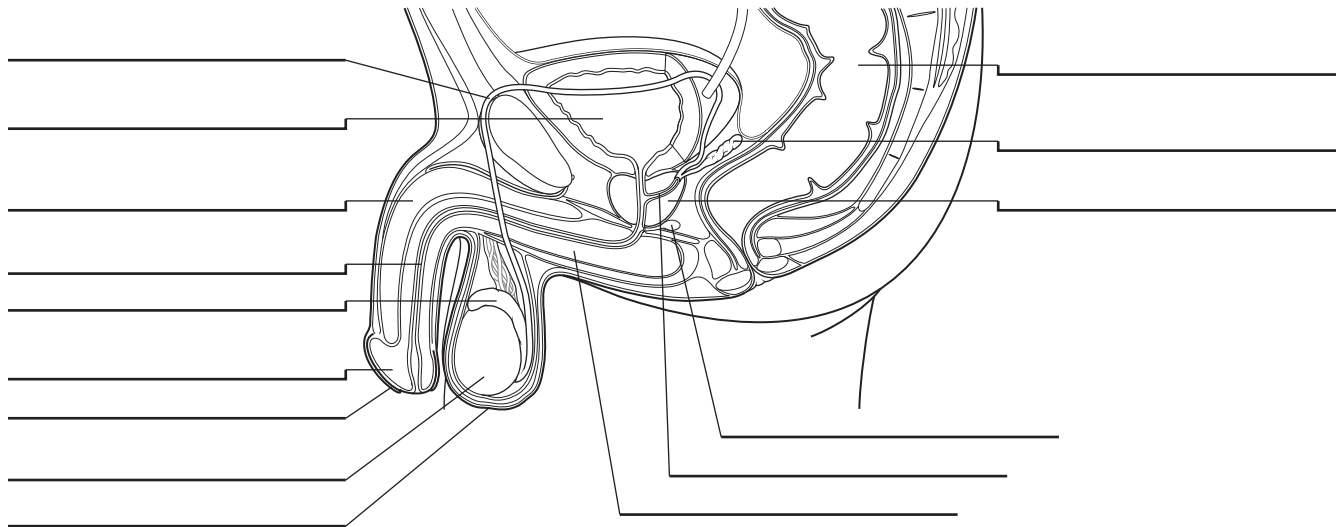
#### Interventions

- Breast surgeries
- Hysterectomy
- Contraception
- Pregnancy termination
- Prostatectomy
- Transurethral resection of the prostate (TURP)
- STI prevention

#### Common Medications

- Antibiotics
- Hormone replacement therapy
- Oral contraceptives





### FEMALE REPRODUCTIVE STRUCTURES

Match the female reproductive structures with the correct descriptive statement.

- |                             |   |
|-----------------------------|---|
| 1. _____ Fallopian tube     | 1. Site of development of an ovum                     |
| 2. _____ Myometrium         | 2. Becomes the maternal side of the placenta          |
| 3. _____ Bartholin's glands | 3. Contains the urethral and vaginal openings         |
| 4. _____ Vestibule          | 4. Secretes progesterone and estrogen after ovulation |
| 5. _____ Endometrium        | 5. The usual site of fertilization                    |
| 6. _____ Ovarian follicle   | 6. Secrete mucus at the vaginal orifice               |
| 7. _____ Corpus luteum      | 7. Contracts for labor and delivery                   |

### MALE REPRODUCTIVE SYSTEM

Number the following in proper sequence with respect to the pathway sperm travel from their site of origin.

- \_\_\_\_\_ Ejaculatory duct
- \_\_\_\_\_ Epididymis
- \_\_\_\_\_ Urethra
- \_\_\_\_\_ Testes
- \_\_\_\_\_ Ductus deferens

## DIAGNOSTIC TESTS REVIEW

Match the following tests with their descriptions.

- |   |   |
|---|---|
| 1. _____ Cytology                         | 1. Endoscopic examination of the vagina   |
| 2. _____ Colposcopy                       | 2. Examination of cells using a microscope  |
| 3. _____ Sonography                       | 3. Mapping of tissues according to their densities using sound waves              |
| 4. _____ Computed tomographic (CT) scan   | 4. Mapping of tissue by using radio-frequency radiation and magnetic fields       |
| 5. _____ Magnetic resonance imaging       | 5. Screening examination for prostate disorders                                   |
| 6. _____ Digital rectal examination (DRE) | 6. Computer-assisted recording of very precise x-ray pictures of layers of tissue |

## CRITICAL THINKING

Read the scenarios and answer the following questions.

- Mr. White comes to see his physician for a yearly checkup. As you are taking his blood pressure, he says, "I don't need that rectal examination, do I? I had prostate surgery last year." How do you respond?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- Mrs. Bitner has just returned from having an endoscopic examination. She says, "Something went wrong, I just know it. Look at my belly. I look like I'm 9 months pregnant." How do you respond?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- Ms. Wilson comes to the clinic and reports excessive vaginal discharge. While asking her some initial questions, you learn that she has multiple sex partners. What do you anticipate for her examination? What teaching is important? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- Mr. Brown is being admitted to the hospital for complications of diabetes. While collecting initial data, you learn that although he is married, he is no longer sexually active. How do you respond? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following male reproductive structures carries semen through the penis to the exterior?
  - Urethra
  - Epididymis
  - Ductus deferens
  - Ejaculatory duct
- Which layer of the uterus will become the maternal portion of the placenta?
  - Myometrium
  - Endometrium
  - Epimetrium
  - Serosa
- Which of the following descriptions best describes the position of the uterus?
  - Superior to the bladder with the fundus most anterior
  - Anterior to the bladder with the cervix most inferior
  - Inferior to the bladder with the cervix most superior
  - Posterior to the bladder with the fundus most inferior
- Which of the following hormones stimulates the mammary glands to produce milk after pregnancy?
  - Progesterone
  - Estrogen
  - Oxytocin
  - Prolactin
- Strong contractions of the smooth muscle of the uterus for labor and delivery are brought about by which of the following hormones?
  - Progesterone
  - Follicle-stimulating hormone (FSH)
  - Oxytocin
  - Luteinizing hormone (LH)
- According to the American Cancer Society, how often should a 40-year-old woman have a mammogram done?
  - Weekly
  - Monthly
  - Yearly
  - Semiannually
- When should men over age 40 have digital rectal examinations?
  - Weekly
  - Monthly
  - Every other month
  - During yearly physician visit

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- A patient being prepared for cystourethrography asks what is going to be done to him. Which is the best explanation by the nurse?
  - “The doctor will put a tiny endoscope into your bladder.”
  - “You will have a catheter put in, then a dye will be injected and x-rays will be taken.”
  - “You will have a small needle inserted through your lower abdomen and into your bladder.”
  - “You will have an intravenous injection of dye, then x-rays will be taken as it travels through your kidneys.”
- The nurse is helping a woman prepare for a routine Pap smear. Which of the following actions should the nurse take?
  - Give the woman an enema.
  - Ask the woman to empty her bladder.
  - Ask the woman to take a deep breath and hold it.
  - Set out a suture tray and local anesthetic.
- A nurse is teaching BSE. Which of the following positions would the nurse advise the patient to use for a portion of the exam?
  - Supine
  - Simm’s
  - Kneeling
  - Fowler’s

11. A woman receives notice that her screening mammogram is abnormal, and she is instructed to schedule diagnostic scans. The woman calls the office and asks the nurse, "Can you please tell me why I need more tests?" The nurse will base the response on which of the following understandings?
1. A mammogram needs no other verification.
  2. Mammograms are unable to show lesions in breast tissue.
  3. A mammogram can show only breast cysts, not cancers.
  4. Many things can cause shadows on a mammogram besides cancer.
12. A nurse practitioner completes a wet-mount specimen on a patient with a suspected STI, then leaves the room. As the assisting LPN prepares to take the slide to the lab, the patient says, "I'm really scared that I have something serious. What do you think I should do?" Which response by the LPN is best?
1. Sit next to the patient and say, "What frightens you the most?"
  2. Stand at the foot of the examination table and say, "There is nothing to be worried about until we get the test results."
  3. Give the patient time to verbalize concerns, then advise that she have her partner tested.
  4. Touch her lightly on the arm and say, "Let me get this slide to the lab, then I'll come back and we'll talk."

# Nursing Care of Women With Reproductive System Disorders

# 42

## VOCABULARY

Match the term with its definition.

- |                        |  |
|------------------------|--|
| 1. _____ Imperforate   | 1. Bladder sags into vaginal space         |
| 2. _____ Colporrhaphy  | 2. Painful menstruation                    |
| 3. _____ Dysmenorrhea  | 3. Not having expected opening             |
| 4. _____ Cryotherapy   | 4. Surgical repair of a part of the vagina |
| 5. _____ Agenesis      | 5. Undeveloped                             |
| 6. _____ Dyspareunia   | 6. Rectum sags into the vagina             |
| 7. _____ Cystocele     | 7. Painful intercourse                     |
| 8. _____ Rectocele     | 8. Forward turning                         |
| 9. _____ Anteversion   | 9. Removal of the ovaries                  |
| 10. _____ Oophorectomy | 10. Freezing of tissue                     |

## BREAST SURGERIES

Match the following breast surgery terms with their descriptions.

- |                                     |  |
|-------------------------------------|--|
| 1. _____ Mastopexy                  | 1. Surgery to remove a breast                    |
| 2. _____ Mastectomy                 | 2. Surgery to increase the size of the breasts   |
| 3. _____ Reduction mammoplasty      | 3. Surgery to decrease the size of the breasts   |
| 4. _____ Augmentation mammoplasty   | 4. Surgery to rebuild a breast after mastectomy  |
| 5. _____ Reconstructive mammoplasty | 5. Surgery to change the position of the breasts |

## MENSTRUAL DISORDERS

Match the following menstrual disorders with their definitions.

- |                        |  |
|------------------------|--|
| 1. _____ Amenorrhea    | 1. Difficult or painful menstruation   |
| 2. _____ Menorrhagia   | 2. Menses more often than every 21 days  |
| 3. _____ Dysmenorrhea  | 3. Passing more than 80 mL of blood per menses   |
| 4. _____ Polymenorrhea | 4. Less than expected amount of menstrual bleeding   |
| 5. _____ Hypomenorrhea | 5. Absence of menstrual periods for 6 months or three previous cycle lengths once cycles have been established |

## MASTECTOMY CARE

Circle the six errors in the following scenario and write the correct information in the space provided.

You are assigned to care for Mrs. Joseph, who is 1 day post-operative following a right radical mastectomy. You know that she is not anxious, because she had a left mastectomy a year ago and knows everything to expect. You listen to her breath sounds and find them clear, so it is not necessary to have her cough and deep breathe. You encourage her to lie on her right side to prevent bleeding. You use her right arm for blood pressures, because both arms are affected and the right one is more convenient. You also encourage her to avoid use of her right arm to prevent injury to the surgical site. You provide a balanced diet and plenty of fluids to aid in her recovery.

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## CRITICAL THINKING

Read the following case study and answer the questions.

A 21-year-old female college student comes in to the physician's office where you work and comments with evident frustration that she has a yeast infection again. She has type 1 diabetes mellitus and takes her insulin routinely. However, she seldom tests her blood glucose level, because, she says, "I don't have time to mess with that stuff as often as I should." She comments that every time she goes home on weekends to visit her parents (a 3-hour bus trip), she develops a very uncomfortable vaginal yeast infection.

1. What factors may be contributing to her frequent yeast overgrowths? \_\_\_\_\_

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2. What suggestions can you give her to help prevent this problem? \_\_\_\_\_

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## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- How will a douche affect a vaginal examination to determine the type of pathogen present?
  - A douche will help clear the area for better visualization.
  - A douche does not affect the outcome negatively or positively.
  - Douching can wash away evidence of the pathogen, making diagnosis difficult.
  - Douching is recommended before the examination to neutralize the pH.
- Which of the following is a known risk factor for cervical cancer?
  - Tight clothing
  - A high-sodium diet
  - Multiple sexual partners
  - Beginning sexual activity late in life

3. Which of the following is a risk factor for development of breast cancer?

- Late menarche
- High-fat diet
- Early menopause
- Early first pregnancy

**REVIEW QUESTIONS—TEST PREPARATION**

*Choose the best answer unless directed otherwise.*

4. Which of the following lifestyle habits are most likely to increase premenstrual syndrome symptoms? Select all that apply.
  1. Drinking alcohol
  2. Smoking
  3. Drinking coffee
  4. Eating a low-salt diet
  5. Avoiding exercise before menses
5. A nurse is teaching a patient about use of a condom with spermicide for contraception. Which statement by the patient indicates the need for further teaching?
  1. “This method will be affordable.”
  2. “I am glad that barrier methods are 100% effective.”
  3. “I’m glad there are fewer side effects than there are with the pill.”
  4. “I know that both I and my husband will need to be diligent to use the method all the time.”
6. Place the following nursing diagnoses for the woman who has just had a mastectomy for breast cancer in correct priority order.
  1. Ineffective Tissue Perfusion
  2. Risk for Ineffective Coping
  3. Ineffective Breathing Pattern
  4. Anxiety
7. Which of the following nursing interventions will help prevent swelling after a radical mastectomy with lymph node removal?
  1. Restricting all movement of the affected arm
  2. Raising the affected arm above the heart on pillows
  3. Applying warm moist heat to the arm
  4. Holding the arm close to the body with a sling
8. A patient who had a total hysterectomy 4 days ago for endometrial cancer learns that she has metastases to her lungs. When asked about her plans after discharge, she answers sharply that she “cannot plan for any future, because there isn’t going to be any!” She then starts to cry. Which of the following nursing diagnoses best fits this situation?
  1. Anticipatory Grieving
  2. Disturbed Body Image
  3. Disturbed Sleep Pattern
  4. Noncompliance
9. A patient with breast cancer is being treated with tamoxifen citrate, which deprives cancer cells of the estrogen that makes them grow. This is an example of which mode of therapy?
  1. Hormonal therapy
  2. Radiation therapy
  3. Cytotoxic chemotherapy
  4. Biological response modifier therapy
10. A 38-year-old patient had a reduction mammoplasty 4 days ago. When changing her dressing, the home care nurse notes redness, swelling, and some thick yellow drainage escaping from areas of the incision line around her left nipple. Which of the following nursing interventions is appropriate?
  1. Monitor it for 24 hours, and if there is no improvement, notify the registered nurse or physician.
  2. Inform the patient that the incision is not healing properly and that she should see her physician as soon as possible.
  3. Clean the incision with normal saline and redress it, and recheck it the following day.
  4. Promptly report the situation to the registered nurse or physician and document it in the patient’s chart.

# 43

## Nursing Care of Male Patients With Genitourinary Disorders

### VOCABULARY

Fill in the blanks in the following sentences with terms from the chapter.

1. When semen goes into the bladder during intercourse, it is called \_\_\_\_\_ ejaculation.
2. An erection that lasts too long is called \_\_\_\_\_.
3. \_\_\_\_\_ is the term used to describe uncircumcised foreskin that cannot be extended over the head of the penis.
4. \_\_\_\_\_ is a cottage cheese-like secretion made by the gland of the foreskin.
5. Surgical removal of the foreskin is called \_\_\_\_\_.
6. \_\_\_\_\_ is a birth condition in which one or both of the testicles have not descended into the scrotum.
7. Inflammation or infection of a testicle is called \_\_\_\_\_.
8. The correct term for male impotence is \_\_\_\_\_.
9. A \_\_\_\_\_ is varicose veins of the scrotum.
10. Surgical interruption of the vas deferens as a method of birth control is called a \_\_\_\_\_.

### DISORDERS OF THE MALE REPRODUCTIVE SYSTEM

Match the disorder with its definition.

- |   |  |
|---|--|
| 1. _____ Benign prostatic hypertrophy (BPH) | 1. Blood in the urine  |
| 2. _____ Hydronephrosis                     | 2. Curved penis  |
| 3. _____ Hematuria                          | 3. Noncancerous overgrowth of prostate tissue                |
| 4. _____ Peyronie's disease                 | 4. Inability to reproduce                                    |
| 5. _____ Priapism                           | 5. Distention of kidney with retained urine                  |
| 6. _____ Epididymitis                       | 6. Inflammation of the testicles                             |
| 7. _____ Infertility                        | 7. Inflammation or infection of the tube where sperm matures |
| 8. _____ Orchitis                           | 8. Painful or difficult urination                            |
| 9. _____ Dysuria                            | 9. Backward flow of urine                                    |
| 10. _____ Reflux                            | 10. Prolonged erection                                       |

**ERECTILE DYSFUNCTION REVIEW**

Unscramble the following causes of erectile dysfunction.

- aeiioctdmn \_\_\_\_\_
- sssrtte \_\_\_\_\_
- eeiophysntr \_\_\_\_\_
- PRUT \_\_\_\_\_
- threa flraeiu \_\_\_\_\_
- tiellpum lersssoic \_\_\_\_\_

**CRITICAL THINKING**

Read the following case study and answer the questions.

Mr. Washington is a 62-year-old retired teacher who comes to the urgent care center reporting that he “can’t pass water.”

- What initial questions do you ask to further assess Mr. Washington’s problem? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What do you think is happening?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What care do you anticipate as the physician examines him? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What can result if the problem continues untreated?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Mr. Washington is transferred to the local hospital, where BPH is confirmed. He is scheduled for a transurethral resection of the prostate (TURP). He asks the nurse, “What’s a TURP?”
- How can the nurse explain a TURP to Mr. Washington?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- After surgery, Mr. Washington has a three-way Foley catheter. What is the purpose of this type of catheter? How should the nurse total intake and output (I&O) at the end of the shift? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Bladder spasms are common after TURP. How will the nurse know if this is happening? What interventions will help? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Mr. Washington is discharged. The next day he calls the nursing unit and says in a panicky voice, “I just wet my pants! I can’t hold my urine! This is worse than not being able to go at all!” How should the nurse respond? What can Mr. Washington do? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

- Which of the following nursing actions is most appropriate when doing perineal care on an uncircumcised male patient?
  - Leave the foreskin retracted so air can keep the area dry.
  - Do not retract the foreskin during washing.
  - Replace the foreskin over the head of the penis after washing.
  - Use alcohol and a cotton swab to clean under the foreskin.
- What should be included when teaching young men to detect testicular cancer early?
  - Monthly testicular self-examination (TSE)
  - Yearly digital rectal examination (DRE)
  - Annual physician examination
  - Annual ultrasonography

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

3. The nurse completes a nursing history on a patient admitted for a TURP. Which symptoms of BPH does the nurse expect the patient to report? **Select all answers that apply.**
  1. A feeling of incomplete bladder emptying after voiding
  2. Difficulty maintaining an erection
  3. Difficulty urinating
  4. Grossly bloody urine
  5. Pain in the lower back that radiates to the hips during urination
  6. Nocturia
4. A patient tells his nurse that he has delayed having a TURP because he is afraid it will affect his sexual function. Which response by the nurse is most appropriate?
  1. “Don’t worry about sterility; sperm production is not affected by this surgery.”
  2. “Would you like some information about implants used for impotence?”
  3. “This type of surgery rarely affects the ability to have an erection or ejaculation.”
  4. “There are many methods of sexual expression that are alternatives to sexual intercourse.”
5. A patient returns from surgery following a TURP with a three-way Foley catheter and continuous bladder irrigation. Postoperative orders include meperidine (Demerol) 75 mg IM every three hours (q3h) as needed for pain, belladonna and opium (B&O) suppository q4h as needed, and strict I&O. The patient reports painful bladder spasms, and the nurse observes blood-tinged urine on the sheets. Which action should the nurse take first?
  1. Give the Demerol.
  2. Give the B&O suppository.
  3. Warm the irrigation solution to body temperature.
  4. Notify the physician stat.
6. A patient who has just had a TURP asks his nurse to explain why he has to have the bladder irrigation because it seems to increase his pain. Which of the following explanations by the nurse is best?
  1. “The bladder irrigation is needed to stop the bleeding in the bladder.”
  2. “Antibiotics are being administered into the bladder to prevent infection.”
  3. “The irrigation is needed to keep the catheter from becoming occluded by blood clots.”
  4. “Normal production of urine is maintained with the irrigations until healing can occur.”
7. A post-TURP patient experiences dribbling following removal of his catheter. Which action should the nurse take?
  1. Have him restrict fluid intake to 1000 mL/day.
  2. Teach him to perform Kegel’s exercises 10 to 20 times per hour.
  3. Reinsert the Foley catheter until he regains urinary control.
  4. Reassure him that incontinence never lasts more than a few days.
8. A 36-year-old man is scheduled for a unilateral orchiectomy for treatment of testicular cancer. He is withdrawn and does not interact with the nurse. Which action is most appropriate?
  1. Identify the problem with a nursing diagnosis of *Impaired Communication* related to the diagnosis of cancer.
  2. Set a patient outcome that the patient will verbalize his concerns about his diagnosis.
  3. Ask the patient whether he is worried about future sexual functioning.
  4. Say, “You seem quiet. Are you feeling concerned about your diagnosis or treatment?”
9. A 28-year-old man is diagnosed with acute epididymitis. For which of the following symptoms should the nurse assess?
  1. Burning and pain on urination
  2. Severe tenderness and swelling in the scrotum
  3. Foul-smelling ejaculate and severe scrotal swelling
  4. Foul-smelling urine and pain on urination
10. A man with a history of diabetes and chronic lung disease is admitted to the hospital with prostate cancer. He has all the following symptoms. Which should the nurse address first?
  1. Fever of 101°F (38.3°C)
  2. Respiratory rate of 36 per minute
  3. Difficulty urinating
  4. Painful legs and feet
11. The nurse is providing care for a patient scheduled for a vasectomy. Which of the following statements indicates further teaching is necessary?
  1. “I will need to have my testosterone levels checked periodically to ensure the success of the surgery.”
  2. “Another method of birth control should be used for the next three months.”
  3. “The amount and color of my ejaculate should be the same as before surgery.”
  4. “I’ll have to bring a sample of semen back for evaluation after the surgery.”



# Nursing Care of Patients With Sexually Transmitted Infections

# 44

## VOCABULARY

Match the term with its definition.

- |                        |                              |
|------------------------|------------------------------|
| 1. _____ Condylomatous | 1. Relating to herpes        |
| 2. _____ Gumma         | 2. Rubbery tumor             |
| 3. _____ Chancre       | 3. Red ulcer from syphilis   |
| 4. _____ Cytotoxic     | 4. Wartlike                  |
| 5. _____ Herpetic      | 5. Poison to cells           |
| 6. _____ Puerperal     | 6. Time following childbirth |

## INFLAMMATORY DISORDERS

Match the following inflammation words with their definitions.

- |                         |   |
|-------------------------|---|
| 1. _____ Proctitis      | 1. Inflammation of the rectum and anus      |
| 2. _____ Urethritis     | 2. Inflammation of the cervix               |
| 3. _____ Cervicitis     | 3. Inflammation of the urethra              |
| 4. _____ Endometritis   | 4. Inflammation of parts of the eye         |
| 5. _____ Conjunctivitis | 5. Inflammation of the lining of the uterus |

## BARRIER METHODS FOR SAFER SEX

List the teaching that should accompany each of the following barriers against sexually transmitted infections (STIs).

1. Male condoms \_\_\_\_\_  
\_\_\_\_\_
2. Female condoms \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Diaphragms \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Rubber gloves \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5. Double condoms \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## CRITICAL THINKING

Read the following case study and answer the questions.

James, 32 years old, arrives at an outpatient clinic requesting STI testing for him and his fiancée. You learn that he met his fiancée through an international dating agency and that she has come here to marry him. She does not speak English. He asks you to give him the paperwork for both of them to get the blood test for STIs—just to make sure they don't have anything contagious. He seems in a hurry and asks if they can have their blood drawn first and then he could come back in an hour or two and see the doctor for the results for both of them.

1. What misunderstandings does James have about STI diagnosis? \_\_\_\_\_  
 \_\_\_\_\_

2. Legally and ethically, does James have a right to be told his fiancée's test results? \_\_\_\_\_  
 \_\_\_\_\_

3. What procedures should occur before any testing is done? \_\_\_\_\_  
 \_\_\_\_\_

4. Is James likely to get his answer about whether either he or his fiancée has a contagious STI today? \_\_\_\_\_  
 \_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Which STI is associated with gummas?

1. Gonorrhea
2. Herpes simplex
3. Trichomoniasis
4. Syphilis

2. Which virus causes genital warts?

1. Cytomegalovirus
2. Herpes simplex virus type II
3. Human papillomavirus
4. Human immunodeficiency virus

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

3. A 36-year-old woman who has had no prenatal care comes into the hospital in active labor for her fourth child. She has vesicles evident on her perineum. Which of the following nursing actions are appropriate to protect the unborn baby and the staff? **Select all that apply.**
  1. Maintain standard precautions.
  2. Reprimand the mother for putting her baby at risk for herpes.
  3. Prepare for the possibility that the baby may be delivered by cesarean section.
  4. Notify the obstetrician or nurse midwife about the vesicles as soon as possible.
  5. Apply antibiotic ointment to the vesicles.
  6. Place the mother in reverse isolation.
4. A 23-year-old woman is seen at an outpatient clinic for a routine Papanicolaou (Pap) smear. When questioned, she states she is deciding whether to engage in sexual activity with a man she is just getting to know. She asks how she can tell if he has an STI. Which response by the nurse is best?
  1. “If the man appears clean and has been conscientious about using condoms, he is likely infection free.”
  2. “Look carefully for signs of lesions before engaging in sexual activity.”
  3. “Be sure to use either a male or female condom to protect against possible transmission of infection.”
  4. “An examination by a physician with diagnostic testing is the only way to know if he is infection free.”
5. A college student goes to the college clinic and asks the best way to avoid contracting an STI. The nurse provides the clinic’s standard STI teaching. Which statement by the student indicates the need for additional instruction?
  1. “There is no guarantee that I won’t contract an STI if I choose to be sexually active.”
  2. “Abstinence is the only sure way to avoid an STI.”
  3. “If I use a condom with spermicide, I will be safer than if I don’t use one.”
  4. “If I question my partner about past sexual encounters, I can avoid STIs.”
6. While bathing an 82-year-old man hospitalized with pneumonia, a nurse notes an ulcerated area on his penis. What action should the nurse take first?
  1. Report the ulcer to the admitting care provider.
  2. Teach the man about STI prevention.
  3. Ask the man if he has a history of syphilis.
  4. Clean the ulcer; reporting is not necessary because an STI is unlikely in a man this age.
7. A 16-year-old girl is diagnosed with genital herpes. She has vesicles on her genitals and urethritis. She is tearful as she asks what she can do to prevent complications of the disease. On the basis of the data provided, which nursing diagnosis is appropriate for her plan of care?
  1. Risk for Infection
  2. Health-Seeking Behaviors
  3. Pain
  4. Ineffective Sexuality Pattern
8. A patient has cloudy penile discharge. For which additional symptoms of urethritis should the nurse assess?
  1. Throat or rectal infection
  2. Chancres or vesicles on the genitals
  3. Painful and frequent urination
  4. Oliguria and flank pain
9. A woman with pelvic inflammatory disease says she has lower abdominal pain. Which action should the nurse take first?
  1. Have her rate her pain on a 0 to 10 scale.
  2. Administer antibiotics as ordered.
  3. Administer an analgesic as ordered.
  4. Teach the patient about causes and prevention of STIs.
10. A nurse needs to administer an intramuscular injection of 2.4 million units of penicillin G. It is supplied in a vial of 5,000,000 units of powder for injection. Instructions state to dilute with 8 mL of sterile water. How many mL should the nurse draw up? \_\_\_\_\_
11. The nurse receives a phone call from a client who reports engaging in recent sexual activity with a partner who just informed her that he has herpes. Which of the following statements by the nurse is best?
  1. “How long has your partner had herpes?”
  2. “Did you notice any rash or other lesions on his face or genitalia?”
  3. “You need to use a diaphragm if you engage in sexual intercourse with him again.”
  4. “If you notice flulike symptoms, symptoms of a bladder infection, or vaginal drainage within the next two weeks you need to be seen right away.”



# unit TWELVE

## Understanding the Musculoskeletal System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Skeletal system
- Muscular system
- Aging effects

#### Major Disorders

- Osteoarthritis
- Rheumatoid arthritis
- Gout
- Carpal tunnel syndrome
- Fractures
- Complications of fractures
- Rhabdomyolysis
- Osteomyelitis
- Osteoporosis
- Paget's disease
- Bone cancer

#### Nursing Assessment

- History
- Medications
- Vital signs
- Physical examination
- Deformities/limb length
- Crepitation
- Swelling
- Range of motion
- Muscle strength
- Pain
- Neurovascular checks

#### Diagnostic Tests

- Alkaline phosphatase
- Erythrocyte sedimentation rate
- Serum calcium/phosphorus/uric acid
- Creatinine kinase
- Myoglobin
- Rheumatoid factor
- Arthrocentesis
- Arthrography
- Arthroscopy
- Bone scan
- Electromyography (EMG)
- Magnetic resonance imaging (MRI)
- Myelogram
- X-rays
- Dual energy x-ray absorptiometry

#### Interventions

- Amputation
- Prosthesis
- Casts
- Closed reduction
- Diet therapy
- External fixation
- Heat and cold
- Open reduction/internal fixation
- Rest, ice, compression, elevation
- Total joint replacement
- Traction

#### Common Medications

- Allopurinol (Zyloprim)
- Analgesics
- Anticoagulants
- Antirheumatic drugs
- Bisphosphonates
- Calcitonin (Calcimar)
- Corticosteroids
- Cox-2 selective inhibitors
- Muscle relaxants
- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Raloxifene (Evista)

# 45

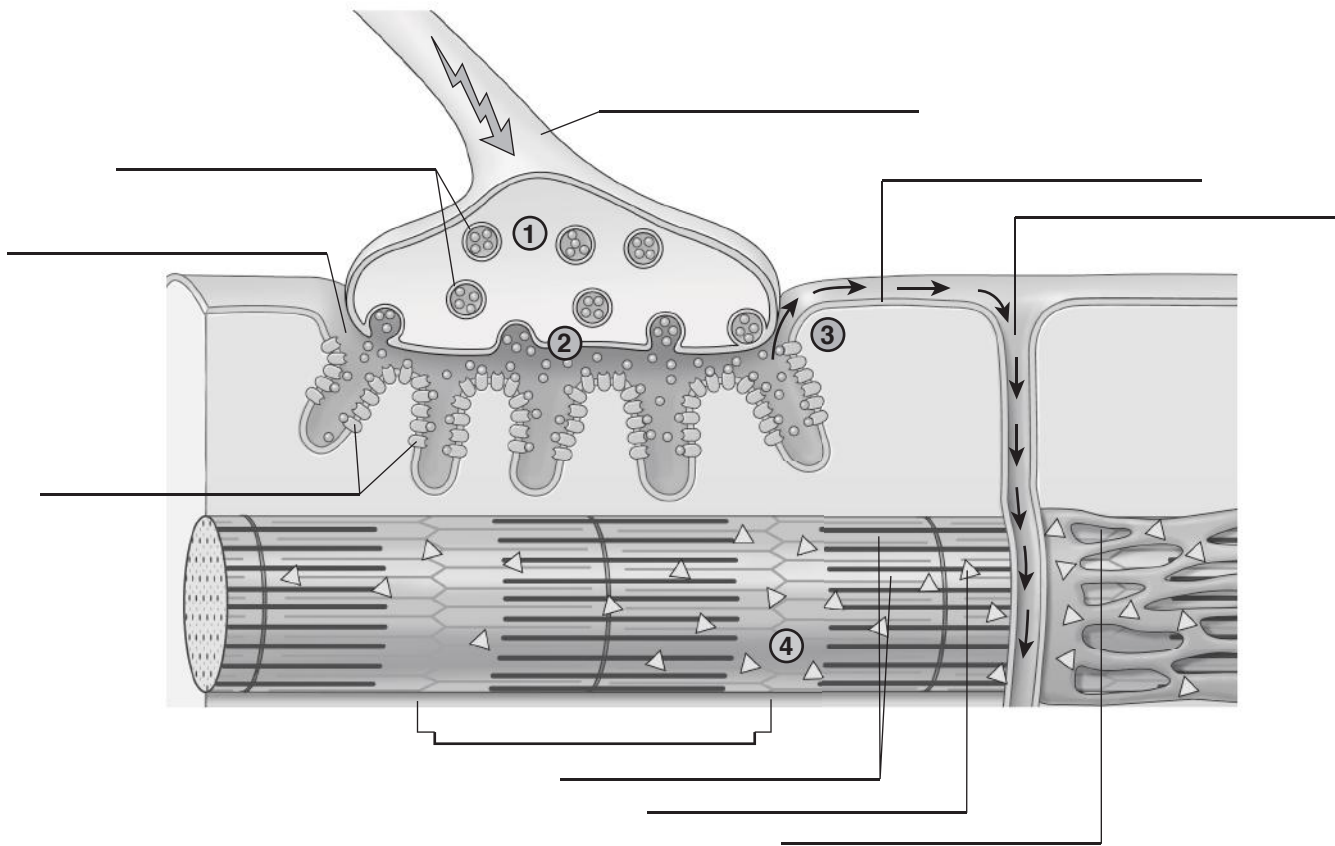
## Musculoskeletal Function and Assessment

### STRUCTURE OF NEUROMUSCULAR JUNCTION AND SARCOMERES

Label the structures from the following word list.

Acetylcholine receptors  
Motor Neuron  
Myofilaments  
Sarcolemma  
Sarcomere

Sarcoplasmic reticulum  
Synaptic cleft  
T Tubules  
Vesicle of acetylcholine



## NEUROMUSCULAR JUNCTION

Match each part of the neuromuscular junction with the proper descriptions. Each part will have two correct answers.

- |                        |  |
|------------------------|--|
| 1. _____ Synapse       | 1. Contains the transmitter acetylcholine                      |
| 2. _____ Axon terminal | 2. The cell membrane of the muscle fiber                       |
| 3. _____ Sarcolemma    | 3. The space between the muscle fiber and the motor neuron     |
|                        | 4. Has receptors for acetylcholine                             |
|                        | 5. An impulse is transmitted by the diffusion of acetylcholine |
|                        | 6. The end of the motor neuron                                 |

## SYNOVIAL JOINTS

Match each part of a synovial joint with the correct function.

- |                              |   |
|------------------------------|---|
| 1. _____ Articular cartilage | 1. Lines the joint capsule and secretes synovial fluid      |
| 2. _____ Joint capsule       | 2. Prevents friction within the joint cavity                |
| 3. _____ Synovial membrane   | 3. Encloses the joint similar to a sleeve                   |
| 4. _____ Synovial fluid      | 4. Permit tendons to slide easily across a joint            |
| 5. _____ Bursae              | 5. Provides a smooth surface on the joint surfaces of bones |

## VOCABULARY

Match the word on the left with its definition on the right.

- |                          |  |
|--------------------------|--|
| 1. _____ Symphysis       | 1. Movement in all planes                                  |
| 2. _____ Ball and socket | 2. Rotation  |
| 3. _____ Hinge           | 3. Disk of fibrous cartilage between bones                 |
| 4. _____ Condylod        | 4. Movement in one plane                                   |
| 5. _____ Pivot           | 5. Hinge with some lateral movement                        |
| 6. _____ Gliding         | 6. Side-to-side movement                                   |
| 7. _____ Saddle          | 7. Small sacs of synovial fluid between joints and tendons |
| 8. _____ Bursa           | 8. Movement in several planes                              |
| 9. _____ Crepitation     | 9. Swollen synovial tissue within the joint                |
| 10. _____ Synovitis      | 10. Grating sound as joint or bone moves                   |

## DIAGNOSTIC TESTS

Match each diagnostic test to its appropriate description.

- |   |   |
|---|---|
| 1. _____ X-ray                                    | 1. Dye required to view joint structures: tendons, ligaments, cartilage   |
| 2. _____ Arthrogram                               | 2. Radio waves and magnetic field view of soft tissue   |
| 3. _____ MRI                                      | 3. Bones show up as white areas   |
| 4. _____ Arthroscopy                              | 4. Insertion of a needle into a joint space to remove fluid, obtain a specimen, or instill medication           |
| 5. _____ Arthrocentesis                           | 5. An endoscopy of joints with local or general anesthesia  |
| 6. _____ Bone scan                                | 6. Serum level of enzyme that is made by osteoblasts to mineralize bone   |
| 7. _____ Alkaline phosphatase                     | 7. After injection, a radioisotope is taken up by bone and 2 hours later a camera scans the body front and back |
| 8. _____ Calcium                                  | 8. Serum level of substance stored in bone that makes   |
| 9. _____ Phosphorus                               |   |
| 10. _____ Erythrocyte sedimentation rate          |   |
| 11. _____ Uric acid                               |   |
| 12. _____ Dual energy x-ray absorptiometry (DEXA) |   |

9. Serum test for inflammation
10. Serum level of substance that mineralizes bones and teeth
11. Serum level for end product of purine metabolism
12. Special x-ray used to evaluate bone density

## CRITICAL THINKING

Read the following case study and answer the questions.

Mr. John Allen, age 45, was in an automobile accident and comes to the emergency department with a fractured femur.

1. What information should the nurse include in Mr. Allen's history?

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2. What areas should Mr. Allen's physical examination focus on first?

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3. What tests can the nurse anticipate will be done on Mr. Allen?

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4. What types of teaching should the nurse do?

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## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Absorbing shock between adjacent vertebrae is the function of disks made of which of the following?
  1. Smooth muscle
  2. Synovial fluid
  3. Fibrous cartilage
  4. Adipose tissue
2. Which of the following is the transmitter at neuromuscular junctions?
  1. Sodium ions
  2. Acetylcholine
  3. A nerve impulse
  4. Cholinesterase
3. Muscles are attached to bones by which of the following?
  1. Tendons
  2. Ligaments
  3. Fascia
  4. Other muscles

4. Which of the following is the part of the brain that initiates muscle contraction?
  1. Parietal lobe
  2. Cerebellum
  3. Frontal lobe
  4. Temporal lobe
5. Which of the following organ systems is not considered directly necessary for muscle contraction?
  1. Circulatory system
  2. Digestive system
  3. Respiratory system
  4. Nervous system
6. Which of the following is the function of synovial fluid in joints?
  1. Exchange nutrients
  2. Prevent friction
  3. Absorb water
  4. Wear away rough surfaces



**REVIEW QUESTIONS—TEST PREPARATION**

*Choose the best answer unless directed otherwise.*

7. The nurse is inspecting the knee of a patient who reports pain and stiffness in it. As the patient moves the knee the nurse hears a grating sound. The nurse documents the grating sound as which of the following?
  1. Friction rub
  2. Crepitation
  3. Effusion
  4. Subcutaneous emphysema
8. The nurse is caring for a patient who reports knee pain. When the nurse observes a joint that has a grating sound with movement, which of the following actions should the nurse take next?
  1. Adduct the extremity.
  2. Flex the joint.
  3. Avoid joint movement.
  4. Abduct the extremity.
9. The nurse is gathering functional data on a patient with rheumatoid arthritis. Which of the following areas would the nurse include in the assessment?
  1. Response to treatment
  2. Ability to prepare food
  3. Appearance of joints
  4. Lung sounds
10. Following a patient's bone biopsy, the nurse inspects the biopsy site. The nurse is monitoring for which of the following complications that may occur immediately following a biopsy?
  1. Joint dislocation
  2. Crackles
  3. Infection
  4. Hematoma formation
11. The nurse is caring for a patient after a biopsy. The nurse understands that increased pain that is unresponsive to analgesic medication in a patient who has had a biopsy may indicate which of the following biopsy complications?
  1. Bleeding in soft tissue
  2. A low pain tolerance
  3. An allergic reaction
  4. Inadequate analgesic dose

# 46

## Nursing Care of Patients With Musculoskeletal and Connective Tissue Disorders

### VOCABULARY

Fill in the blank with the word that is formed by the word building.

- \_\_\_\_\_ arthro—joint + itis—inflammation
- \_\_\_\_\_ arthro—joint + plasty—creation of
- \_\_\_\_\_ synovia—synovial fluid or tissue + itis—inflammation
- \_\_\_\_\_ arthro—joint + centesis—puncture of a cavity
- \_\_\_\_\_ hyper—excessive + uric—uric acid + emia—in blood
- \_\_\_\_\_ vascul—blood vessel + itis—inflammation
- \_\_\_\_\_ a—without + vascular—blood + necrosis—death
- \_\_\_\_\_ re—again + plant—to plant + tion—process
- \_\_\_\_\_ hemi—half + pelv—pelvis + ectomy—removal of
- \_\_\_\_\_ fascia—fibrous tissue + otomy—opening into
- \_\_\_\_\_ osteo—bone + myel—bone marrow + itis—inflammation
- \_\_\_\_\_ osteo—bone + sarco—flesh + oma—tumor

### FRACTURES

Match the type of fracture with its definition.

- |  |                   |
|--|-------------------|
| 1. _____ More than two fragments that appear to float      | 1. Transverse     |
| 2. _____ At right angle to bone                            | 2. Stress         |
| 3. _____ Splintered and bent, occurring mainly in children | 3. Spiral         |
| 4. _____ More than two fragments driven into each other    | 4. Pathological   |
| 5. _____ Extends into articular surface                    | 5. Oblique        |
| 6. _____ Runs along axis of bone                           | 6. Longitudinal   |
| 7. _____ Oblique fracture line                             | 7. Interarticular |
| 8. _____ Spontaneous fracture from bone disease            | 8. Impacted       |
| 9. _____ Fracture spirals around shaft of bone             | 9. Greenstick     |
| 10. _____ From repeated stress (jogging)                   | 10. Comminuted    |

**PROSTHESIS CARE EDUCATION**

Indicate whether the statement is true or false, and correct false statements.

1. \_\_\_\_\_ Replace shoes when they wear out with new ones of a different height and type.
2. \_\_\_\_\_ Clean the prosthesis socket with alcohol and water, and dry it completely.
3. \_\_\_\_\_ Replace worn inserts and liners when they become too soiled to clean adequately.
4. \_\_\_\_\_ Use garters to keep socks or stockings in place.
5. \_\_\_\_\_ Oil the mechanical parts as instructed by the physician.

**HEALTH PROMOTION FOR PATIENTS WITH GOUT**

Fill in the blanks.

1. Avoid high \_\_\_\_\_ foods, such as organ meats, shellfish, and oily fish such as \_\_\_\_\_.
2. \_\_\_\_\_ alcohol.
3. Drink plenty of \_\_\_\_\_, especially water.
4. Avoid all forms of \_\_\_\_\_ and drugs containing \_\_\_\_\_.
5. \_\_\_\_\_ diuretics.
6. Avoid excessive physical or emotional \_\_\_\_\_.

**CRITICAL THINKING**

Complete the nursing care plan for the nursing diagnosis *Impaired Physical Mobility* for a patient with a hip replacement.

<b>NURSING DIAGNOSIS</b>		
<i>Impaired Physical Mobility related to hip precautions and surgical pain</i>		
<b>Interventions</b>	<b>Rationale</b>	<b>Evaluation</b>
_____	Activity is restricted due to hip precautions and weight-bearing limitations.	_____
_____		_____
_____		_____
Place overhead frame and trapeze on bed; teach patient how to use it.	_____	Does patient use over-bed frame and trapeze for movement?
	_____	
	_____	
Monitor the patient for and take measures to prevent complications of immobility:	_____	Is the patient free from complications of immobility?
_____		
_____		
_____		
_____		
_____		

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following is the recommended protocol for caring for a severed body part that may be replanted?
  - Cover it with a warm dry towel.
  - Wrap it in a clean moist cloth.
  - Place it directly in ice.
  - Wrap it in a dry sterile dressing.
- Which of these laboratory values should the nurse monitor for a patient with gout?
  - Blood urea nitrogen
  - Creatinine
  - Uric acid
  - Cholesterol

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- A patient is in skin traction using a foam boot with Velcro® fasteners for a fractured hip. The nurse would document this type of skin traction as which of the following?
  - Gardner's tongs
  - Buck's traction
  - Crutchfield's tongs
  - Steinmann's pin
- A patient sustains a closed fracture of the right tibia and is placed in a long-leg plaster cast, which is still damp. Which of the following methods should the nurse use to move the cast without causing complications?
  - Have the patient move own leg.
  - Palm the cast to move it.
  - Use fingertips to grasp cast.
  - Avoid moving the cast until it is dry.
- A patient is being treated with gold therapy for rheumatoid arthritis. Which of the following interventions is essential when gold therapy is started? **Select all that apply.**
  - Removing all metal objects patient is wearing
  - Assessing allergies to iodine
  - Giving a test dose of gold
  - Planning a biweekly dosing schedule
  - Monitoring the patient after the injection
  - Teaching the patient to perform daily weights
- The nurse is caring for a patient who has a fractured ankle that is in a cast. The patient has morphine 10 to 15 mg intramuscularly ordered every 3 to 4 hours. The patient received morphine 10 mg 2 hours and 45 minutes ago and is rating the pain at 10+ and moans that the leg hurts. The patient has good capillary refill. Which of the following actions is most appropriate for the nurse to take next?
  - Apply ice to the cast.
  - Notify the physician immediately.
  - Remove the pillow under the cast.
  - Prepare morphine 15 mg for administration.
- The nurse turns a 2-day postoperative patient with a right total hip replacement using three pillows between the legs. The nurse later returns and finds the patient lying supine with legs crossed. Which of the following should the nurse monitor to determine whether a complication has developed?
  - The right knee for crepitation
  - The left leg for internal rotation
  - The left leg for loss of function
  - The right leg for shortening
- Discharge teaching for patients who have gout includes diet teaching. Patients will require additional teaching if they say they will be eating which one of the following?
  - Cod
  - Chicken
  - Eggs
  - Liver
- Which of the following medications should a patient with gout be encouraged to avoid to prevent a gout attack?
  - Aspirin
  - Tylenol
  - Nonsteroidal anti-inflammatory drugs
  - Narcotics
- The nurse is reviewing an erythrocyte sedimentation rate (ESR) for a patient. Which of the following does the nurse understand is the purpose of an ESR test?
  - To identify the number of red blood cells the patient has
  - To determine sedimentation found in red blood cells
  - To identify the presence of systemic inflammation
  - To diagnose various types of arthritis

11. A patient asks why a test dose of gold therapy is necessary. Which of the following is the most appropriate response by the nurse?
  1. "To avoid waste of expensive gold."
  2. "To determine the necessary dose."
  3. "To determine the therapeutic response."
  4. "To assess for an allergic reaction."
12. Which of the following symptoms would the nurse most likely be told was the first symptom that caused a patient with rheumatoid arthritis to seek health care?
  1. Cold intolerance
  2. Stiff, sore joints
  3. Shortness of breath
  4. Crepitation



# unit THIRTEEN

## Understanding the Neurologic System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Central nervous system (CNS) structure and function
- Peripheral nervous system (PNS)
- Cranial nerves
- Spinal nerves
- Sympathetic
- Parasympathetic
- Aging changes

#### Major Disorders

- CNS infections
- Increased intracranial pressure (ICP)
- Headaches
- Seizures
- Traumatic brain injury (TBI)
- Hematomas
- Brain tumors
- Herniated disk
- Spinal cord injury
- Parkinson's disease
- Alzheimer's disease
- Transient ischemic attack (TIA)
- Stroke—hemorrhagic, ischemic
- Multiple sclerosis
- Myasthenia gravis
- Amyotrophic lateral sclerosis (ALS)
- Guillain-Barré syndrome
- Postpolio syndrome
- Cranial nerve disorders

#### Nursing Assessment

- Health history
- Level of consciousness (LOC; Glasgow and FOUR Score coma scales)
- Mental status
- Eyes
- Muscle function
- Cranial nerves
- ICP

#### Diagnostic Tests

- Lumbar puncture
- Computed tomographic (CT) scan
- Magnetic resonance imaging (MRI)
- Angiogram
- Myelogram
- Electroencephalogram (EEG)

#### Interventions

- Positioning
- Interventions for swallowing
- Activities of daily living (ADLs)
- Communication
- Nutrition
- Rehabilitation
- Interventions for increased ICP
- Interventions for seizures
- Interventions for chronic confusion

#### Common Medications

- Anticoagulants
- Thrombolytics
- Corticosteroids
- Platelet aggregation inhibitors
- Diuretics
- Anticonvulsants

# 47

## Neurologic System Function, Assessment, and Therapeutic Measures

### VOCABULARY

Fill in the blank with the correct term.

1. Difficulty swallowing is called \_\_\_\_\_.
2. An \_\_\_\_\_ is a test that uses scalp electrodes to evaluate brain activity.
3. A patient might say his leg feels like it is asleep to describe \_\_\_\_\_.
4. Abnormal flexion posturing when eliciting best motor response is called \_\_\_\_\_ posturing.
5. Abnormal extension posturing when eliciting best motor response is called \_\_\_\_\_ posturing.
6. \_\_\_\_\_ is the term that describes unequal pupils.
7. Involuntary eye movement is called \_\_\_\_\_.
8. Permanent muscle contractions are called \_\_\_\_\_.
9. Difficulty speaking because of muscle dysfunction is called \_\_\_\_\_.
10. Patients who have difficulty speaking after a stroke are experiencing \_\_\_\_\_.

### DIAGNOSTIC TESTS

Describe the procedure and nursing care before and after each of the following diagnostic tests used for neurological diagnoses. (See DavisPlus for complete descriptions.)

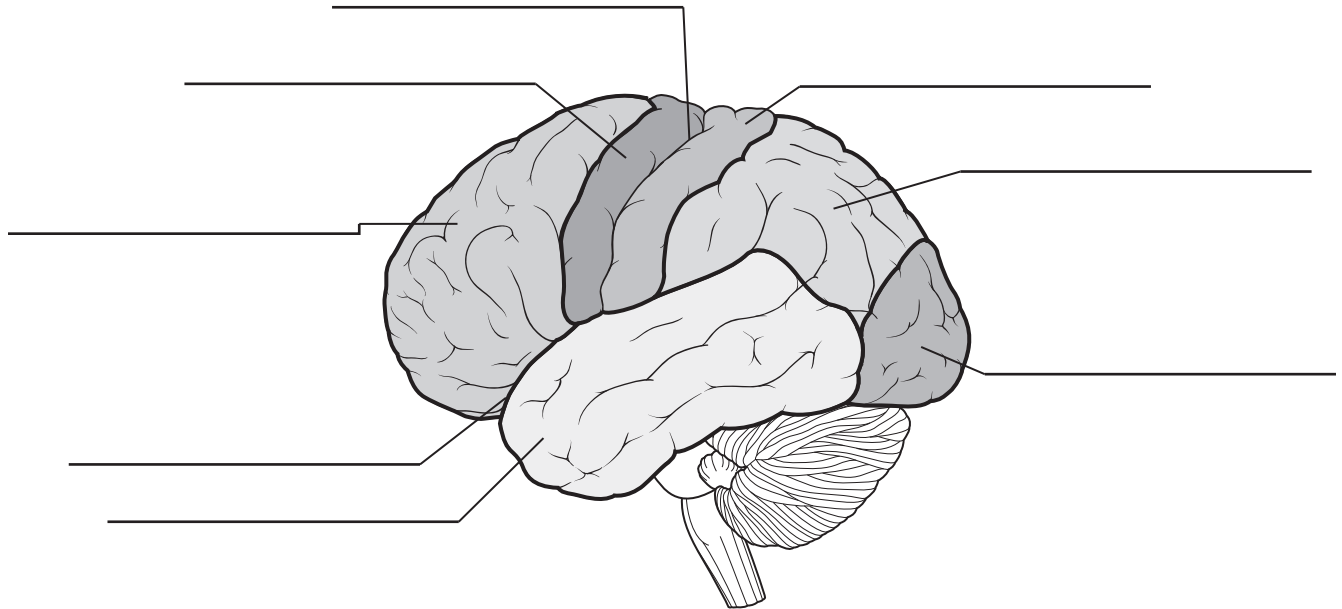
1. Myelogram \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. EEG \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Lumbar puncture \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. MRI \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



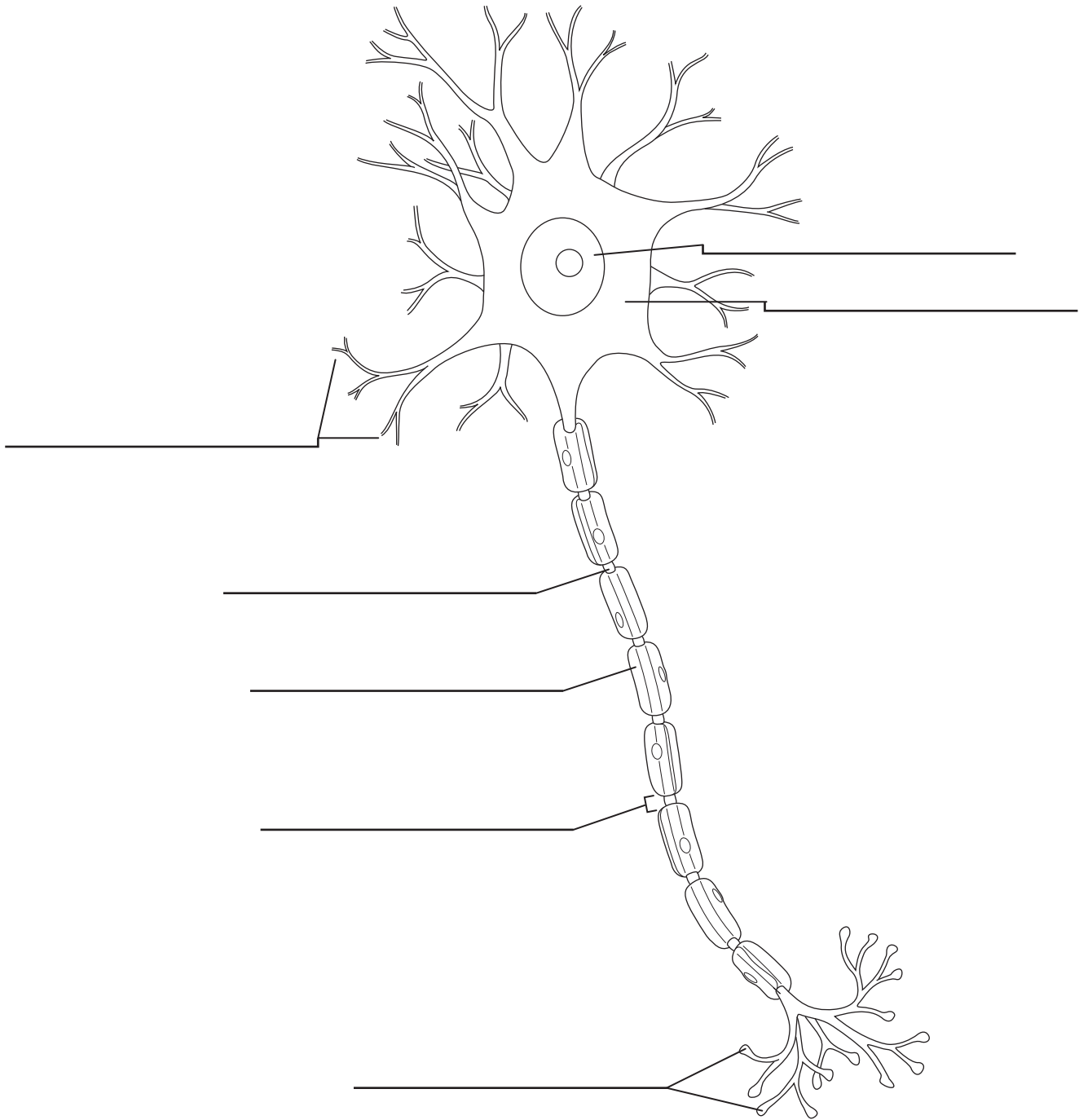
5. CT scan \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ANATOMY**

*Label the parts of the cerebrum.*



Label the parts of the neuron.



## ANATOMY REVIEW

Match the part of the brain with the function it controls.

- |                            |                                 |
|----------------------------|---------------------------------|
| 1. _____ Cerebrum          | 1. Vision center                |
| 2. _____ Medulla oblongata | 2. Speech                       |
| 3. _____ Occipital lobe    | 3. Equilibrium and coordination |
| 4. _____ Cerebellum        | 4. Respiratory center           |
| 5. _____ Temporal lobe     | 5. Information storage          |

## ASSESSMENT OF CRANIAL NERVES

Match the following assessment tools with the nerve to be tested.

- |   |                             |
|---|-----------------------------|
| 1. _____ Cotton ball                                  | 1. Vestibulocochlear (VIII) |
| 2. _____ Snellen chart                                | 2. Accessory (XI)           |
| 3. _____ Use of hands to check neck/shoulder strength | 3. Trigeminal (V)           |
| 4. _____ Tuning fork or whisper                       | 4. Optic (II)               |
| 5. _____ Tongue blade and cotton swab                 | 5. Vagus (X)                |

## CRITICAL THINKING

Read the following case study and answer the following questions.

Mrs. Pickett is admitted to the nursing home where you work as a nurse. She had a stroke 2 weeks ago and is not strong enough to go to a rehabilitation facility. She has left-sided weakness. You collect admitting data to help determine her plan of care.

- Mrs. Pickett tells you she needs to get up to go to the bathroom. What are some things you can do to determine if she is able to do this? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Mrs. Pickett's first meal is served. What can you do to determine her ability to eat safely?  
\_\_\_\_\_  
\_\_\_\_\_
- Mrs. Pickett says, "Will you go to the kitchen and get me one of those cookies I like?" How do you determine whether she is confused? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Mrs. Pickett is weak on her left side. Why do you think her blood pressure will be more accurate in her right arm?  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following parts of a neuron transmits impulses away from the cell body?
  - Dendrite
  - Axon
  - Neurolemma
  - Synapse
- Which type of neuron transmits impulses from the CNS to the muscles and glands?
  - Afferent
  - Efferent
- Which part of the brain controls breathing?
  - Medulla
  - Cerebellum
  - Cerebrum
  - Thalamus
- When a neurologist asks a patient to smile, which cranial nerve is being tested?
  - II optic
  - VII facial
  - X vagus
  - XI accessory

5. The neurologist tests the fourth (trochlear) and sixth (abducens) cranial nerves together by having a patient do which of the following?
  1. Turn his head to the right and left.
  2. Identify whispering in his ears.
  3. Say “ahhh.”
  4. Follow a finger with the eyes.
6. Which of the following responses indicates sympathetic nervous system activation?
  1. Tachycardia, dilated pupils
  2. Increased peristalsis, abdominal cramping
  3. Hypoglycemia, headache
  4. Pupil constriction, bronchoconstriction
7. Which neurotransmitter mediates the sympathetic response?
  1. Acetylcholine
  2. Prostaglandin
  3. Norepinephrine
  4. Serotonin

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

8. Which of the following actions are controlled by nerves exiting from the cervical portion of the spinal cord? **Select all that apply.**
  1. Blinking
  2. Writing
  3. Sticking out the tongue
  4. Nodding
  5. Urinating
  6. Homans' sign
9. The nurse is assisting a patient to prepare for a lumbar puncture. Which of the following actions should the nurse take first?
  1. Administer enemas until clear.
  2. Remove all metal jewelry.
  3. Position the patient on his or her side.
  4. Remove the patient's dentures.
10. When caring for a patient who has just undergone a lumbar puncture, which of the following nursing actions takes the highest priority?
  1. Have the patient lie flat for 6 to 8 hours.
  2. Keep the patient nil per os (NPO) for 4 hours.
  3. Monitor the patient's pedal pulses every four hours.
  4. Encourage the patient to deep breathe and cough.
11. The nurse knows that the patient understands instructions for an MRI when the patient makes which statement?
  1. “I will have a small Band-Aid on the puncture site.”
  2. “I will need to wash my hair following the MRI.”
  3. “I should avoid eating or drinking for 4 hours after the procedure.”
  4. “I should be sure to remove all metal jewelry.”
12. The nurse is providing care for a patient scheduled for a computerized tomography (CT) scan of the brain. Which of the following statements should be included in the patient teaching? **Select all that apply.**
  1. “You will need to lie still for 1 to 2 hours during the exam.”
  2. “Notify the staff if you have any nausea, sweating, or itching during the exam.”
  3. “Mild sedation can be given if you become uncomfortable.”
  4. “You may have a feeling of warmth throughout your body after the dye is injected.”
  5. “The table may be moved to various positions during the test.”
  6. “This test can't be used if you have any metal in your body.”

# Nursing Care of Patients With Central Nervous System Disorders

# 48

## VOCABULARY

Match the term with the correct definition.

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| 1. _____ Contralateral hemiparesis | 1. All four extremities paralyzed |
| 2. _____ Ipsilateral hemiplegia    | 2. Sensitive to light             |
| 3. _____ Quadriplegia              | 3. Inflammation of the brain      |
| 4. _____ Paraplegia                | 4. Slow movement                  |
| 5. _____ Photophobia               | 5. Surgical opening in the skull  |
| 6. _____ Bradykinesia              | 6. Paralyzed on same side         |
| 7. _____ Craniotomy                | 7. Paralyzed lower extremities    |
| 8. _____ Encephalitis              | 8. Neck pain and stiffness        |
| 9. _____ Nuchal rigidity           | 9. Weak on opposite side          |
| 10. _____ Prodromal                | 10. Warning sign                  |

## DRUGS USED FOR CENTRAL NERVOUS SYSTEM DISORDERS

Match the drug with its action.

- |                                       |                                      |
|---------------------------------------|--------------------------------------|
| 1. _____ Mannitol                     | 1. Anticonvulsant                    |
| 2. _____ Tacrine (Cognex)             | 2. Osmotic diuretic                  |
| 3. _____ Carbamazepine (Tegretol)     | 3. Cholinesterase inhibitor          |
| 4. _____ Dexamethasone (Decadron)     | 4. Converts to dopamine in the brain |
| 5. _____ Levodopa/carbidopa (Sinemet) | 5. Corticosteroid                    |

## ALZHEIMER'S DISEASE REVIEW

Match the stage of disease with its primary symptom.

- |                  |                        |
|------------------|------------------------|
| 1. _____ Stage 1 | 1. Terminal            |
| 2. _____ Stage 2 | 2. Confused            |
| 3. _____ Stage 3 | 3. Forgetful           |
| 4. _____ Stage 4 | 4. Ambulatory dementia |

**CENTRAL NERVOUS SYSTEM DISORDERS**

*Match the signs and symptoms at the left with the correct disorders at the right.*

- |  |  |
|--|--|
| 1. _____ Unconscious at accident scene                                 | 1. Spinal shock                          |
| 2. _____ Polyuria and polydipsia following head injury                 | 2. Absence seizure                       |
| 3. _____ Hypotension, loss of sympathetic function                     | 3. Migraine                              |
| 4. _____ Nuchal rigidity   | 4. Increased intracranial pressure (ICP) |
| 5. _____ High blood pressure, bradycardia, diaphoresis                 | 5. Meningitis                            |
| 6. _____ Brief period of staring                                       | 6. Diabetes insipidus                    |
| 7. _____ Automatic repetitive movement such as picking or lip smacking | 7. Autonomic dysreflexia                 |
| 8. _____ Status epilepticus  | 8. Complex partial seizure               |
| 9. _____ Cushing’s triad   | 9. Epidural bleed                        |
| 10. _____ Cerebral vasoconstriction followed by vasodilation           | 10. Continuous seizure                   |

**SPINAL DISORDERS**

*Determine whether each of the following symptoms is associated with lumbar spine or cervical spine dysfunction. Indicate L for lumbar and C for cervical.*

- \_\_\_\_\_ Radiating pain to the ankle
- \_\_\_\_\_ Deltoid weakness
- \_\_\_\_\_ Diminished triceps reflex
- \_\_\_\_\_ Footdrop
- \_\_\_\_\_ Inability to walk on the toes

2. Why are Mr. Granger’s respirations shallow? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. Explain the purpose of each of the following therapies. How will they benefit Mr. Granger?

a. Cervical traction: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

b. Vasopressor administration: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

c. Insertion of a urinary catheter: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**CRITICAL THINKING: SPINAL CORD INJURY**

Mr. Granger is a 23-year-old admitted to your unit with a C5–C6 spinal cord injury after an automobile accident. You collect the following data:

**Subjective Data**

- Pain in cervical spine
- No sensation below the level of the injury

**Objective Data**

- No movement below the level of the injury
- Blood pressure 80/60 mm Hg
- Pulse 45 beats per minute
- Respirations shallow
- Temperature 97°F (36.1°C)

4. Mr. Granger suddenly becomes anxious and dyspneic. He is using his accessory muscles with each breath. Explain what might be happening. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

1. Explain Mr. Granger’s hypotension, hypothermia, and bradycardia. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5. What treatment would you expect for the dyspnea, and why will it be beneficial to Mr. Granger? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
7. What are two health learning needs Mr. Granger faces in his acute stage? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
6. List two priority nursing diagnoses and goals for the acute stage of Mr. Granger's injury. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following settings is most therapeutic for an agitated patient with a head injury?
  - A day room with family visitors and a variety of caregivers
  - A semiprivate room with one or two consistent caregivers
  - A ward with other patients who have head injuries and volunteers to assist with needs
  - A hallway near the nurse's station with adequate sensory stimulation
- Decreasing level of consciousness is a symptom of which of the following physiological phenomena?
  - Increased ICP
  - Sympathetic response
  - Parasympathetic response
  - Increased cerebral blood flow
- Which of the following blood pressure changes alerts the nurse to increasing ICP and should be reported immediately?
  - Gradual increase
  - Rapid drop followed by gradual increase
  - Widening pulse pressure
  - Rapid fluctuations
- Which of the following nursing interventions will help prevent a further increase in ICP?
  - Encourage fluids.
  - Elevate the head of the bed.
  - Provide physical therapy.
  - Reposition the patient frequently.

### REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- A 90-year-old nursing home resident with stage 2 Alzheimer's disease is found alone and crying in the dining room. She says she lost her mother and doesn't know what to do. Which response by the nurse will help calm the resident?
  - "Remember your mother has been dead for 30 years. You forgot again, didn't you?"
  - "I'm sorry you lost your mother; let's go and try to find her."
  - "Are you feeling frightened? I'm here and I will help you."
  - "You are 90 years old. It is impossible for your mother to still be living. I know if you try, you can figure out what to do."
- A patient asks the nurse what side effects to expect from a muscle relaxant medication that has been prescribed. Which of the following side effects should the nurse relate?
  - Hypoglycemia
  - Hypotension
  - Drowsiness
  - Dyspnea

7. A nurse caring for a patient with a herniated lumbar disk develops a plan of care for impaired mobility related to nerve compression. Which patient outcome indicates that the plan has been successful?
1. The patient rates the pain at 3 to 4 on a 0-to-10 scale.
  2. The patient has full range of motion of the upper extremities.
  3. The patient demonstrates correct self-administration of analgesics.
  4. The patient is able to ambulate 25 feet without pain.
8. Which of the following problems during the immediate postoperative course following lumbar microdiscectomy should be reported to the physician immediately?
1. Incisional pain
  2. Two-inch area of bleeding on dressing
  3. Inability to move affected leg
  4. Muscle spasm of affected leg
9. A patient with a brain tumor is admitted to the medical unit to begin radiation treatments. Which nursing action should take priority?
1. Pad the patient's side rails.
  2. Assess the patient's pain level.
  3. Teach the patient what to expect during radiation treatments.
  4. Place the patient in isolation.
10. Which nursing interventions can help prevent falls in a patient with Parkinson's disease? **Select all that apply.**
1. Keep the patient's call light within reach.
  2. Apply a soft vest restraint when the patient is in bed.
  3. Avoid use of throw rugs.
  4. Maintain the patient's bed in a low position.
  5. Encourage the patient to be independent for as long as possible.
  6. Provide a cane or walker for ambulation.
11. The nurse is counseling a young woman with a spinal cord injury at C7. Which of the following birth control options would the nurse recommend for this client? **Select all that apply.**
1. Condom
  2. Oral contraceptives
  3. Diaphragm
  4. Implantable device
  5. Intrauterine device
  6. No birth control is needed because she will be infertile.



# Nursing Care of Patients With Cerebrovascular Disorders

# 49

## VOCABULARY

Match the term with the correct definition.

- |                      |  |
|----------------------|--|
| 1. _____ Thrombotic  | 1. Difficulty swallowing                     |
| 2. _____ Aphasia     | 2. Deficient blood flow to organ or tissue   |
| 3. _____ Dysphagia   | 3. Inability to speak or understand language |
| 4. _____ Hemianopsia | 4. Vision lost in half of visual field       |
| 5. _____ Flaccid     | 5. Without muscle tone                       |
| 6. _____ Ataxia      | 6. Imbalanced, staggering gait               |
| 7. _____ Diplopia    | 7. Caused by a clot                          |
| 8. _____ Hemiplegia  | 8. Healthy tissue surrounding an infarct     |
| 9. _____ Penumbra    | 9. Double vision                             |
| 10. _____ Ischemic   | 10. Paralyzed on one side of the body        |

## DRUGS USED FOR CEREBROVASCULAR DISORDERS

Match the drug with its action.

- |   |                               |
|---|-------------------------------|
| 1. _____ Heparin                            | 1. Anticoagulant              |
| 2. _____ Clopidogrel (Plavix)               | 2. Cholesterol-lowering agent |
| 3. _____ Tissue plasminogen activator (tPA) | 3. Antiplatelet               |
| 4. _____ Simvastatin (Zocor)                | 4. Thrombolytic               |

## CRITICAL THINKING: STROKE

Read the following case study and answer the questions.

Mrs. Saunders is a 70-year-old retired secretary admitted to your unit from the emergency department with a diagnosis of stroke (cerebrovascular accident, or CVA). She has a history of hypertension and atherosclerosis, and she had a carotid endarterectomy 6 years ago. She is 40% over her ideal body weight and has a 20-pack-year smoking history. Her daughter says her mother has been having short episodes of confusion and memory loss for the past few weeks. This morning she found her mother slumped to the right in her recliner, unable to speak.

1. Explain the pathophysiology of a CVA. Which type of stroke is most likely the cause of Mrs. Saunders's symptoms? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Mrs. Saunders is flaccid on her right side. What is the term used to describe this? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 3. Which hemisphere of Mrs. Saunders' brain is damaged?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 4. List four risk factors for stroke evident in Mrs. Saunders's history. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 5. Mrs. Saunders appears to understand when you speak to her but is only able to speak in garbled words. What is the term for this? \_\_\_\_\_  
\_\_\_\_\_
- 6. Neurologic checks are ordered every 2 hours for 4 hours, then every 4 hours for 4 days. When you enter her room and call her name, she opens her eyes. She is able to squeeze your hand with her left hand. However, she is only able to make incomprehensible sounds. What is her score on the Glasgow Coma Scale? \_\_\_\_\_  
\_\_\_\_\_
- 7. List at least three early symptoms of increasing intracranial pressure (ICP) for which you will be vigilant. (You may want to refer back to Chapter 48.)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 8. List two medications that the physician may order. Why might they be used? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 9. Identify a nursing diagnosis related to Mrs. Saunders's right-sided paralysis. List three interventions to prevent complications. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 10. How will you protect Mrs. Saunders's skin? List at least three interventions. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 11. As you enter Mrs. Saunders's room on her third day on your unit, you find her agitated, trying to speak, and trying to get out of bed. List at least three ways to try to find out what she wants. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 12. What should you do before feeding Mrs. Saunders for the first time? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 13. Mrs. Saunders has some difficulty swallowing and pockets her food in her right cheek. List three interventions you can try. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 14. Mrs. Saunders begins to move her right hand slightly and is able to say her daughter's name when she enters the room. She is prepared for discharge to a rehabilitation facility. List three ways you can prepare her family for her move and her eventual discharge home.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 15. What class of drugs might be ordered for Mrs. Saunders to prevent another stroke?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- What is the term or acronym for a temporary impairment of cerebral circulation that causes symptoms lasting minutes to hours but results in no permanent neurologic changes?
  - TIA
  - CVA
  - SAH
  - Stroke
- A post–myocardial infarction (MI) patient experiencing atrial fibrillation is most at risk for which type of stroke?
  - Hemorrhagic stroke
  - Embolic stroke
  - Thrombotic stroke
  - Cerebral aneurysm

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- A nurse approaches a hospitalized poststroke patient from the patient’s left side to provide morning care. The patient is staring straight ahead and does not respond to the nurse’s presence or voice. Which action should the nurse take first?
  - Walk to the other side of the bed and try again.
  - Speak more loudly and clearly.
  - Wave his or her fingers in front of the patient’s face.
  - Use a picture board to explain to the patient what the nurse is going to do.
- A 72-year-old man is admitted to a skilled care facility following a stroke. When the nursing assistant is bathing him, he makes a sexual remark and tries to touch her inappropriately. The assistant finishes the bath, then tells the licensed practical nurse (LPN) in charge, “I refuse to take care of that dirty old man!” Which response by the nurse is best?
  - “The next time he tries to touch you inappropriately, lightly smack his hand and tell him NO!”
  - “His stroke has made him less inhibited. We’ll see if we can find a male assistant to help him.”
  - “We have to take care of all patients equally, even the dirty old men.”
  - “He didn’t mean anything by it; just ignore it.”
- A patient is having difficulty swallowing following a stroke, and a swallowing evaluation is ordered. Which nursing interventions might be recommended to help prevent aspiration during eating? **Select all that apply.**
  - Place the patient in a semi-Fowler’s position.
  - Encourage the use of a straw for liquids.
  - Provide clear liquids only until the patient can swallow solid foods.
  - Have the patient swallow twice after each bite.
  - Place food on the unaffected side of the patient’s mouth.
  - Check the patient’s mouth for pocketing of food.
- A patient is unable to control his bowels after a subarachnoid hemorrhage. Which intervention by the nurse can help reduce episodes of bowel incontinence?
  - Ask the patient frequently if he has to have a bowel movement.
  - Place incontinence pads on the patient’s bed and chair.
  - Toilet the patient according to his preillness schedule, whether or not he feels the urge.
  - Take care not to embarrass the patient when incontinent episodes occur.
- The nurse needs to administer aspirin 62 mg to a post-stroke patient. It is supplied in 1-grain tablets. How many tablets should the nurse prepare? \_\_\_\_\_
- A patient is hospitalized following a stroke. Three days after admission, the patient is able to converse clearly with the nurse in the morning. Early in the afternoon, the patient’s daughter runs out of the room and says, “My mother can’t talk. Somebody help!” Which response by the nurse is best?
  - Explain to the daughter that this is not uncommon, especially in the afternoon when the patient is tired from morning care activities.
  - Do a quick assessment to confirm the change in the patient’s status, then notify the registered nurse (RN) or physician stat.
  - Call the speech therapist to come and do a comprehensive speech assessment.
  - Show the daughter how to help her mother do the speech exercises that were provided by the therapist.
- The nurse is caring for a patient recently admitted with a CVA. The patient is experiencing nausea and begins to vomit. Which of the following actions should the nurse take first?
  - Call for an aide to get suction set up.
  - Assist the patient to turn to his side.
  - Give an antiemetic as ordered.
  - Perform a test for blood on the emesis.

10. The nurse is providing care for a patient with a hemorrhagic stroke. Which of the following medication orders would the nurse question? **Select all that apply.**
1. Simvastatin (Zocor)
  2. Clopidogrel (Plavix)
  3. Carbamazepine (Tegretol)
  4. Tissue plasminogen activator (tPA)
  5. Metoprolol (Toprol)
  6. Warfarin (Coumadin)
11. A 67-year-old gentleman being evaluated and treated in the emergency department for a CVA has clopidogrel (Plavix) ordered per os (PO) now. Which of the following would cause the nurse to hold the medication? **Select all that apply.**
1. The patient has weak grip strength in the right hand and strong in the left.
  2. The patient's smile is crooked.
  3. The patient's gag reflex is positive.
  4. The patient's voice sounds gurgly after taking a sip of water.
  5. The patient's blood pressure is 168/90 mm Hg.
  6. The patient has an allergy to aspirin.

# Nursing Care of Patients With Peripheral Nervous System Disorders

# 50

## VOCABULARY

Fill in the blanks with the correct terms.

1. Muscles that are not used become wasted, or \_\_\_\_\_.
2. Some diseases are characterized by remissions and \_\_\_\_\_.
3. Nerve pain is also called \_\_\_\_\_.
4. An early symptom of myasthenia gravis is drooping eyelids, also called \_\_\_\_\_.
5. Symptoms of Guillain-Barré syndrome are caused by \_\_\_\_\_ of axons.
6. Myasthenia gravis is sometimes treated with \_\_\_\_\_, which separates blood cells from plasma to remove antibodies.
7. Muscle twitching, or \_\_\_\_\_, occur in amyotrophic lateral sclerosis.
8. Medications for myasthenia gravis that can increase acetylcholine at the neuromuscular junction are called \_\_\_\_\_ agents.

## PERIPHERAL NERVOUS SYSTEM DISORDERS

Underline incorrect information in the following case studies. Write the correct information in the space provided.

1. Ms. Mary Garvey sees her physician because she has been seeing double off and on for several weeks and has been fatigued. Her physician suspects myasthenia gravis and schedules her for a carotid ultrasound. He confirms his suspicions with a Tensilon (edrophonium chloride) test. He explains to Ms. Garvey that she has a disease that is characterized by a decrease in the neurotransmitter norepinephrine. He begins her on Mastodon and prednisone. Her nurse teaches her the importance of getting regular exercise and recommends joining a local health and exercise club. \_\_\_\_\_  
\_\_\_\_\_
2. Mr. Tom Newby has a history of trigeminal neuralgia. He enters the emergency department with severe pain in his left wrist. The physician orders a narcotic analgesic because Mr. Newby's third cranial nerve is inflamed. Once the acute pain has subsided, Mr. Newby is discharged with instructions to get plenty of fresh air and to take his gabapentin (Neurontin) as ordered. \_\_\_\_\_  
\_\_\_\_\_
3. Mrs. Mattie Schultz is admitted with exacerbated multiple sclerosis (MS). Her legs are becoming weaker, causing difficulty walking, and she has been having difficulty swallowing. You know that build up of myelin on her neurons is responsible for her weakness. You assess her for stressors that might have caused her exacerbation, such as a urinary tract infection (UTI) or upper respiratory tract infection (URI). Mrs. Schultz is started on thyroid-stimulating hormone (TSH) to stimulate her thyroid, which will help reduce her symptoms. She is also placed on trimethoprim/sulfamethoxazole (Bactrim)

for the UTI you identified through your excellent assessment and on diazepam (Valium) for urinary retention.

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### CRITICAL THINKING

Read the following case study and answer the questions.

Reverend Wilson is a 50-year-old minister who sees his physician when he develops weakness in his arms and legs and has difficulty carrying out his job duties. He is diagnosed with amyotrophic lateral sclerosis (ALS).

1. Reverend Wilson's wife asks what ALS is. How do you describe it for her? \_\_\_\_\_  
\_\_\_\_\_
2. Reverend Wilson returns to the physician's office several months after his initial diagnosis because he fell walking to the podium to preach. What is happening? What can he do about it? \_\_\_\_\_  
\_\_\_\_\_
3. Reverend Wilson is concerned about continuing in his job and asks if his mind is going to be affected. How do you respond? \_\_\_\_\_  
\_\_\_\_\_
4. He develops painful muscle spasms. What medications might be ordered to help relieve them? \_\_\_\_\_  
\_\_\_\_\_
5. Reverend Wilson stabilizes for a while. A year later, he is admitted to the hospital with aspiration pneumonia. What probably happened? What nursing diagnosis is appropriate in this situation? List an appropriate goal and two or three interventions. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Reverend Wilson's condition deteriorates, and he has to retire. He becomes confined to a wheelchair. He has a gastrostomy tube inserted because he is no longer able to swallow. What additional nursing diagnoses are now appropriate? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Which drug class is used to reduce symptoms of muscle weakness from myasthenia gravis?
  1. Anticholinesterase drugs
  2. Anticholinergic drugs
  3. Adrenergic drugs
  4. Beta-blocker drugs
2. Which of the following nursing interventions will help prevent complications in the patient with Bell's palsy?
  1. Megavitamin therapy
  2. Elastic bandages
  3. Application of ice to the affected area
  4. Lubricating eye drops
3. Which data collection activity will help the nurse determine if the patient with Bell's palsy is receiving adequate nutrition?
  1. Monitor meal trays.
  2. Measure intake and output.
  3. Check twice-weekly weights.
  4. Evaluate swallowing reflex.

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. A 32-year-old patient is admitted to a medical unit with a diagnosis of Guillain-Barré syndrome. The patient's legs are weak, causing difficulty walking without assistance. Which of the following is most likely responsible for this syndrome?
  1. Bacterial infection
  2. Heredity
  3. High-fat diet
  4. Autoimmune reaction
5. Patients with Guillain-Barré syndrome should be closely monitored. Which of the following lab results is most important to monitor for acute complications?
  1. Blood urea nitrogen (BUN) and creatinine
  2. Arterial blood gases (ABG)
  3. Hemoglobin (Hgb) and hematocrit (Hct)
  4. Serum potassium
6. A woman sees her primary care provider because of extreme fatigue for the past 2 months; she has difficulty lifting even light objects. Her physician suspects myasthenia gravis. Which of the following tests should the nurse anticipate assisting with to confirm this diagnosis?
  1. Mestinon test
  2. Quinine tolerance test
  3. Pulmonary function studies
  4. Tensilon test
7. A 39-year-old patient sees the physician after falling twice for seemingly no reason. Diagnostic tests are done, and the patient is diagnosed with MS. Which of the following explanations will help the patient understand the disease?
  1. "You have a buildup of myelin in your nervous system, causing congestion and muscle weakness."
  2. "You are missing a neurotransmitter that is important to muscle contraction."
  3. "The receptor sites on your muscles are damaged, so they can't contract correctly."
  4. "The insulation on your nerve cells is damaged, which slows the impulses to the muscles."
8. A patient who is newly diagnosed with MS asks what medications are used to help control symptoms and treat the disease. Which of the following medications would the nurse include in the teaching?
  1. Acyclovir (Zovirax)
  2. Adrenocorticotrophic hormone (ACTH)
  3. Thyrotropin
  4. Diphenhydramine (Benadryl)
9. A home care nurse is developing a plan of care designed to prevent complications in a patient with impaired respiratory function secondary to a neurological disorder. Which of the following would the nurse include in the plan?
  1. Antibiotics as needed
  2. Elevate the head of the bed
  3. Bedrest
  4. Suction every 4 hours
10. A nurse is preparing an intramuscular injection of prednisolone acetate, 30 mg. It is supplied as 50 mg/mL. How many milliliters should the nurse prepare?  
\_\_\_\_\_
11. The nurse notes frequent muscle twitching when collecting admission data on a patient admitted for increasing muscle weakness. Which of the following terms should be used to document this?
  1. Fasciculations
  2. Atrophy
  3. Chorea
  4. Neuropathy
12. A 19-year-old student develops trigeminal neuralgia. Which of the following actions is most likely to trigger pain?
  1. Sleeping
  2. Eating
  3. Reading
  4. Cooking





# unit FOURTEEN

## Understanding the Sensory System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Eye structures
- Eye function
- Ear structures
- Ear function
- Aging effects

#### Major Disorders

- Vision:**
  - Eye infections/inflammation
  - Refractive errors
  - Blindness
  - Diabetic retinopathy
  - Retinal detachment
  - Glaucoma
  - Cataracts
  - Macular degeneration
- Hearing:**
  - Hearing loss
  - Infection
  - Otosclerosis
  - Ménière's disease

#### Nursing Assessment

- Medical history
- Psychosocial history
- Medications
- Physical examination
- Vision:**
  - Pupillary reflexes
  - Accommodation
  - Romberg's test
- Hearing:**
  - Rinne test
  - Weber test

#### Diagnostic Tests

- Vision:**
  - Amsler grid
  - Angiography
  - Digital imaging
  - Intraocular pressure
  - Ophthalmoscopy
  - Slit lamp
  - Visual acuity
- Hearing:**
  - Audiometric
  - Caloric test
  - Otoscopic
  - Tympanometry

#### Interventions

- Vision:**
  - Corrective eyewear
  - Trabeculectomy
  - Trabeculectomy
  - Cyclocryotherapy
  - Iridotomy/iridectomy
  - Scleral buckling
  - Supportive services
  - Postoperative eye care
  - Irrigation
- Hearing:**
  - Hearing aids
  - Myringotomy
  - Stapedectomy
  - Postoperative ear care

#### Common Medications

- Vision:**
  - Cycloplegics
  - Cholinergics (miotics)
  - Acetazolamide (Diamox)
  - Timolol (Timoptic)
- Hearing:**
  - Cerumenolytics

# 51

## Sensory System Function, Assessment, and Therapeutic Measures: Vision and Hearing

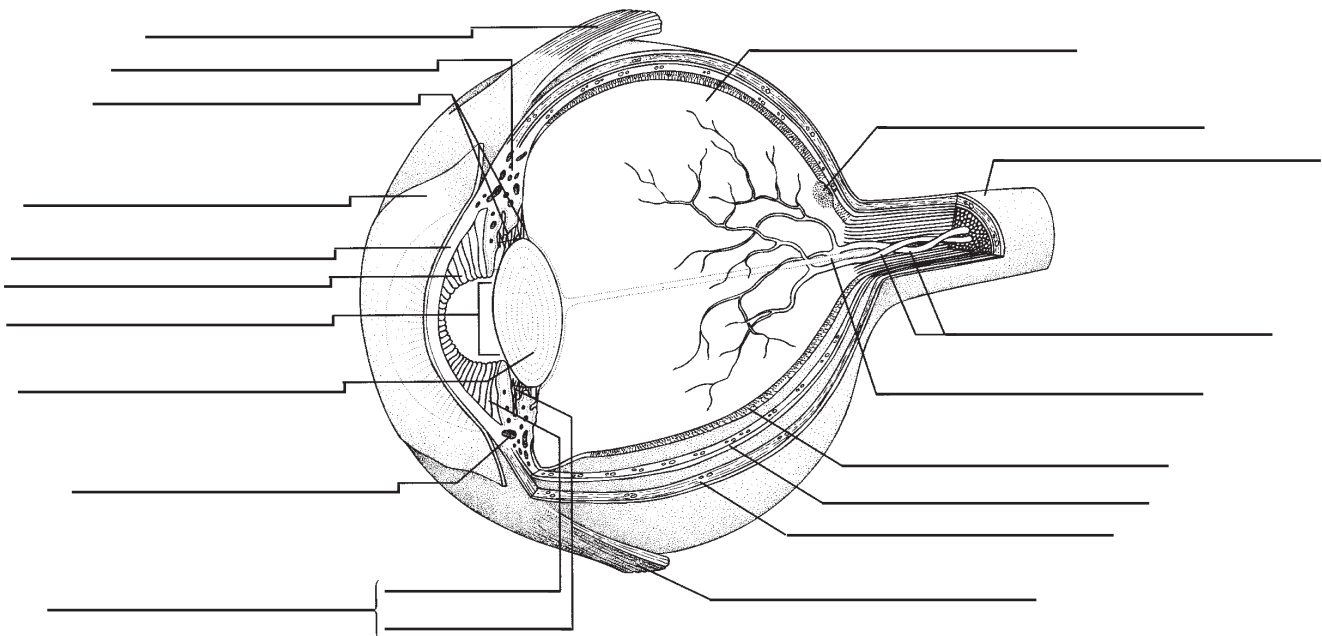
### STRUCTURES OF THE EYE

*Label the following structures.*

Anterior chamber  
Aqueous humor  
Canal of Schlemm  
Choroid layer  
Ciliary body  
Conjunctiva  
Cornea

Fovea  
Inferior rectus muscle  
Iris  
Lens  
Optic disc  
Optic nerve  
Posterior chamber

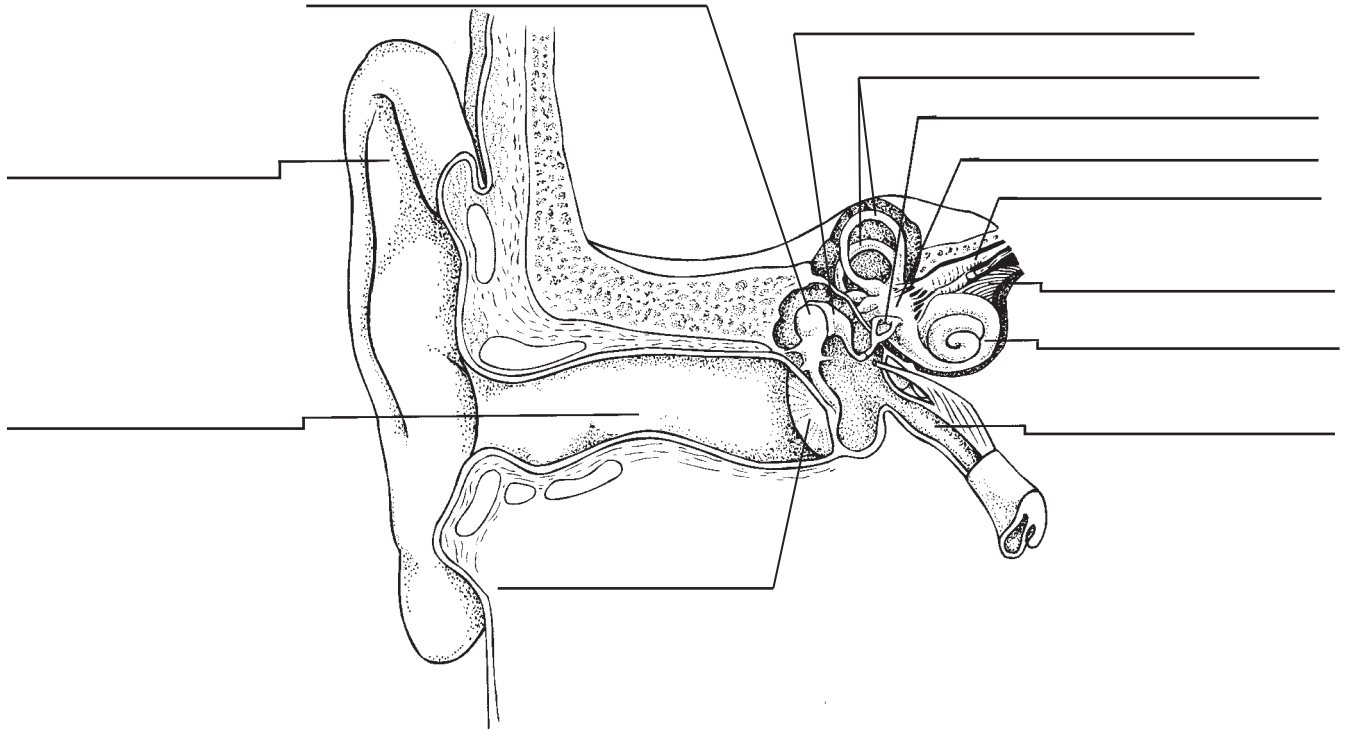
Pupil  
Retina  
Retinal artery and vein  
Sclera  
Superior rectus muscle  
Suspensory ligaments  
Vitreous humor



## STRUCTURES OF THE EAR

Label the following structures.

- |                      |                             |
|----------------------|-----------------------------|
| Auricle              | Incus                       |
| Cochlea              | Malleus                     |
| Ear canal            | Semicircular canals         |
| Eighth cranial nerve | Stapes                      |
| Eustachian tube      | Tympanic membrane (eardrum) |



## VISION

Number the following in the proper sequence as they are involved in the process of producing a visual image from the beginning to end.

- |                      |                      |
|----------------------|----------------------|
| _____ Cornea         | _____ Occipital lobe |
| _____ Vitreous humor | _____ Lens           |
| _____ Optic nerve    | _____ Retina         |
| _____ Aqueous humor  |                      |

## HEARING

Number the following in the order they function in the process of hearing when sound waves enter the ear canal.

- |                            |  |
|----------------------------|--|
| _____ Eardrum              | _____ Stapes                           |
| _____ Oval window          | _____ Fluid in the cochlea             |
| _____ Incus                | _____ Hair cells in the organ of Corti |
| _____ Eighth cranial nerve | _____ Temporal lobes                   |
| _____ Malleus              |  |

**VOCABULARY**

Define the following terms and use them in a sentence.

**Nystagmus**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

**Tropia**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

**Accommodation**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

**Ptosis**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

**Arcus senilis**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

**Ophthalmologist**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

**Optometrist**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

**Optician**

Definition: \_\_\_\_\_

Sentence: \_\_\_\_\_

\_\_\_\_\_

## DIAGNOSTIC TESTS

Fill in the table.

Assessment Test	Purpose of Test	Normal Test Results
Snellen chart	_____	OD 20/20, OS 20/20, OU 20/20
Visual fields	_____	_____
Cardinal fields of gaze	Extraocular movement	_____
Accommodation	_____	Eyes turn inward and pupils constrict when focusing on a near object.
Rinne	_____	Air conduction greater than bone conduction.
Weber	_____	_____
Romberg's	Balance/vestibular function	_____

## CRITICAL THINKING

Read the following case study and answer the questions.

Ms. Sally Litley works on a computer as a data processor. She reports that she has recurring eye discomfort about 2 hours after she begins work each day.

1. What might the nurse suspect is occurring with Ms. Litley? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. For what environmental factors should the nurse gather data? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. To protect Ms. Litley from eye strain, what safety measures should be implemented in her office? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Which of the following, if documented in the patient's history, would indicate that the patient has a normal corneal light reflex?
  1. The eye focuses the image in the center of the pupil.
  2. The eyes converge to focus on the light.
  3. Constriction of both pupils occurs in response to bright light.
  4. Light is reflected at the same spot in both eyes.
2. When testing visual fields, the nurse examines which of the following parts of vision?
  1. Peripheral vision
  2. Near vision
  3. Distance vision
  4. Central vision
3. Which of the following terms would indicate to the nurse that a substance is toxic to the ear?
  1. Otoplasty
  2. Otagia
  3. Ototoxic
  4. Tinnitus
4. Which of the following tests would the nurse use as an initial screening test to determine hearing loss?
  1. Romberg's test
  2. Otagia
  3. Caloric test
  4. Whisper voice test
5. Which of the following would the nurse use to document a finding that the patient's ear is draining?
  1. Otorrhea
  2. Otagia
  3. Ototoxic
  4. Tinnitus
6. The nurse is reading the patient's medical history. Which of the following terms indicates that the patient has a hearing loss caused by aging?
  1. Otoplasty
  2. Otagia
  3. Presbycusis
  4. Tinnitus

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

7. Which of the following explanations would the nurse give to the patient who had a Snellen chart finding of 20/80?
  1. “You can see at 80 feet what those with normal vision can see at 20 feet.”
  2. “You can see at 20 feet what those with normal vision can see at 80 feet.”
  3. “You can see four times farther than those with normal vision can see.”
  4. “Your vision is normal.”
8. The examiner shines a light in the patient’s eyes and notes that the pupils are round and constrict from 4 to 2 mm bilaterally. Next, the examiner asks the patient to focus on a far object, then on the examiner’s finger as it is brought from a distance of 3 feet to 5 inches. The pupils constrict bilaterally and the eyes turn inward. Which of the following would be the correct documentation of these findings?
  1. Pupils 2 mm.
  2. Pupils constricted.
  3. Pupils equal, round, and reactive to light and accommodation (PERRLA).
  4. Pupils normal.
9. In planning safe care for the older adult, which of the following conditions does the nurse recognize would cause visual problems? **Select all that apply.**
  1. Glaucoma
  2. Cataracts
  3. Arcus senilis
  4. Macular degeneration
  5. Esotropia
  6. Presbycusis
10. Which of the following statements does the nurse understand is true concerning air conduction of sound in the ear?
  1. It is caused by the vibration of bones in the skull.
  2. It is less efficient than bone conduction.
  3. It is heard longer than bone conduction.
  4. It is caused by transmission of heat through the air.
11. Which of the following data collection findings could indicate to the nurse that the patient has a hearing loss? **Select all that apply.**
  1. Patient converses easily with nurse.
  2. Patient answers questions appropriately.
  3. Patient’s face is relaxed during conversation.
  4. Patient speaks in a very loud voice.
  5. Patient turns toward person speaking.
  6. Patient is withdrawn.
12. Which of the following statements would the nurse understand is true when checking normal auditory acuity using the Rinne test?
  1. The patient perceives sound equally in both ears.
  2. Air conduction is heard longer than bone conduction in both ears.
  3. Bone conduction is heard longer than air conduction in both ears.
  4. The patient’s left ear will perceive the sound better than the right ear.
13. Which of the following subjective data questions would assist the nurse in assessing the patient’s eye health?
  1. “Have you had any recent upper respiratory infections?”
  2. “Have you ridden in a car recently?”
  3. “Have you been scuba diving lately?”
  4. “Have you seen halos around lights?”
14. When assessing the external ear, the nurse palpates a small protrusion of the helix called a Darwin tubercle. The nurse would document this finding as which of the following?
  1. A normal finding
  2. An abnormal finding
  3. A normal finding only in the older adult
  4. An abnormal finding only in the older adult

# Nursing Care of Patients With Sensory Disorders: Vision and Hearing

# 52

## VOCABULARY

*Match the following terms with their appropriate definitions.*

- |                        |  |
|------------------------|--|
| 1. _____ Carbuncle     | 1. Hearing loss caused by aging                                    |
| 2. _____ Cholesteatoma | 2. Inflammation or infection of the inner ear                      |
| 3. _____ Mastoiditis   | 3. Complication of otitis media                                    |
| 4. _____ Barotrauma    | 4. Epithelial cystlike sac filled with skin and sebaceous material |
| 5. _____ Labyrinthitis | 5. Several hair follicles forming an abscess                       |
| 6. _____ Presbycusis   | 6. Pressure in the middle ear caused by atmospheric changes        |

---

## ERRORS OF REFRACTION

*Draw pictures showing the eye size and focal point differences in (a) hyperopia and (b) myopia.*

## PRESBYOPIA

Circle the seven errors in the following paragraph and insert the correct information.

Presbyopia is a condition in which the lenses increase their elasticity resulting in a decrease in ability to focus on far objects. The loss of elasticity causes light rays to focus in front of the retina, resulting in hyperopia. This condition is usually associated with aging and generally occurs before age 40. Because accommodation for close vision is accomplished by lens contraction, people with presbyopia exhibit the ability to see objects at close range. They often compensate for blurred close vision by holding objects to be viewed closer. Complaints of eye strain and mild occipital headache are common.

## VISUAL AND HEARING DATA COLLECTION

Describe how the nurse would know that a patient has the following condition based on data collection (include diagnostic tests and examinations).

Macular degeneration (dry type) \_\_\_\_\_  
\_\_\_\_\_

Cataract \_\_\_\_\_  
\_\_\_\_\_

Hordeolum \_\_\_\_\_  
\_\_\_\_\_

Acute angle-closure glaucoma \_\_\_\_\_  
\_\_\_\_\_

External otitis \_\_\_\_\_  
\_\_\_\_\_

Impacted cerumen \_\_\_\_\_  
\_\_\_\_\_

Otitis media \_\_\_\_\_  
\_\_\_\_\_

Otosclerosis \_\_\_\_\_  
\_\_\_\_\_

## GLAUCOMA

Circle the seven errors in the following paragraph and insert the correct information.

Glaucoma may be characterized by abnormal pressure outside the eyeball. This pressure causes damage to the cells of the acoustic nerve, the structure responsible for transmitting visual information from the ear to the brain. The damage is evident, progressive, and reversible until the end stage, when loss of central vision occurs and eventually blindness. Once glaucoma occurs, the patient can be cured.

## CONDUCTIVE HEARING LOSS

Circle the six errors in the following paragraph and insert the correct information.

Conductive hearing loss is interference with conduction of light waves through the external auditory canal, eardrum, or middle ear. The inner ear is involved in a pure conductive hearing loss. Conductive hearing loss is a neural problem. Causes of conductive hearing loss include cerumen, foreign bodies, infection, perforation of the tympanic membrane, trauma, fluid in the middle ear, cysts, tumor, and otosclerosis. Many causes of conductive hearing loss, such as infection, foreign bodies, or impacted cerumen, cannot be corrected. Hearing devices may not improve hearing for conditions that cannot be corrected. Hearing devices are most effective with conductive hearing loss when inner ear and nerve damage are present.

## OTOSCLEROSIS

Circle the nine errors in the following paragraph and insert the correct information.

Otosclerosis results from the formation of new bone along the incus. With new bone growth, the incus becomes mobile and causes conductive hearing loss. Hearing loss is most apparent after the sixth decade. Otosclerosis usually occurs less frequently in women than in men. The disease usually affects one ear. It is thought to be a hereditary disease. The primary symptom of otosclerosis is rapid hearing loss. The patient usually experiences bilateral conductive hearing loss, particularly with soft, high tones. Otectomy is the treatment of choice.

## CRITICAL THINKING

Read the following case study and answer the questions.

Mr. Nyugen, age 70, reports that he has difficulty seeing at night, and has given up driving. When questioned further, he also states, "I used to be an avid reader, but I guess I'm getting too old to read. The words aren't very clear." The nurse examines his eye and finds that he is sensitive to light, has opacity of both lenses, and denies any pain.

1. What might the nurse suspect is occurring with Mr. Nyugen?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. For which diagnostic tests should the nurse prepare Mr. Nyugen?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



3. After the physician has made a definitive diagnosis, Mr. Nyugen asks the nurse to explain the surgical procedure for cataracts and the recovery regimen to him. Outline a teaching plan. \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- Which of the following type of eyedrops is given to constrict the pupil, permitting aqueous humor to flow around the lens?
  - Osmotic
  - Myotic
  - Mydriatic
  - Cycloplegic
- Which of the following procedures does the nurse understand is used to correct otosclerosis?
  - Myringotomy
  - Myringoplasty
  - Mastoidectomy
  - Stapedectomy
- The nurse understands that labyrinthitis is treated primarily with which of the following drug categories?
  - Antihistamines
  - Antispasmodics
  - Anti-inflammatories
  - Antiemetics
- Which of the following types of hearing loss does the nurse understand is most improved with the use of a hearing aid?
  - Conductive
  - Sensorineural
  - Mixed
  - Central
- Which of the following would the nurse teach the patient is the most common site for ear infections?
  - Outer ear
  - Inner ear
  - Middle ear
  - Semicircular canal

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

- The nurse is assisting with data collection for a patient with macular degeneration. Which of the following symptoms would the nurse expect to be present? **Select all that apply.**
  - Decreased ability to distinguish colors
  - Sudden loss of vision
  - Loss of near vision
  - Loss of central vision
  - Loss of peripheral vision
  - Increased periodic dizziness
- The nurse is caring for a patient after cataract surgery. Which of the following safety instructions should the nurse give this patient? **Select all that apply.**
  - Elevate the head of your bed 45 degrees.
  - Do not drive until after your follow-up appointment.
  - Wear sunglasses.
  - Avoid caffeinated beverages.
  - Avoid straining.
- The nurse is assisting a patient who has recently received a hearing aid. Which of the following would the nurse include in the teaching?
  - “This device will amplify background noise so you can hear more clearly.”
  - “This occludes the ear to increase the transport of sound to nerve endings.”
  - “A hearing aid is used to amplify musical sounds.”
  - “The hearing aid improves your ability to hear.”

9. The nurse is reinforcing teaching for a patient with Ménière's disease. Which of the following would the nurse explain to the patient is the triad of symptoms associated with Ménière's disease?
1. Hearing loss, vertigo, and tinnitus
  2. Nystagmus, headache, and vomiting
  3. Nausea, vomiting, and pain
  4. Nystagmus, vomiting, and pain
10. The nurse is assisting with the plan of care for a patient with vertigo. Which of the following actions would the nurse include in the plan of care to reduce the symptoms of the patient who has vertigo?
1. Avoid noises.
  2. Avoid sudden movements.
  3. Encourage fluid intake.
  4. Administer analgesics.
11. The nurse is caring for a patient diagnosed with acute bacterial conjunctivitis. In providing patient teaching, the nurse would tell the patient that this condition is more commonly known as which of the following?
1. Glaucoma
  2. Astigmatism
  3. Color blindness
  4. Pinkeye
12. The nurse is collecting data on a patient with a cataract. Which of the following is usually the first symptom of a cataract that the nurse would expect a patient to report?
1. Dry eyes
  2. Eye pain
  3. Blurring of vision
  4. Loss of peripheral vision
13. The nurse is caring for a patient after eye surgery. Which of the following nursing interventions would have the *highest* priority in the plan of care for the postoperative eye patient?
1. Do not leave the patient unattended at any time.
  2. Teach the patient not to bend over.
  3. Report sudden onset of acute pain.
  4. Apply sandbags to either side of the head.
14. The nurse is caring for a patient with newly diagnosed glaucoma. Which of the following descriptions by the nurse would best explain glaucoma to the patient?
1. "There is an increase in the amount of vitreous humor."
  2. "There is an increase in the intraocular pressure."
  3. "There is a decrease in the amount of aqueous humor."
  4. "There is a decrease in the intraocular pressure."
15. The nurse is caring for a patient with acute angle-closure glaucoma. Which of the following symptoms would the nurse expect to find during data collection for this patient?
1. Flashing lights
  2. Lens opacity
  3. Halos around lights
  4. Vertigo
16. The nurse is caring for a patient after eye surgery. Which of the following activities would the nurse teach a patient to avoid so that intraocular pressure is not increased after eye surgery?
1. Sitting upright in bed
  2. Coughing
  3. Chewing food vigorously
  4. Reading a book

# unit FIFTEEN

## Understanding the Integumentary System

### CHECKLIST FOR LEARNING SUCCESS

#### Review of Anatomy and Physiology and Aging Changes

- Epidermis
- Dermis
- Appendages
- Subcutaneous tissue
- Aging changes

#### Major Disorders

- Pressure ulcers
- Dermatitis
- Psoriasis
- Herpes simplex
- Herpes zoster
- Fungal infections
- Cellulitis
- Acne
- Parasites
- Pemphigus
- Malignant lesions
- Burns

#### Nursing Assessment

- History
- Color
- Lesions
- Moisture
- Edema
- Vascular markings
- Integrity
- Cleanliness
- Pressure ulcer risk assessment (Braden scale) and staging
- Burn assessment

#### Diagnostic Tests

- Cultures
- Biopsy
- Wood's light
- Skin tests

#### Interventions

- Debridement
- Balneotherapy
- Topical medications
- Dressings
- Negative pressure wound therapy
- Plastic surgery
- Burn care

#### Common Medications

- Antibiotics
- Antivirals
- Corticosteroids
- Analgesics
- Chemotherapy

# 53

## Integumentary System Function, Assessment, and Therapeutic Measures

### INTEGUMENTARY STRUCTURES

Match each integumentary structure with its appropriate description.

- |                               |  |
|-------------------------------|--|
| 1. _____ Epidermis            | 1. If unbroken, prevents entry of pathogens                      |
| 2. _____ Dermis               | 2. Give strength to the dermis                                   |
| 3. _____ Subcutaneous tissue  | 3. Detect changes in the external environment                    |
| 4. _____ Collagen fibers      | 4. Contains the accessory structures of the skin, such as glands |
| 5. _____ Eccrine glands       | 5. Made of both living and nonliving cells                       |
| 6. _____ Receptors            | 6. Mitosis takes place to produce new epidermis                  |
| 7. _____ Melanin              | 7. Stores fat  |
| 8. _____ Stratum corneum      | 8. Acts as a barrier to ultraviolet (UV) light                   |
| 9. _____ Stratum germinativum | 9. Stimulated by exercise or heat                                |

### VOCABULARY

Match the word at the right with its definition at the left.

- |  |               |
|--|---------------|
| 1. _____ Absence or loss of hair   | 1. Ecchymosis |
| 2. _____ Blue-black bruise, changing to greenish-brown or yellow with time | 2. Erythema   |
| 3. _____ Diffuse redness over the skin                                     | 3. Petechiae  |
| 4. _____ Small, purplish, hemorrhagic spots on the skin                    | 4. Turgor     |
| 5. _____ Measure of skin elasticity and hydration                          | 5. Alopecia   |

### DIAGNOSTIC SKIN TESTS

Match the test with its definition.

- |                                   |  |
|-----------------------------------|--|
| 1. _____ Skin biopsy              | 1. Superficial testing with allergen for immediate reaction                |
| 2. _____ Wood's light examination | 2. Excision of small piece of tissue for microscopic assessment            |
| 3. _____ Scratch test             | 3. Superficial testing with allergen for delayed hypersensitivity reaction |
| 4. _____ Patch test               | 4. Use of UV rays to detect fluorescent materials in skin and hair         |

## PRIMARY SKIN LESIONS

Match the lesion with its description.

- |                  |   |
|------------------|---|
| 1. _____ Macule  | 1. Vesicle or blister larger than 1 cm  |
| 2. _____ Papule  | 2. Flat, nonpalpable change in skin color   |
| 3. _____ Vesicle | 3. Round, transient elevation of the skin caused by dermal edema and surrounding capillary dilation |
| 4. _____ Bulla   | 4. Patch or solid, raised lesion on the skin or mucous membrane that is greater than 1 cm           |
| 5. _____ Pustule | 5. Palpable solid raised lesion   |
| 6. _____ Wheal   | 6. Small elevation of skin or vesicle or bulla that contains pus                                    |
| 7. _____ Plaque  | 7. Closed sac or pouch tumor that consists of semisolid, solid, or liquid material                  |
| 8. _____ Cyst    | 8. Small raised area that contains serous fluid, less than 1 cm                                     |

## CRITICAL THINKING

Read the following case study and answer the questions.

Mr. Carr is admitted to a medical unit after having a hemorrhagic stroke. His vital signs are stable, but he is disoriented except to person. He is on bed rest and is often restless. He responds appropriately to questions intermittently. His left side is flaccid, but he can move his right side. The nurse notes that Mr. Carr rarely moves himself into a different position. He is of thin build. He is receiving 5% dextrose/0.9% normal saline intravenously. He has difficulty swallowing and has not eaten. Mr. Carr is diaphoretic and his gown is damp.

- Why is Mr. Carr at high risk for developing pressure ulcers? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- What are priority nursing diagnoses and nursing interventions for Mr. Carr related to his skin needs? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

- How do arterioles in the dermis respond to a cold environment?
  - Dilate to release heat
  - Constrict to release heat
  - Dilate to conserve heat
  - Constrict to conserve heat
- Which of the following tissues stores fat in subcutaneous tissue?
  - Fibrous connective tissue
  - Stratified squamous epithelium
  - Adipose tissue
  - Areolar connective tissue
- Which substances are formed when the UV rays of the sun strike the skin?
  - Vitamin A and keratin
  - Melanin and vitamin D
  - Sebum and vitamin A
  - Keratin and melanin

4. Which layer of skin, if unbroken, prevents the entry of most pathogens?
  1. Stratum corneum
  2. Papillary layer
  3. Stratum germinativum
  4. Dermis
5. White blood cells, which destroy pathogens that enter breaks in the skin, are found in which of the following structures?
  1. Stratum corneum
  2. Keratinized layer
  3. Subcutaneous tissue
  4. Adipose cells

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

6. The nurse is reviewing a patient chart and notes the following: “poor elasticity and dry thin skin noted.” The nurse recognizes this is a normal finding for which of the following patient groups?
  1. Adolescents
  2. Young adults
  3. Middle-aged adults
  4. Older adults
7. When assessing a patient in hospice who is near death, the nurse notes a bluish discoloration and mottled appearance to the patient’s feet and lower legs. Which of the following terms would the nurse use to best document this finding?
  1. Cyanosis
  2. Erythema
  3. Jaundice
  4. Pallor
8. A nurse is providing care for an older adult patient who reports being sensitive to cold temperatures. The nurse would base teaching on which of the following principles?
  1. There is slower cell division in the epidermis with aging.
  2. Older adults experience deterioration of collagen and elastin fibers.
  3. There is less fat in the subcutaneous layer with age.
  4. Death of melanocytes in the skin occurs with age.
9. Which of the following dressing types is most appropriate for the nurse to apply to a skin tear in an older adult patient?
  1. Moist sterile gauze
  2. OpSite transparent dressing
  3. Paste
  4. Nonadherent dressing
10. Which of the following actions should the nurse take when new petechiae are observed on a patient’s skin?
  1. Cleanse the skin.
  2. Apply cool compresses.
  3. Inform the registered nurse or physician.
  4. Apply heat to the area.
11. A nurse is preparing to collect a wound culture. Which of the following would be included in the collection process? **Select all that apply.**
  1. Swab wound and wound edges in a rotating motion.
  2. Swab over areas of eschar.
  3. Use sterile saline to remove excess debris before culture.
  4. Use clean cotton-tipped swab to collect purulent drainage.
  5. Swab wound 10 times in a diagonal pattern.
  6. Obtain sterile calcium alginate swab for culture collection.

# Nursing Care of Patients With Skin Disorders

# 54

## VOCABULARY

Match the word with its definition.

- |   |                       |
|---|-----------------------|
| 1. _____ To lose color  | 1. Seborrhea          |
| 2. _____ Inflammation of cellular or connective tissue  | 2. Pyoderma           |
| 3. _____ Skin lesion that occurs in acne vulgaris   | 3. Purulent           |
| 4. _____ Inflammation of the skin   | 4. Psoriasis          |
| 5. _____ A fungal infection of the skin   | 5. Pruritus           |
| 6. _____ The growth of skin over a wound  | 6. Pemphigus          |
| 7. _____ Thickened or hardened from continued irritation  | 7. Pediculosis        |
| 8. _____ Disease of the nails due to fungus   | 8. Onychomycosis      |
| 9. _____ Infestation with lice  | 9. Lichenified        |
| 10. _____ Acute or chronic serious skin disease characterized by bullae on skin and mucous membranes                                    | 10. Epithelialization |
| 11. _____ Severe itching  | 11. Dermatophytosis   |
| 12. _____ Chronic inflammatory skin disorder in which epidermal cells proliferate abnormally quickly                                    | 12. Dermatitis        |
| 13. _____ Describes fluid that contains pus   | 13. Comedo            |
| 14. _____ Any acute, inflammatory, purulent bacterial dermatitis  | 14. Cellulitis        |
| 15. _____ Disease of the sebaceous glands marked by increase in the amount, and often alteration of the quality, of sebaceous secretion | 15. Blanch            |

## BENIGN SKIN LESIONS

Match the lesion with its definition.

- |                               |   |
|-------------------------------|---|
| 1. _____ Cyst                 | 1. Small, common growths caused by a virus  |
| 2. _____ Seborrheic keratosis | 2. Vascular tumors of dilated blood vessels   |
| 3. _____ Keloid               | 3. Saclike growth with a definite wall  |
| 4. _____ Pigmented nevi       | 4. Excessive scar formation at site of trauma or surgical incision                            |
| 5. _____ Warts                | 5. Light brown to dark brown patches, plaques, or papules that occur mainly in older patients |
| 6. _____ Hemangiomas          | 6. Flesh-colored to dark brown macule or papule   |

## PLASTIC SURGERY PROCEDURES

Fill in the blanks.

1. A \_\_\_\_\_ is done to correct nasal shape or septal defects.
2. A \_\_\_\_\_ is referred to as a rhytidoplasty.
3. Removal of bags under the eyes is known as \_\_\_\_\_.

## CRITICAL THINKING

Read the following case study and answer the questions.

Mrs. Miller, age 59, is admitted for a femoral-popliteal bypass graft. She has type 2 diabetes mellitus. After surgery, she is in the intensive care unit (ICU) and is hypotensive for 24 hours. Her operative leg is painful and she barely moves. During her bath, the nurse notes a shallow, open, reddened area 2 inches in diameter on her sacral area and a large tender purple area with intact skin on the heel of her right foot.

1. Why did these areas develop? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. To plan Mrs. Miller's care, how would you stage these lesions? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The surgeon is notified of these areas and orders turning every 2 hours, elevation of the right foot, and a special pressure-reducing bed.

3. What is the benefit and effectiveness of each of these ordered interventions? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## REVIEW QUESTIONS—CONTENT REVIEW

Choose the best answer unless directed otherwise.

1. Which of the following activities creates a mechanical force that can lead to the formation of a pressure ulcer?
  1. Massaging nonreddened areas
  2. Whirlpool baths
  3. Pulling a patient up in bed
  4. Range-of-motion exercises
2. Which of the following dressings should a nurse choose for a deep pressure ulcer that has purulent drainage?
  1. Sterile gauze
  2. Transparent film (OpSite)
  3. Hydrocolloid (DuoDERM)
  4. Occlusive

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

3. A nurse is caring for a nursing home resident with a red, pruritic skin rash. The patient is confused and scratches the rash, which results in broken skin. Which interventions will help the rash heal? **Select all that apply.**
  1. Pat the skin dry after bathing.
  2. Leave topical agent as ordered at the bedside so the patient can apply when itching is severe.
  3. Place a transparent dressing on the rash to prevent scratching.
  4. Place gloves or mitts on the patient.
  5. Keep the patient's fingernails short.
  6. Place wrist restraints on the patient during the night.
4. A patient has a wound draining moderate blood-tinged clear fluid. Which of the following would be an appropriate description of this drainage for the nurse to document?
  1. Purulent drainage
  2. Serosanguineous drainage
  3. Copious drainage
  4. Serous drainage
5. The nurse is providing care for a patient with a non-infected pressure ulcer. Which of the following actions is most appropriate?
  1. Flushing the wound with 45-psi pressure
  2. Gentle flushing with a needleless 30-mL syringe
  3. Gentle scrubbing with gauze and normal saline
  4. Flushing with a 30-mL syringe with an 18-gauge needle
6. A 62-year-old woman is admitted to the hospital with a lesion on her face that is a small, pearly papule. It has a rolled, waxy edge with crusting and ulceration. Which action by the nurse is best?
  1. Notify the physician.
  2. Clean the lesion.
  3. Place a gauze dressing on the lesion.
  4. Place an occlusive dressing on the lesion.



7. Place the wounds in correct order from stage I to stage IV.
  1. Skin appears abraded
  2. Skin red, intact, nonblanchable
  3. Full-thickness skin loss, muscle and bone showing
  4. Full-thickness skin loss, no muscle or bone involvement
8. A 92-year-old woman is admitted from a nursing home to the hospital for a colon resection. Four days postoperatively, she reports that her perineum is sore. It is reddened and has whitish discharge. She has been on three intravenous (IV) antibiotics. Which of the following problems does the nurse suspect?
  1. Candidiasis
  2. Psoriasis
  3. Herpes zoster
  4. Contact dermatitis
9. The nurse recognizes that which of the following individuals should be evaluated for a specialty bed that provides a pressure-relieving surface?
  1. A 46-year-old with scoliosis who has a urinary tract infection
  2. A 94-year-old with a Braden score of 15 and left arm weakness from a cardiovascular accident (CVA)
  3. An 88-year-old with foot drop who has a Foley catheter
  4. A 15-year-old with a Braden score of 9 who experiences pain with turning

# 55

## Nursing Care of Patients With Burns

### VOCABULARY

Match each phrase with the type of burn or burn term.

- |   |                                |
|---|--------------------------------|
| 1. _____ Leathery skin, usually painless  | 1. Débridement                 |
| 2. _____ Pink to red moist skin, blisters may be present  | 2. Eschar                      |
| 3. _____ The growth of skin over a wound  | 3. Epithelialization           |
| 4. _____ Removal of a slough or scab formed on skin and underlying tissue of severely burned skin | 4. Superficial burn            |
| 5. _____ Epidermis and dermis involved, pain from exposed nerve endings                           | 5. Partial-thickness deep burn |
| 6. _____ Hard scab or dry crust from necrotic tissue  | 6. Full-thickness burn         |

### CRITICAL THINKING

Read the following case study and answer the questions.

Mr. Patel is a 45-year-old patient in County General Hospital's Burn Unit. He was admitted with a 20% electrical burn over his right arm, right shoulder, right leg, and right foot. The entry wound is on his right shoulder and the exit wound is on his right foot. When you check on him at the beginning of your shift, you find his right radial pulse is diminished and his right forearm has a small spot that is beginning to change color to a whitish gray.

1. What might be causing his change in circulation? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What additional data should you collect? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What interventions are important to perform right away? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

Choose the best answer unless directed otherwise.

1. Which cause of or type of burn is commonly associated with an inhalation injury?
  1. Electrical
  2. Flame
  3. Scald
  4. Contact
2. Which type of burn is caused by a hot liquid?
  1. Radiation
  2. Contact
  3. Scald
  4. Chemical

**REVIEW QUESTIONS—TEST PREPARATION**

Choose the best answer unless directed otherwise.

3. During morning report, a nurse is assigned a patient who is in stage III burn care. What care can the nurse anticipate providing during the shift?
  1. Dressing changes
  2. Débridement
  3. Pain management
  4. Exercises
4. A patient is brought to the emergency department with burns over 40% of the body from an apartment fire. Which assessment should take priority?
  1. Burn depth
  2. Percent of body surface burned
  3. Respiratory status
  4. Circulatory status
5. A home care nurse visits an 82-year-old patient. On entering the home, the nurse finds that the patient has just dropped a pot of boiling water on both legs. What action should the nurse take first?
  1. Call 911.
  2. Remove the clothing from the affected area.
  3. Place ice on the affected area.
  4. Assess the extent of the burn.
6. A patient has a burn encircling the left thigh from a motorcycle accident. When the nurse enters the room during rounds, the patient appears very anxious and reports a funny feeling in the left foot. What should the nurse do first?
  1. Check circulatory status in the foot and report changes.
  2. Explain that some numbness and tingling in the affected extremity are normal following a burn.
  3. Check the burn dressing for an increase in drainage.
  4. Determine the cause of the patient's anxiety.
7. A homebound patient is receiving intravenous (IV) antibiotics for an infected burn site. Instructions are to use gravity to infuse 100 mL over 1 hour. How many drops per minute should the nurse administer if the tubing has a drip factor of 15? \_\_\_\_\_
8. A nurse is providing care for a patient with burns across 30% of the body. Which of the following observations would cause the nurse to contact the registered nurse (RN) or physician?
  1. Urinary output of 50 mL in the past 2 hours
  2. Patient reports pain of 6/10; oral narcotic is due in 10 minutes
  3. Respiratory rate is 20 and oxygen saturation is 94%
  4. Blood sugar is 175 mg/dL
9. While caring for a 28-year-old patient newly admitted for burns received in a household fire, the nurse would be most concerned by which of the following?
  1. Hematocrit = 48%
  2. Blood pressure = 92/40 mm Hg
  3. Pulse = 96 beats per minute
  4. Respiratory rate = 22 per minute



# unit SIXTEEN

## Understanding Mental Health Care

### CHECKLIST FOR LEARNING SUCCESS

Review of Basic Concepts	Major Disorders	Nursing Assessment	Diagnostic Tests	Interventions	Common Medications
<input type="checkbox"/> Mental health	<input type="checkbox"/> Anxiety disorders	<input type="checkbox"/> Appearance and behavior	<input type="checkbox"/> DSM-5	<input type="checkbox"/> Therapeutic communication	<input type="checkbox"/> Antipsychotics
<input type="checkbox"/> Mental illness	<input type="checkbox"/> Mood disorders	<input type="checkbox"/> Awareness and orientation	<input type="checkbox"/> Laboratory tests	<input type="checkbox"/> Milieu therapy	<input type="checkbox"/> Antidepressants
<input type="checkbox"/> Etiologies of mental illness	<input type="checkbox"/> Somatoform disorders	<input type="checkbox"/> Thinking	<input type="checkbox"/> Computed tomographic (CT) scan	<input type="checkbox"/> Psychopharmacology	<input type="checkbox"/> Antianxiety agents
<input type="checkbox"/> Spirituality and religion	<input type="checkbox"/> Schizophrenia	<input type="checkbox"/> Memory	<input type="checkbox"/> Positron emission therapy (PET) scan	<input type="checkbox"/> Psychotherapies	<input type="checkbox"/> Anticonvulsant mood stabilizers
<input type="checkbox"/> Coping	<input type="checkbox"/> Substance abuse disorders	<input type="checkbox"/> Speech		<input type="checkbox"/> Cognitive therapies	<input type="checkbox"/> Lithium
		<input type="checkbox"/> Mood and affect		<input type="checkbox"/> Counseling	<input type="checkbox"/> Antiparkinsonism agents
		<input type="checkbox"/> Judgment		<input type="checkbox"/> Group therapy	
		<input type="checkbox"/> Perception		<input type="checkbox"/> Electroconvulsive therapy (ECT)	
				<input type="checkbox"/> Relaxation therapy	

# 56

## Mental Health Function, Assessment, and Therapeutic Measures

### VOCABULARY

Fill in the blanks with the correct terms.

- \_\_\_\_\_ is the way one adapts to a stressor.
- The ability to think rationally and process thoughts is referred to as \_\_\_\_\_ ability.
- \_\_\_\_\_ is the use of medication to treat psychological disorders.
- \_\_\_\_\_ therapy uses an electric current to stimulate neurotransmitters in severely depressed patients.
- A therapeutic \_\_\_\_\_ is a structured environment that aids in treatment of mental health disorders.
- Psychoanalytic therapy can help clarify the meaning, and therefore help the patient gain \_\_\_\_\_ into an event or feeling.
- \_\_\_\_\_ is assessed by asking a patient questions such as “Where are you now?” and “What year is it?”
- The outward expression of feelings is called \_\_\_\_\_.

### DEFENSE MECHANISMS

Name the defense mechanism being used in each of the following statements.

- A patient with cancer says, “I know if I take my vitamins, I’ll be fine.” \_\_\_\_\_
- A student comes unprepared to class and says, “I woke up late because my instructor gave us so much work to do and I had to stay up all night, and my kids are sick and the car isn’t working.” \_\_\_\_\_
- A man who always wanted to be a lawyer but was not accepted into law school says, “Lawyers are all crooked. I would never trust one.” \_\_\_\_\_
- A teen who didn’t make the football team says, “I’ve decided to give up trying to play in sports. I’m much better at piano.” \_\_\_\_\_
- A woman who was raped says, “Why are you calling me to set up rape counseling? I was not raped and I do not need counseling.” \_\_\_\_\_
- A man who is passed over for a promotion yells at his son for a minor mistake, “You messed up again. You never do anything right.” \_\_\_\_\_
- An adolescent says to his mother, “I got a C on my project because you told me to do it all wrong.” \_\_\_\_\_

8. The woman who cheated on an examination turns in extra work and states, "Here is some extra work I did. I really want to learn this material." \_\_\_\_\_
9. A teen tells her date, "I'm sorry I can't go out tonight; I have to wash my hair." \_\_\_\_\_
10. The student nurse tells the instructor, "I don't think I can do that catheter. I am feeling sick to my stomach. I think I ate some bad food in the cafeteria." \_\_\_\_\_

3. How might you determine whether Mrs. Jewel's thought processes are intact? \_\_\_\_\_  
\_\_\_\_\_
4. What questions can you ask to determine Mrs. Jewel's recent and remote memory? \_\_\_\_\_  
\_\_\_\_\_

**CRITICAL THINKING**

*Read the following case study and answer the questions.*

Mrs. Jewel is a 48-year-old woman admitted to your unit with cellulitis of her lower legs and diabetes mellitus. She has arthritis and morbid obesity. As you collect some initial data, you notice that her hair is dirty and unkempt, her clothes are dirty, and she has an unpleasant body odor. You also find that she does not appear to have a good understanding of her health or self-care needs. You decide to assess her mental status.

1. What factors related to Mrs. Jewel's appearance provide information about her mental status? How can you find out if this is unusual behavior for her? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Mrs. Jewel is alert. What questions can you ask to assess orientation? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. How do you determine speech and ability to communicate? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. You determine that Mrs. Jewel's affect is inappropriate. What does this mean? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. How can you evaluate Mrs. Jewel's judgment? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. How can perception be assessed? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. Which behavior in a patient with a chronic physical illness alerts the nurse to possible mental health concerns?
  1. The patient prays for healing from illness.
  2. The patient reads self-help books to gain insight into his problems.
  3. The patient has developed ways to cope with chronic illness.
  4. The patient does not have any close friends.
2. Which defense mechanism is being used by the person who always seems to blame others for personal problems?
  1. Denial
  2. Projection
  3. Rationalization
  4. Transference

3. An office worker has an argument with the boss, and on arriving home, yells at the spouse and children. Which defense mechanism is being displayed?
  1. Rationalization
  2. Denial
  3. Reaction formation
  4. Displacement

## REVIEW QUESTIONS—TEST PREPARATION

Choose the best answer unless directed otherwise.

4. The nurse is providing care for a patient immediately following electroconvulsive therapy. Which of the following nursing actions is most appropriate?
  1. Restrain the patient's extremities.
  2. Monitor the patient closely until he or she is oriented.
  3. Discharge the patient to home with instructions to rest.
  4. Administer oxygen at 4 L per minute.
  
5. The nurse is collecting admission data on a new patient with a long health history. Which of the following life events is considered a stressor?
  1. Gallbladder surgery at age 46
  2. Divorce at age 50
  3. Loss of job at age 55
  4. Whatever the patient says is stressful
  
6. A patient is admitted to the hospital mental health unit for behavior changes. The patient asks why a magnetic resonance imaging test (MRI) has been ordered. Which response by the nurse is best?
  1. "MRI can determine levels of important neurotransmitters, so the doctor will know how to treat your problem."
  2. "MRI is used to rule out physical problems that could be causing your symptoms."
  3. "MRI uses magnetic energy to treat certain psychiatric disorders."
  4. "MRI monitors electrical activity in the brain to help diagnose mental health problems."
  
7. A patient with panic disorder tells the nurse that she has a lot of job-related stress. Which response by the nurse is most therapeutic for this patient?
  1. "Can you identify some of the things in your job that are causing you to feel stressed?"
  2. "I'm really sorry you have so much job stress."
  3. "It is important to eliminate stressful situations so you can reduce your panic attacks."
  4. "You need to avoid stressful situations—it would be wise to start looking for another job."
  
8. A patient who quit drinking 4 months earlier is considering entering an inpatient alcohol rehabilitation program, and asks for the nurse's opinion. Which response by the nurse is best?
  1. "That is an excellent idea. I will help you start the paperwork."
  2. "Why do you think you need a rehabilitation program?"
  3. "What do you think you should do?"
  4. "You have done so well to be alcohol-free for 4 months."
  
9. A nurse is caring for a 36-year-old developmentally delayed patient admitted to the hospital for pneumonia. The patient becomes upset when the dinner tray is late, and cries "Mama" repeatedly. The patient's mother later says this is unusual behavior for the patient. Which of the following is the best explanation for this behavior?
  1. The patient is having a conversion reaction based on the hospitalization.
  2. The patient is likely having a side effect to a new medication.
  3. The patient is having symptoms of regression.
  4. The patient is repressing feelings about the illness.
  
10. A patient stands up during a morning community meeting and screams, "Get out of here right now! The demons are coming!" Which response by the nurse is best?
  1. "Why do you think the demons are coming?"
  2. "Yes, we should all leave right now."
  3. "If you have something to say, you must only say it when it is your turn to share."
  4. "I know you think the demons are coming, but there are no demons. You are safe here."



# Nursing Care of Patients With Mental Health Disorders

# 57

## VOCABULARY

Fill in the blanks with the correct terms.

1. A patient with schizophrenia who is unable to speak is experiencing \_\_\_\_\_.
2. A situation in which family members exist to enable a substance abuser is called \_\_\_\_\_.
3. An irrational fear is called a/an \_\_\_\_\_.
4. A repetitive thought or urge is called a/an \_\_\_\_\_.
5. Manic-depressive illness is more appropriately called \_\_\_\_\_ depression.
6. \_\_\_\_\_ spectrum disorder is characterized by social deficits and restricted repetitive behaviors.
7. People with \_\_\_\_\_ cannot distinguish between their reality and society's reality.
8. Abrupt withdrawal from alcohol may cause symptoms called \_\_\_\_\_ tremens.
9. \_\_\_\_\_ is the repeated compulsive use of a substance despite negative consequences.
10. \_\_\_\_\_ refers to the loss of ability to enjoy things that are usually pleasurable.

## CRITICAL THINKING

Read the following case study and answer the questions.

You are caring for Mr. Joers, a 72-year-old man admitted to your surgical unit from a nursing home after he fell and broke his hip. He is scheduled for surgery this morning at 0800. During morning report, you learn that he has a history of Parkinson's disease, schizophrenia, and anxiety but that he was oriented and appropriate during admission and throughout the night. When you enter his room to check his vital signs and complete his preoperative checklist, he has a wild look in his eyes, and says, "Don't come near me! They told me what you're up to!"

1. What is your initial response to Mr. Joers? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What implications does his behavior have for surgery this morning? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What may have precipitated his worsening symptoms? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. What actions do you need to take after your initial response to Mr. Joers? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. What safety concerns do you have? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**REVIEW QUESTIONS—CONTENT REVIEW**

*Choose the best answer unless directed otherwise.*

1. Which of the following responses to anxiety is a cause for concern?
  1. A student studies late into the night to prepare for a difficult examination.
  2. A woman takes deep breaths before going into the grocery store because shopping makes her nervous.
  3. A nurse has a glass of wine before a stressful night shift.
  4. A young man gets the opinions of several of his friends before asking a woman out.
2. Which of the following is the most effective treatment for alcoholism?
  1. Group support, such as Alcoholics Anonymous
  2. Drug therapy
  3. Electroconvulsive therapy
  4. Slowly reducing amount of alcohol consumption

**REVIEW QUESTIONS—TEST PREPARATION**

*Choose the best answer unless directed otherwise.*

3. A patient being treated with lorazepam (Ativan) during alcohol withdrawal becomes sleepy after the first two doses, then becomes difficult to arouse when the nurse attempts to give the third dose. Which of the following actions should the nurse take first?
  1. Hold the dose and notify the registered nurse (RN) or physician.
  2. Understand that tolerance will occur with benzodiazepines and give the drug.
  3. Get the patient up and have him walk with assistance until he is more alert.
  4. Administer an antidote.
4. A patient calls a nurse into the room and says, “Quick, nurse, there is a dog in the corner. Please get him out. I am terrified of dogs.” The nurse sees no dog in the corner. Which of the following responses is best?
  1. “You know we don’t allow dogs in the hospital.”
  2. “We have been through this before. You know full well that there is no dog in the corner.”
  3. “I do not see a dog. Let’s take a walk down to the snack room.”
  4. “What kind of a dog is it? What makes you so scared of dogs?”
5. A patient is starting on lithium for bipolar disorder. Which of the following nutrients should the nurse teach about maintaining in the diet?
  1. Potassium
  2. Sodium
  3. Selenium
  4. Tyramine
6. Which of the following behaviors by a nurse may aggravate the behavior of a patient with schizophrenia?
  1. Providing written instructions on when to take medications
  2. Speaking in short, simple sentences
  3. Maintaining a structured environment
  4. Speaking quietly to other staff members when the patient is present
7. A patient has an order for carbamazepine (Tegretol) 150 mg twice daily for bipolar disorder. It is supplied as a suspension, 100 mg in 5 mL. How many milliliters should the nurse prepare? \_\_\_\_\_
8. Which statement by a patient with depression indicates that nursing interventions have been helpful?
  1. “His comment upset me, but I reminded myself that it really isn’t true.”
  2. “I feel so hopeless about everything, but I am glad you are a good listener.”
  3. “I feel so much better now that I know how to control my husband’s behavior.”
  4. “I am really trying to understand why everyone is against me.”

9. A patient is beginning treatment with paroxetine (Paxil) for unipolar depression, but after 10 days is still withdrawn and unable to participate in therapy. Which action by the nurse is best?
1. Contact the ordering physician for an increase in the dose.
  2. Contact the ordering physician for an alternative antidepressant.
  3. Continue to support the patient while waiting for symptoms to subside.
  4. Encourage the patient to include St. John's wort, an herbal supplement, in the treatment regimen.
10. The licensed practical nurse (LPN) is providing care for a 28-year-old who is to begin taking phenelzine (Nardil) for depression. Which of the following statements indicates the need for further teaching?
1. "It is very important that I not take other antidepressant medication while I'm on this drug."
  2. "If I notice any dizziness I should immediately stop taking the drug."
  3. "The bread and cereal food group is generally safe, but I will need to avoid certain foods from other food groups."
  4. "I will have to stop drinking beer or wine now that I'm taking this medication."





# Answers

## CHAPTER 1

### VOCABULARY

#### Nursing process

Definition: An organizing framework that links thinking with nursing actions. Steps include assessment/data collection, nursing diagnosis, planning, implementation, and evaluation.

#### Critical thinking

Definition: The use of those cognitive (knowledge) skills or strategies that increase the probability of a desirable outcome. Also involves reflection, problem solving, and related thinking skills.

#### Assessment

Definition: Gathering subjective and objective data to plan care.

#### Objective data

Definition: Factual information obtained through physical assessment and diagnostic tests. Objective data are observable or knowable through the health care worker's five senses. Referred to as *signs*.

#### Subjective data

Definition: Information that is provided verbally by the patient and referred to as *symptoms*.

#### Evaluation

Definition: Examination of outcomes and interventions to determine progress toward desired outcomes and effectiveness of interventions.

#### Vigilance

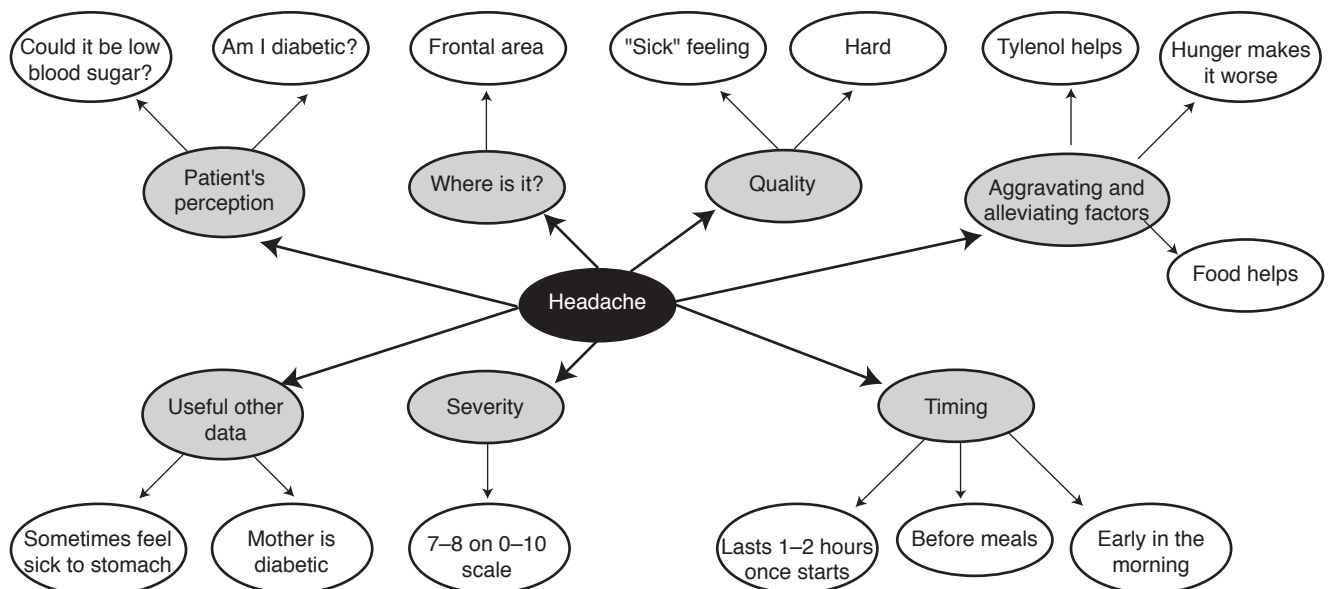
Definition: The act of being attentive, alert, and watchful.

### SUBJECTIVE AND OBJECTIVE DATA

1. Subjective (symptom)
2. Subjective (symptom)
3. Objective (sign)
4. Objective (sign)
5. Subjective (symptom)
6. Objective (sign)
7. Subjective (symptom)
8. Objective (sign)
9. Subjective (symptom)
10. Subjective (symptom)
11. Objective (sign)
12. Objective (sign)
13. Subjective (symptom)
14. Objective (sign)
15. Objective (sign)

### CRITICAL THINKING

*This is just one possible way to complete a cognitive map.*



**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(3)** is a nursing diagnosis. (1, 2, 4) are medical diagnoses.
2. **(1)** is a medical diagnosis. (2, 3, 4) are nursing diagnoses.
3. **(1)** the nurse who is not afraid to ask questions is demonstrating intellectual humility. (2, 3, 4) are incorrect.
4. **(3, 4, 5, 1, 2)**
5. **(1)** is the best definition. (2, 3, 4) do not define critical thinking, but are examples of good thinking.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

6. **(4)** Evaluation determines whether goals are achieved and interventions effective. (2) is the role of the physician; (1, 3) encompass data collection and implementation, which are earlier steps in the nursing process.
7. **(1)** The licensed practical nurse/licensed vocational nurse (LPN/LVN) can collect data, which includes

taking vital signs; assessment is the first step in the nursing process. (2, 3, 4) are all steps in the nursing process for which the registered nurse (RN) is responsible; the LPN/LVN may assist the RN with these.

8. **(3)** is data the nurse can collect through use of the five senses. (1, 2, 4) are subjective data that the patient must report.
9. **(2)** indicates that the patient is concerned about freedom from injury and harm. (1) relates to basic needs such as air, oxygen, and water. (3) relates to feeling loved. (4) is related to having positive self-esteem.
10. **(4)** is objective, realistic, and measurable with a time frame. (1, 2, and 3) are all good outcomes, but they relate to airway clearance, nutrition, and strength, not directly to swallowing.
11. **(2)** The three parts of a diagnosis include the problem (from the NANDA list), etiology (“related to”), and symptoms (“as evidenced by”). (1) does not include symptoms; (3) is a medical diagnosis; (4) is not a NANDA diagnosis and the evidence is not related to dyspnea.

# Answers

## CHAPTER 2

### VOCABULARY

1. Evidence-based practice: A systematic process that uses current evidence in making decisions about patient care.
2. Randomized controlled trials: True experimental studies in which as many factors that could falsely change the results are controlled as possible.
3. Research: Scientific study, investigation, or experimentation to establish facts and analyze their significance.
4. Systematic review: A review of relevant research using guidelines.

### EVIDENCE-BASED PRACTICE

1. proof
2. context
3. quality
4. care
5. best, randomized
6. outcomes
7. gold
8. nursing
9. patient's
10. information

### CRITICAL THINKING

1. By questioning the existing way of doing things to ensure that the patient receives the best care possible.
2. A thorough search of the literature in the area of music therapy.
3. Cumulative Index of Nursing and Allied Health (CINAHL); Joanna Briggs Best Practices; Cochrane Reviews; Medline/PubMed.
4. Measure patient outcomes before instituting the evidence-based change in practice so comparisons can be made after implementation to determine if the intervention worked.

5. Evaluate the results to determine whether the change made a significant difference and if it was worthwhile in terms of cost and time.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. **(2)** is Level I evidence. (1, 3, 4) are not examples of the best evidence.
2. **(1)** is a nursing database. (2, 3, 4) are primarily medical databases.
3. **(3)** is the website for the Joint Commission's 2014 National Patient Safety Goals. (1, 2, 4) are not correct.
4. **(2)** is the definition of a randomized clinical trial. (1, 3, 4) are not correct.
5. **(1)** Evidence-based practice begins with a burning question designed to solve a clinical problem. (2, 3, 4) are not correct.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

6. **(2, 3, 4, 5, 6)** are all independent nursing interventions because no health care provider's (HCP's) order is required. (1) is a dependent function because it requires a HCP's order.
7. **(1, 5)** are Level I research. (2, 3, 4) are not systematic reviews of randomized controlled trials.
8. **(1, 3, 5, 6)** because the EBP process involves ASKMME: ask, search, think, measure, make it happen and evaluate. (b, d) are not steps in the process.
9. **(3)** is correct because evidence shows frequent reality orientation improves thought processes in patients with Alzheimer's. (1, 2, 4) do not relate to reality orientation.
10. **(4)** The search should be narrowed to include the focus on the question. (1, 2, 3) do not focus on the question being asked.



# Answers

## CHAPTER 3

### VOCABULARY

- (2)
- (1)
- (5)
- (3)
- (4)
- (6)

### NURSING PRACTICE, ETHICAL AND LEGAL PRINCIPLES

- high-level, life
- state, protect, quality
- Caring
- dignity, maintaining
- knowledgeable, role models, humor, respect

### VALUES CLARIFICATION

There are no answers to this section because this is an exercise requiring personal responses.

### CRITICAL THINKING

There are no correct answers to this section because this is an ethical exercise that has many choices to be considered for the best outcome for the patient.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

- (3)** is correct. (1, 2, 4) are incorrect.
- (1)** is correct. (2, 3, 4) are incorrect.

- (4)** is correct. (1, 2, 3) are incorrect.
- (2)** is the first step. (1, 3, 4) are incorrect.
- (1)** is correct. (2, 3, 4) are incorrect.
- (3)** is correct. (1, 2, 4) are incorrect.
- (4)** Criminal punishment can result in loss of freedom; (1, 2, 3) are related to civil liability.
- (1)** is correct. (2, 3, 4) are intentional torts.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

- (4)** The patient is chronically ill but able to meet most goals so has moderate wellness. (1) The patient is not near death; (2) because the patient cannot meet all goals, high-level wellness is not being achieved; (3) the patient is not in poor health because most goals are met through adaptation.
- (2)** The nurse–patient relationship is based on trust that the nurse will maintain all patients’ rights. (1) is a constitutional right, not an ethical issue. (3) is a legal issue. (4) is not an ethical principle.
- (2)** is correct. (1, 3, 4) are incorrect.
- (1)** is correct. (2, 3, 4) are incorrect.
- (1, 2, 4, 5)** These are all part of the five steps of delegation. (3) In delegation it is the right person not right patient that is considered. (6) The right route relates to medication administration.

# Answers

## CHAPTER 4

### VOCABULARY

- |         |          |
|---------|----------|
| 1. (2)  | 7. (7)   |
| 2. (3)  | 8. (12)  |
| 3. (11) | 9. (9)   |
| 4. (8)  | 10. (1)  |
| 5. (5)  | 11. (4)  |
| 6. (6)  | 12. (10) |

### CULTURAL CHARACTERISTICS

1. Primary characteristics of culture include nationality, race, skin color, gender, age, and religious affiliation.
2. Secondary characteristics of culture include socioeconomic status, education, occupation, military status, political beliefs, length of time away from the country of origin, urban versus rural residence, marital status, parental status, physical attributes, sexual orientation, and gender issues.
3. Traditional practitioners are health care practitioners from a patient's native culture. They are typically native to another country, although they may practice in the United States. Examples include *curanderos*, *espirituitas*, *sobadors*, acupuncturists, and crystal gazers.
4. Present-oriented people accept the day as it comes with little regard for the past—the future is unpredictable. Past-oriented people may worship ancestors. Future-oriented people anticipate a bigger and better future and place a high value on change. Some individuals balance all three views; they respect the past, enjoy living in the present, and plan for the future.

### CRITICAL THINKING: IMMIGRANTS AND PERSONAL INSIGHTS

There are no correct or incorrect answers to these sections because these are exercises requiring personal responses.

### CRITICAL THINKING: BATHING

1. In this patient's culture, it is improper for someone of the opposite sex to help with bathing. It is important to assess whether this is the case with this gentleman.
2. Find a male nurse's aide, ask a family member to help, or skip the bath again.
3. Having a male aide do the bath is the best solution. If no male aide is available, the family may be approached for help, although this is not the best solution. Because this

is the fourth day without a bath, skipping the bath is not a good option.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. (4) is correct. Tay-Sachs disease is an inherited disease that progressively destroys the nervous system, usually resulting in death by age 5. It is most common among people of Eastern European Jewish (Ashkenazi) heritage, but it also occurs among some French-Canadians and Cajuns in Louisiana. (1, 2, 3) are not correct.
2. (3) is correct. Ethnocentrism is the tendency for human beings to think that their ways of thinking, acting, and believing are the only right, proper, and natural ways. (1, 2, 4) are not correct.
3. (higher) is correct. Hispanic Americans and American Indians generally have a higher glucose level than whites. They also have a higher than average risk of diabetes.

### REVIEW QUESTION—TEST PREPARATION

*The correct answers are in boldface.*

4. (1) is correct. Many American Indians are not time conscious. She may not keep her appointment if you reschedule, so give the immunizations now. (2) is incorrect; she may not keep her appointment. (3) is incorrect; she may not return to have her stitches removed. (4) is incorrect; to ensure that the children get the immunizations, give them now.
5. (3) is correct. Many Hispanics are openly expressive of their grief. Her bereavement behaviors are culturally congruent. Remaining with her is supportive. (1) is incorrect; there is no need to call the cardiac arrest team. (2) is incorrect; lying on the floor is more disconcerting to the nurse than it is to the bereaved woman. (4) is incorrect. This is not the best intervention. Expressive bereavement is normal. However, a later strategy may include a sedative.
6. (2) is correct. Cupping is a traditional Chinese practice that is harmless in most cases. Further assessment should be done to confirm cupping as a cause. (1) is incorrect. Cupping is not considered child abuse. (3) is incorrect. The situation should be reported to the mother by the school nurse. (4) is incorrect. The nurse has acted in good faith and has done nothing wrong.
7. (1) is correct. In certain Arabic countries, organs can be purchased for transplantation. This is currently illegal in

- the United States. (2) is incorrect. The patient does not have an ethical dilemma; however, the nurse may have one. (3) is incorrect. There is no need to call the supervisor. (4) is incorrect. Although there is no harm in giving him the telephone number, this does not take care of the immediate response. The organ center will tell him the same thing.
8. (3) is correct. Initially you must assess how traditional the family's food practices are before a dietary regimen can be set up. (1) is incorrect. Giving a traditional ethnic individual an exchange list of foods does not ensure that he or she will change dietary practices to an American food-exchange list. (2) is incorrect. Being able to calculate calories does not ensure that the family knows how to balance a diabetic diet. (4) is incorrect. Although this is certainly an option for the future, the initial step is to obtain a dietary assessment.
9. (4) is correct. Patients are allowed to have a Santero visit as long as he or she does not do anything to interfere with treatment or cause a safety problem. (1) is incorrect. It is not necessary to get the supervisor's permission. However, it is a good idea to let the supervisor know that a Santero is going to visit. (2) is incorrect. All religious counselors are allowed to visit. (3) is incorrect. The patient has the right to see her own religious counselor.
10. (4) is correct because family is usually very important to Hispanic patients' spirituality. (1) is incorrect. Large numbers of family members in the cafeteria may cause further disruption in the cafeteria. (2) is incorrect. Large groups in the lobby may cause overcrowding for other families. (3) is incorrect. All family members should be allowed to visit. It may help to have them choose a spokesperson to control visiting for this patient.
11. (2) is correct. Reducing portion size decreases the overall calorie and fat consumption. (1) is incorrect; telling a patient to not purchase lard does not mean she will comply. (3) is incorrect; rarely does a person bake two separate pies. The goal is to reduce overall fat and calorie consumption. (4) is incorrect; it is inconsistent with the goal of reducing fat and calories.
12. (2) is correct. She has to make her own decision, but she should be fully aware of the consequences. (1) is incorrect. Scare tactics are not appropriate; she may live whether or not she receives radiation therapy. (3) is incorrect; it borders on harassment by the staff. (4) is incorrect; radiation therapy may be the best choice for this type of cancer.
13. (2) is correct. Changing the schedule slightly is preferable to omitting the medication. (1) is incorrect. Blood levels can be maintained on a different schedule, as long as the doses are reasonably spread out. (3) is incorrect. Omitting the medication will alter blood levels. (4) is incorrect. It does not respect the patient's religious beliefs.

# Answers

## CHAPTER 5

### VOCABULARY

1. (5)
2. (4)
3. (6)
4. (2)
5. (1)
6. (3)

### COMPLEMENTARY MODALITY: GUIDED IMAGERY

*Purpose: To help the patient use mental images to reduce stress and promote changes in attitude or behavior. May be useful in treating stress-related conditions, such as high blood pressure or insomnia, and may even boost the immune system.*

*Teaching Plan: See Box 5-2 in your textbook.*

### CRITICAL THINKING

1. Feverfew is used for migraine headaches, inflammation, and menstrual problems, among other things.
2. Capsaicin is used for pain associated with a variety of disorders.
3. St. John's wort is used for depression.
4. Several sources should be consulted before taking herbs. The Internet has a lot of good information, but the source should be carefully evaluated; **www.mayoclinic.com** is an excellent resource. A pharmacist knowledgeable in herbs and herb-drug interactions, as well as the primary physician or care provider, should be consulted.
5. "Mrs. Lawless, I am concerned that your herbs could interact with your heart failure medications. I will check with your doctor and the hospital pharmacist to be sure they are safe before you take them."

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. (4) is correct. Progressive muscle relaxation is being added to a traditional therapy, making it complementary. (1) is incorrect. Inhalers and oral medications are both traditional therapies for asthma. (2) is incorrect. Cardiac

rehabilitation is a traditional therapy. (3) would be considered an alternative therapy because the echinacea is being used in place of a traditional therapy.

2. (1) is correct. Hydrotherapy would be considered alternative because it is being used in place of nonsteroidal anti-inflammatory drugs. (2) is incorrect. Because chemotherapy is still being used, the addition of the spiritual healer would be considered complementary. (3) is incorrect. Antibiotics and bronchodilators are both traditional medical therapy. (4) is incorrect. Aspirin is traditional therapy for a headache.
3. (3) is correct. *Allopathy* is the proper term for traditional Western medicine. (1, 2, 4) are all nontraditional medical practices.
4. (1) is correct; echinacea has been shown in some studies to be potentially effective against colds and viruses. (2) is incorrect. Feverfew is used for headaches and inflammation, among other things. (3) is incorrect. Chamomile is used for anxiety. (4) is incorrect. Ginger is used for nausea.
5. (1, 2, 6) are correct. Energetic modalities include biofeedback, healing touch, magnet therapy, polarity therapy, Reiki, spiritual healing, and therapeutic touch. (3) Music therapy and (5) yoga are mind-body therapies. (4) Hydrotherapy is considered a miscellaneous therapy and is not designed to alter energy fields.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

6. (4) is correct. The patient should keep his or her eyes closed during imagery, so this statement indicates that more teaching is needed. (1, 2, 3) are all parts of guided imagery.
7. (2) is correct. Chiropractors do not perform surgery. (1, 3, 4) are potentially true, but the nurse needs to safeguard the patient by informing her that a chiropractor is not trained or qualified to do surgery.
8. (2) is correct. The primary care practitioner can help determine which alternative therapies are safe. (1) is incorrect. Any therapy can be potentially safe or unsafe. (3) is incorrect. Many alternative therapies are safe when used correctly. (4) is incorrect. Alternative and complementary therapies can be effective for chronic pain.
9. (3) is correct. It is least appropriate to tell the patient he will be able to reduce his pain medications; this is a

possibility but not a guarantee. (1, 2, 4) are all appropriate measures to take before beginning to practice any new alternative therapy.

10. (4) is correct. Ginseng can lower blood glucose and can interfere with warfarin and aspirin. The patient needs to be aware of the risks and then be encouraged to speak with his primary care provider. (1) is incorrect. It can

lower glucose, but it should not be encouraged without provider approval. (2) is incorrect. The patient may or may not check out a website before taking the ginseng. He must be educated while he is still in the hospital.

(3) is incorrect. It might be safe to take some herbal agents with the prescribed medications; patients need to understand how to exercise caution.

# Answers

## CHAPTER 6

### VOCABULARY

1. diffusion
2. isotonic
3. hypertonic
4. hypovolemia
5. cations
6. hypernatremia
7. hypokalemia
8. hypocalcemia
9. Acidosis
10. alkalosis

### DEHYDRATION

*Corrections are in boldface.*

Mrs. White is a 78-year-old woman admitted to the hospital with a diagnosis of severe dehydration. The licensed practical nurse/licensed vocational nurse (LPN/LVN) assigned to Mrs. White is asked to collect data related to fluid status. The LPN expects Mrs. White's blood pressure to be **low because of fluid loss**. The nurse also finds Mrs. White's skin **turgor to be poor**, and she notes that the **urine output is scant** and dark amber. The nurse asks Mrs. White if she knows where she is and what day it is because severe dehydration may cause confusion. In addition, the nurse initiates **daily weights** because this is the most accurate way to monitor fluid balance.

- Blood pressure will be low, not elevated, due to loss of intravascular volume.
- The skin will have poor turgor and will tent when pinched. Remember, the best place to check for tenting in the older patient is over the sternum or forehead.
- Urine volume will be diminished as the body attempts to conserve fluid.
- Daily weights are the most reliable indicator of fluid loss or gain.

### ELECTROLYTE IMBALANCES

1. (4)
2. (5)
3. (2)
4. (3)
5. (1)

### CRITICAL THINKING

1. Check Mr. James's vital signs. Elevated blood pressure, bounding pulse, and shallow, rapid respirations are common signs of fluid overload. If he is able to stand, weigh him to see if his weight has increased since yesterday. Auscultation of his lungs may reveal new-onset or worsening crackles (he may have had crackles on admission related to his bronchitis).
2. Kidney function declines in the older adult, and the intravenous (IV) fluids may have been too much for him. Regular assessment and caution with IV therapy can prevent overload from occurring.
3. The registered nurse may decide to reduce the IV infusion rate until orders are obtained. The LPN can elevate the patient's head to ease breathing. Make sure oxygen therapy is being administered as ordered. Stay with him to help him feel less anxious. Anticipate a possible diuretic order. Continue to monitor fluid balance.
4. If a diuretic is administered, urine output should increase, but this does not signal resolution of the problem. It is probably unrealistic to expect Mr. James's lungs to clear completely because he was admitted with bronchitis. However, return of lung sounds to admission baseline would signal resolution of the acute overload. Other signs would include return to admission vital signs and weight and ability to walk to the bathroom again without excessive shortness of breath.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. (2) is correct; 0.9% is isotonic, making 0.45% hypotonic. (1) is isotonic; (3, 4) are hypertonic.
2. (3) is correct. Aldosterone retains sodium and therefore water in the body. (2) Thyroid hormone and (4) insulin do not affect sodium; (1) Antidiuretic hormone (ADH) retains water.
3. (2) is correct. Cheeses are high in sodium. (1) Apples, (3) chicken, and (4) broccoli are not high in sodium.
4. (3) is correct. Potatoes are high in potassium. (1) Bread, (2) eggs, and (4) cereal are not high in potassium.
5. (2) is correct. Fluid gains and losses are evidenced in weight gains and losses. (1) Intake and output (I&O), (3) vital signs, and (4) skin turgor are all ways to monitor fluid balance, but they are not as reliable. I&O may be

inaccurate, vital signs may be affected by other factors, and measurement of skin turgor is subjective.

6. **(2)** is correct. Vomiting and diarrhea and profuse sweating can cause dehydration that may manifest itself by thirst, a rapid heartbeat but weak pulse, low blood pressure, dark urine, dry skin and mucous membranes, and elevated blood urea nitrogen (BUN) and hematocrit levels. Temperature often increases in cases of dehydration, but that may not be apparent in older people who often have a lower normal body temperature than younger people. (4) Hyponatremia, or low sodium level, may occur with dehydration, but that can be confirmed only by laboratory tests. In any case, the fluid imbalance must be assessed and treated first. (1) Hypervolemia, or overhydration, is the opposite of dehydration. Excess fluid may result in (3) edema in the lower extremities as well as elevated blood pressure, increased rate of respiration, pale cool skin, and diluted urine.

## REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

7. **(2)** is correct. Failing kidneys cannot effectively excrete water, making the patient at risk for overload. (1) Meningitis, (3) psoriasis, and (4) influenza do not cause fluid retention. Influenza can cause fluid loss if vomiting or diarrhea is present.
8. **(1, 4, 6)** are correct. The patient with an ileostomy loses large amounts of water with continuous liquid stools. Fever is associated with an increased risk of dehydration.
- Diuretic therapy increases the risk for dehydration. (2) Asthma, (3) diabetes (as long as it is stable), and (5) fractures do not cause fluid loss.
9. **(1)** is correct. Hyponatremia accompanied by fluid loss results in dehydration and mental status changes. (2) Hyperkalemia, (3) hypercalcemia, and (4) hypomagnesemia are not as likely to affect fluid balance and mental status.
10. **(3)** is correct. Ambulation can help prevent bone loss. Because the patient is weak and is at risk for falls and fractures, assistance should be provided. (1) Bedrest promotes bone loss, (2) fluids will not help bone or calcium levels, and (4) the patient needs calcium, not protein.
11. **(2)** is correct. He is probably hyperventilating because of the anxiety. Rebreathing carbon dioxide exhaled into a paper bag can temporarily relieve symptoms of alkalosis until the underlying cause is corrected. (1) Oxygen, (3) positioning, and (4) coughing and deep breathing all help increase oxygenation, which is not needed at this time.
12. **(2)** is the correct answer. Hypoventilation related to lung disease causes retention of carbon dioxide, which causes acidosis. (1) Hyperventilation causes alkalosis, (3) loss of acid causes alkalosis, and (4) loss of base causes acidosis, but it is not the cause in this case.
13. **(3, 4, 6)** are correct. Potassium supplements should be taken with food; Slow-K should not be crushed; diarrhea is not expected and should be reported to the physician. If the patient makes these statements, more teaching is needed.

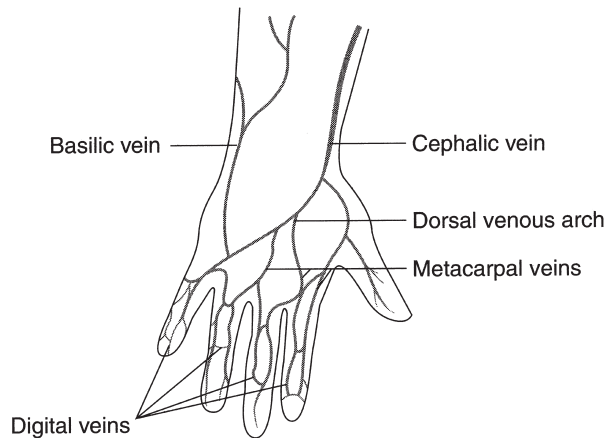
# Answers

## CHAPTER 7

### VOCABULARY

- (1)
- (6)
- (7)
- (2)
- (5)
- (8)
- (4)
- (3)

### PERIPHERAL VEINS



### COMPLICATIONS OF IV THERAPY

- phlebitis
- local infection
- extravasation
- circulatory overload
- infiltration
- septicemia
- venous spasm
- air embolism

### CRITICAL THINKING

Begin by observing the infusion site: look for redness and signs of infiltration (such as coolness and swelling), compare extremities, and check catheter/administration hub connection to make sure it is secure. Next assess for mechanical problems such as position of the catheter by moving the extremity around to see if the intravenous (IV) is simply “positional.” Check the tubing for kinks, and the clamp to be sure it is open. If the infusion is still not running, the catheter may be occluded with a fibrin or blood clot. The catheter may need

to be discontinued. NEVER attempt to flush the catheter because this could dislodge a clot into the circulation. The role of the LPN varies by state. In many states, the RN would need to be consulted before discontinuing and restarting a new IV site. The RN may attempt to withdraw a clot by aspiration.

### CALCULATION PRACTICE

- $$\frac{83 \text{ mL}}{1 \text{ hour}} \times \frac{1 \text{ hour}}{60 \text{ minutes}} \times \frac{15 \text{ gtts}}{\text{mL}} = \frac{21 \text{ gtts}}{\text{minute}}$$
- $$\frac{50 \text{ mL}}{20 \text{ minutes}} \times \frac{10 \text{ gtts}}{\text{mL}} = \frac{25 \text{ gtts}}{\text{minute}}$$
- $$\frac{1 \text{ L}}{12 \text{ hours}} \times \frac{1000 \text{ mL}}{1 \text{ L}} = \frac{83 \text{ mL}}{\text{hour}}$$
- $$\frac{800 \text{ units}}{1 \text{ hour}} \times \frac{500 \text{ mL}}{50,000 \text{ units}} = \frac{8 \text{ mL}}{\text{hour}}$$
- $$\frac{1000 \text{ mL}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{60 \text{ minutes}} \times \frac{60 \text{ gtts}}{1 \text{ mL}} = \frac{42 \text{ gtts}}{\text{minute}}$$

### REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

- (2) is correct. The basilic vein is the most distal vein. The nurse should always start distally and then use more proximal veins for future IV sites. (1, 3, 4) are all proximal and are reserved for central insertions.
- (3) is correct. The site must be cleaned for at least 30 seconds regardless of solution used to effectively rid the skin of bacteria. (1, 2) are incorrect. (4) is not the best answer.
- (1) is correct. A clot could be flushed from the cannula into the circulation and lodge in a pulmonary artery, causing a pulmonary embolism. (2) Air, not a clot, causes an air embolism. (3) Arterial spasm is caused by injecting medication. (4) Extravasation is caused by infiltration of vesicant drugs.
- (3) is correct. Leakage of IV fluid into tissues causes puffiness. (1, 2, 4) indicate infection or inflammation.
- (1) is correct. Phlebitis, an inflammation of a vein, has signs and symptoms of redness, warmth, swelling, and pain at the infusion site. A (2) thrombosis, on the other hand, is manifested by a slowed-to-stopped infusion, fever and malaise; a (3) hematoma evidenced by



swelling and bruising; and (d) signs of infiltration are swelling and a resistance or inability to advance or flush the catheter.

## REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

6. **(4)** is correct. Fluid overload could be worsened with the use of continuous fluids. (1, 2, 3) All would benefit from continuous fluid administration.
7. **(2)** is correct. IV medications act rapidly because they are instantly in the bloodstream. (1) Furosemide (Lasix) can be given orally. (3) IV dosing is not necessarily more accurate. (4) Oral furosemide does not cause more side effects.
8. **(3)** 125 mL/hr is correct. (1, 2, 4) are incorrect.
- $$\frac{1000 \text{ mL}}{8 \text{ hours}} = \frac{125 \text{ mL}}{\text{hour}}$$
9. **(3)** 50 gtt per minute is correct. (1, 2, 4) are incorrect.
- $$\frac{50 \text{ mL}}{1 \text{ hour}} \mid \frac{1 \text{ hour}}{60 \text{ minutes}} \mid \frac{60 \text{ gtt}}{1 \text{ mL}} = \frac{50 \text{ gtt}}{\text{minute}}$$
10. **(1)** is correct. (2, 3) Small veins do not tolerate large volumes of fluid, high infusion rates or irritating solutions. (4) The antecubital space is avoided if possible.

# Answers

## CHAPTER 8

### VOCABULARY

#### Antigen

Definition: A protein marker on a cell's surface that identifies the cell as self or nonself.

#### Asepsis

Definition: A condition free from germs, infection, and any form of life.

#### Bacteria

Definition: One-celled organisms that can reproduce but need a host for food and a supportive environment. Bacteria can be harmless normal flora or disease-producing pathogens.

#### *Clostridium difficile* (*C. diff*)

Definition: A Gram-positive bacteria normally found in the intestine that can multiply after antibiotic therapy and release toxins that cause diarrhea.

#### Hand Hygiene

Definition: Cleansing of the hands with hand washing or the use of alcohol-based hand rubs.

#### Pathogens

Definition: Microorganisms or substances capable of producing a disease.

#### Personal Protective Equipment

Definition: Items such as gloves, gowns, masks, goggles, and face shields that help prevent the spread of infection to those wearing them.

#### Phagocytosis

Definition: Ingestion and digestion of bacteria and particles by phagocytes that destroy particulate substances such as bacteria, protozoa, and cell debris.

#### Sepsis

Definition: Immune system response to a serious infection with systemic inflammation.

#### Virulence

Definition: The ability of the organisms to produce disease.

#### Viruses

Definition: Small intracellular parasites that can live only inside cells and may produce disease when they enter a cell.

### PATHOGEN TRANSMISSION

- |        |         |
|--------|---------|
| 1. (3) | 6. (2)  |
| 2. (4) | 7. (3)  |
| 3. (3) | 8. (2)  |
| 4. (4) | 9. (2)  |
| 5. (2) | 10. (1) |

### PATHOGENS AND INFECTIOUS DISEASES

1. staphylococci
2. fungi
3. *Candida albicans*
4. Epstein-Barr
5. pneumonia (histoplasmosis)
6. toxoplasmosis
7. protozoa
8. viruses
9. Rickettsiae
10. *Clostridium difficile* (*C. difficile*)

### CRITICAL THINKING

1. Mask, gown, gloves, a sign reading "Contact Precautions," soap and paper towels, special bags for linen and trash, wash area in the room.
2. Disposable thermometer, disposable or autoclavable blood pressure (BP) cuff, stethoscope that remains in the room and can be disinfected, grooming items, bedpan, bath basin, separate container for sharps. Intravenous (IV) equipment and any other equipment needed for the care of the patient must be able to be disinfected.
3. Because visitors are limited the patient has few social contacts and may lack a support system as a result. Environmental stimuli are limited. Activities are limited. Patient is dependent on others for some needs due to confinement.
4. Allow visitors as appropriate and instruct them on how to implement isolation precautions. Offer visitors masks or respirators as appropriate. Encourage contact via telephone with family and friends who cannot visit. Maintain a cheery environment; open curtains; maintain sensory stimuli by remaining with the patient as long as possible. Encourage diversional activities, things the patient likes to do, such as TV or reading books. Always answer call light immediately.
5. *C. difficile*
6. Probiotics

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(1)** Warm skin is a sign of local infection. (2, 4) are seen in shock. (3) is typical of a systemic infection.
2. **(2)** Use of autoclaves is a method of sterile technique. (1, 3, 4) are all medical asepsis practices.
3. **(3)** is correct. Healthcare-acquired infections result from hospitalization. (1) is a chronic infection, (2) is due to a sexually transmitted infection, and (4) the infection was present before hospitalization.
4. **(4)** is correct. Vancomycin is the treatment of choice for methicillin-resistant *Staphylococcus aureus* (MRSA). (1, 2, 3) are incorrect.
5. **(4)** is correct. Tuberculosis is passed by airborne transmission, and anyone entering the room of a patient with tuberculosis should wear a fit-tested HEPA mask, which filters the tiniest particles from the air. Other types of masks and personal protective equipment will not provide protection from airborne pathogens. (1, 2, 3) are incorrect because they are not transmitted by air.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

6. **(3)** Washing hands before and after patient contact is considered the most important method of infection prevention. (1) Hands cannot be sterilized. (2) is a good action, but alone it is not sufficient for infection control. (4) Gloves are worn only during certain procedures, when the caregiver is likely to come in contact with a moist body surface. Even when gloves are worn, hand washing before and after wearing the gloves is essential for infection control.
7. **(1)** Surgical asepsis is aimed at the destruction of microbes before they enter the body. (2, 4) describe medical asepsis. (3) is not related to surgical asepsis.
8. **(1, 5, 6)** All pathogens require moisture, food, and warmth. (2, 3, 4) are incorrect. All pathogenic organisms need darkness to multiply. Some need oxygen, but others do not.
9. **(3)** The only way to obtain a sterile specimen is to catheterize the patient. (1, 2, 4, 5, 6) are incorrect because any voided specimen is contaminated and the specimen must be placed into a sterile specimen container.
10. **(1)** Urinary catheters are a cause of health care–acquired infections and should be avoided if possible. (2, 3, 4) do not prevent infection, and restricting fluids may promote infection and dehydration.
11. **(4)** A high fever indicates that the patient has developed a secondary bacterial infection. (1, 2, 3) are incorrect. Viral infections such as the common cold are usually associated with a low-grade fever. Symptoms of the common cold include stuffy nose with watery discharge, scratchy throat, dry cough, sneezing, and watery eyes.
12. **(1)** A culture identifies pathogen presence. (2) A drug level or peak and trough measures antibiotic levels. (3) A sensitivity report indicates what pathogens are sensitive to certain antibiotics. (4) is incorrect.
13. **(2, 5)** Irritability and pacing behavior can be signs of infection in an older adult. (1, 3, 4, 6) are not signs of infection.
14. **(2)** Sterile water should be used instead of tap water for an immunocompromised patient to prevent infection. (1, 3, 4) are appropriate actions.

# Answers

## CHAPTER 9

### VOCABULARY

- |                |                   |
|----------------|-------------------|
| 1. acidosis    | 6. cyanosis       |
| 2. anaerobic   | 7. tachypnea      |
| 3. anaphylaxis | 8. oliguria       |
| 4. dysrhythmia | 9. tachycardia    |
| 5. cardiogenic | 10. hypoperfusion |

### MATCHING

- |        |        |
|--------|--------|
| 1. (3) | 4. (2) |
| 2. (1) | 5. (2) |
| 3. (2) | 6. (3) |

### CRITICAL THINKING

- Stage: Irreversible  
Category of Shock: Hypovolemic  
Initial Action: Notify health care provider, aid volume restoration by monitoring intravenous (IV) infusion
- Stage: Compensating  
Category of Shock: Septic  
Initial Action: Notify health care provider, maintain oxygen
- Stage: Progressive  
Category of Shock: Cardiogenic  
Initial Action: Stop IV infusion, notify health care provider

### SIGNS AND SYMPTOMS OF SHOCK PHASES

Signs/Symptoms	Phases		
	<i>Compensating</i>	<i>Progressive</i>	<i>Irreversible</i>
Heart rate	Elevated	Tachycardia	Slowing
Pulses	Bounding	Weaker, thready	Absent
Systolic blood pressure	Normal	<90 mm Hg *In hypertensive, 25% below baseline	<60 mm Hg
Diastolic blood pressure	Normal	Decreased	Decreasing to 0
Respirations	Elevated	Tachypnea	Slowing
Depth	Deep	Shallow	Irregular, shallow
Temperature	Varies	Decreased *May elevate in septic shock	Decreasing
Level of consciousness	Anxious, restless, irritable, alert, oriented	Confused, lethargy	Unconscious, comatose
Skin/mucous membranes	Cool, pale	Cold, moist, clammy, pale	Cyanosis, mottled, cold, clammy
Urine output	Normal	Decreasing to <20 mL/hr	15 mL/hr decreasing to anuria
Bowel sounds	Normal	Decreasing	Absent

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(2)** Decreased peripheral tissue perfusion may be seen first as slow capillary refill, except in the older patient. (1, 3, 4) do not convey peripheral tissue perfusion status.
2. **(1)** Tachypnea is compensatory to maintain normal oxygen levels when cardiac output decreases. (1) If anxiety occurs, it is not the primary cause of tachypnea. (2) Decreasing retention of carbon dioxide is not the primary reason for tachypnea, although it is a benefit. (4) is incorrect.
3. **(3)** Blood pressure is dropping and peripheral vasoconstriction occurs, resulting in less blood flow to the extremities; sympathetic nervous system compensation causes sweating to cool the body for “fight or flight.” (1, 2, 4) are incorrect.
4. **(3)** is a 25% decrease from baseline. (1, 2, 4) are incorrect.
5. **(2)** The goal is to increase understanding when knowledge is deficient. (1, 3, 4) are incorrect.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

6. **(3)** Notify the health care provider immediately because the patient is hypovolemic and needs intravenous (IV) fluids. (1) This is not the type of IV fluid the patient needs; an isotonic IV solution such as 0.9% normal saline would be appropriate. (2) is not a priority at this time. (4) The patient requires intervention now and more frequent monitoring.
7. **(2)** Elevated creatinine indicates possible renal damage. (1, 3, 4) are near normal and not indicative of a problem.

8. **(2)** The pulse elevates to compensate for decreasing cardiac output in compensating shock and is therefore the earliest indication of compromise from these options. (1, 3, 4) are found in progressive shock and would be seen later than tachycardia.
9. **(1)** is of highest concern because it is a symptom of progressive shock. (2, 3, 4) are found in compensating shock.
10. **(2)** Inform the registered nurse so the IV rate can be increased while the physician is being notified because the patient is hypovolemic. (1, 3, 4) are incorrect because the patient needs immediate intervention. (1) provides no intervention, although vital signs will be monitored continuously, and (3, 4) can worsen the condition.
11. **(2)** increases blood pressure. (1, 3, 4) are incorrect as they do not increase blood pressure.
12. **(4, 2, 5, 6, 1, 3)** Use Maslow’s hierarchy as a guide: Airway is considered first (4), then oxygen (2); determining vital signs (5) will guide further treatment; IV fluids are needed to replace lost fluid in hypovolemic shock so ordered IV needs to be monitored and maintained (6); and urine output monitoring will help guide treatment (1). (3) is not a priority at this time.
13. **(1, 2, 5, 6)** Symptoms of obstructive shock are similar to those of hypovolemic shock except that jugular veins are usually distended. BP is low, urine output less than 20 mL per hour, and changes in level of consciousness including confusion and lethargy are seen. (c, d) are incorrect because tachycardia and tachypnea would occur.

# Answers

## CHAPTER 10

### VOCABULARY

- |        |         |
|--------|---------|
| 1. (4) | 6. (8)  |
| 2. (3) | 7. (10) |
| 3. (6) | 8. (5)  |
| 4. (1) | 9. (2)  |
| 5. (9) | 10. (7) |

### CULTURAL COMPETENCE

*Remember that each patient is an individual and may or may not act like others from his or her cultural group.*

- Native Americans might not ask for pain medication. They may believe pain is something that must be endured.
- European Americans may be stoic and avoid taking medication even when it is necessary. They may fear addiction or dependence.
- African Americans may express pain more freely and may feel pain and suffering are inevitable.
- Hispanic Americans from Puerto Rico may moan or cry. Those from Mexico may be more stoic, especially the men, who do not want to appear weak.
- Asian Americans tend to be stoic and not express pain freely.
- Arab Americans may express pain openly to family members, but less so with caregivers.

### CRITICAL THINKING

1. Using the **WHAT'S UP?** format, you would assess where her pain is, how it feels, what makes it better or worse, when it began, how severe it is on a scale of 0 to 10, related symptoms, and her perception of the pain and what will relieve it.
2. Morphine is an opioid that works by binding to opioid receptors in the central nervous system. Even though the RN gives the medication, you are in a position to observe for therapeutic and side effects.
3. Because you can expect Ms. Murphy to be in pain on her operative day, it is most beneficial to administer her analgesic every 4 hours, before pain begins to recur (as long as her level of sedation and respiratory rate are within safe parameters). This will help her walk and cough and prevent postoperative complications. Often postoperative analgesics are administered via patient-controlled anesthesia (PCA).
4. Common side effects of opioids included drowsiness, nausea, and constipation. Respiratory depression and constricted pupils are signs of overdose.
5. If the morphine has been effective, Ms. Murphy will be able to ambulate and cough with minimal difficulty and will rate her pain at a level that is acceptable to her.
6. According to the equianalgesic chart, the 30 mg of oral codeine in Tylenol No. 3 would be equal to about 2.5 mg of IV morphine, a much smaller dose than she has been receiving. The health care provider should be contacted for a more appropriate order.
7. Relaxation, distraction, back rubs, music, and imagery might all be effective in addition to the morphine. She has already been using distraction as she visits with her family.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in **boldface**.*

1. **(4)** is correct. Pain is whatever the experiencing person says it is, occurring whenever the experiencing person says it does. (1, 2, 3) may all be true in some situations but are not general definitions of pain and do not guide nursing care.
2. **(3)** is correct. *Suffering* is the term used to describe the sense of threat that can accompany pain. (1, 2, 4) may all be present with pain, but they are not the same as suffering.
3. **(1)** is correct. Constipation is a common side effect. (2) is serious but not common, (3) is not a side effect of opioids, and (4) is not common and is different from a side effect.
4. **(3)** is correct. The patient's self-assessment is the best measure of pain available. (1) Some patients may moan or cry, but others may not—this may be a cultural variation; (2) vital signs are an indirect measure and are most reliable when assessing acute pain; and (4) the patient's request for pain medication may be unrelated to the severity of pain.
5. **(2)** is correct. Distraction can be effective when used with analgesics. (1) Some patients may deny their pain, but most will not; (3) laughing and talking do not mean pain is not present; and (4) there is no evidence that laughing changes the duration of action of medications.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

6. **(4)** is correct. Meperidine has a toxic metabolite called normeperidine, which can build up and cause cerebral irritation. It is inappropriate for use in most people. (1, 2, 3)

- may all be appropriate, but the nurse must first consider the patient's safety before trying other approaches.
7. (3) is correct. Pain level should be assessed before giving any analgesic, and respiratory rate should be assessed before giving any medication that can depress respirations. (1) Liver and kidney function are not routinely assessed with normal doses of medication, (2) tachycardia may be present with acute pain, but blood glucose and pulse rate are not routinely assessed, and (4) the emotional and physical cause of pain may not always be known.
  8. (1) is correct. Naloxone is a narcotic antagonist. (2, 3, 4) are not narcotic antagonists.
  9. (3) is correct. There is no research to justify the use of placebos to treat pain. (1, 2, 4) all imply that the placebo will be given. Placebos should be given only in research settings with patient consent.
  10. (3) is correct. Most patients who are too drowsy to push the button are not in pain. Further assessment is needed to determine if he is in pain and how to proceed. (1, 2) No one but the patient should ever push the button. (4) The medication should be increased only as ordered after a complete assessment and assurance that the patient is safe.
  11. (2) is correct. The patient should always be believed. (1, 3, 4) may all be true, but if the nurse makes a wrong assumption, a patient in pain may go without treatment. Injuries sustained in a motorcycle accident are likely to be very painful.
  12. (1) is correct. The maximum safe dose of acetaminophen (Tylenol) is 4 g per day, and less in the alcohol user so the nurse would be concerned by the patient's report of high alcohol use.

# Answers

## CHAPTER 11

### VOCABULARY

1. alopecia
2. anorexia
3. leukopenia or neutropenia
4. xerostomia
5. palliative
6. chemotherapy
7. cytotoxic
8. neoplasm
9. metastasizes
10. benign
11. biopsy
12. cytoprotective

### CELLS

1. True
2. False—for one protein
3. False—to the ribosomes
4. True
5. False—on the messenger RNA
6. True
7. False—only those needed for its specific functions are active
8. False—46
9. False—Each cell has a full 46 chromosomes.
10. False—It is also necessary for repair of tissues.

### BENIGN VERSUS MALIGNANT TUMORS

Benign tumors typically grow slowly, cause minor tissue damage, remain localized, and seldom recur after treatment. Cells resemble tissue of origin. Malignant tumors often grow quickly, cause damage to surrounding tissue, spread to other parts of the body (metastasize), and recur after treatment. Cells are altered to be less like their tissue of origin.

### CRITICAL THINKING

1. Leukopenia: Use careful hand washing; teach Delmae and her family the importance of doing the same. Teach her to avoid crowds, people with infections, and bird, cat, or dog excreta. Instruct her to avoid eating fresh fruits or vegetables that cannot be peeled. Teach her signs and symptoms of infection to report. Make sure she talks to her doctor about the risks of returning to work while on chemotherapy.

2. Thrombocytopenia: Teach Delmae the importance of avoiding injury to prevent bleeding. Avoid intramuscular injections. Teach her to watch for and report symptoms of bleeding, such as bruising, petechiae, or blood in urine, stool, or emesis.
3. Anemia: Provide a balanced diet, with supplements as prescribed. Administer oxygen as ordered for dyspnea. Provide opportunities to rest. Assist with blood transfusions as ordered.
4. *Stomatitis*: Offer soft, mild foods. Offer frequent sips of water. Provide a mouthwash such as diphenhydramine diluted in water or saline. Teach her to avoid hot, cold, spicy, and acidic foods.
5. Nausea and vomiting: Administer antiemetics as ordered. Use prophylactically, not just when nausea is present. Provide mouth care before meals. Provide small, frequent meals and room-temperature or cool foods. Serve meals in a clean, pleasant environment that is free from odors and unpleasant sights. Offer hard candy. Use music or relaxation as distractions.
6. Alopecia: Offer an accepting attitude. Help the patient locate a wig or other head covering if she wishes. Assure her that her hair will grow back.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. **(2)** is correct.
2. **(3)** is correct.
3. **(2)** is correct. High-fat foods may increase the risk of some cancers. (1) Broccoli and cauliflower help reduce cancer risk. (3) Chicken and fish are low-fat meats that are healthy choices. (4) Cakes and breads are not problems unless they are high in fat or other high-risk ingredients.
4. **(2)** is correct. Remember the importance of time, distance, and shielding. (1) Leaving the patient alone for 24 hours is inappropriate. (3) Body fluids should not be touched, but it is not feasible to care for the patient and avoid touching altogether. (4) A “contaminated” sign will make the patient feel even more isolated and afraid.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

5. **(3)** is correct. A biopsy enables the pathologist to examine and positively identify the cancer. (1) Cultures diagnose infection. (2) X-rays can help locate a tumor but cannot determine whether it is benign or malignant.



- (4) A bronchoscopy may be done, but a biopsy is necessary to positively identify the cancer.
6. (1) is correct. Frequent mouth care will help prevent the discomfort and dryness that accompany mucositis. (2) Cold liquids may worsen mucositis. (3) High-carbohydrate foods will not help. (4) Juices are acidic and can irritate the mucous membranes.
7. (2) is correct. Petechiae are small hemorrhages into the skin. (1) Fever is a sign of infection. (3) Pain is not usually a sign of bleeding. (4) Vomiting is not a sign of bleeding unless it is bloody.
8. (1, 4, 5) are correct. (1) Washing hands frequently is an excellent way to help prevent infection in the patient at risk. (4) Colony stimulating factors are provided to stimulate increased production of white blood cells and reduce the length or severity of leukopenia. (5) Taking vital signs frequently and monitoring for signs of an infection is an important part of early detection, which helps reduce additional complications related to neutropenia. (2, 3, 6) are incorrect. (2) Avoiding injections will help prevent bleeding but will do little to prevent infection. (3) Visitors with infections should be discouraged, but the patient needs the support of family at this time. (6) Fresh fruits and vegetables can transmit infection.
9. (4) is correct. Alternative methods for pain control can be helpful but should never be expected to substitute for analgesics in the patient with cancer. (1) Distraction should be used with, not instead of, medication. (2) The nurse must believe the patient's report of pain. (3) Distraction can be effective when used with medication and in no way indicates that the patient's pain is not real.
10. (3, 5, 6) are correct. The goal of hospice is to help patients achieve a comfortable death and to provide emotional or physical assistance to family members and other caregivers during the patient's dying process. Respite care for family members may be provided and follow-up counseling is available for up to a year after the patient's death. (1, 2, 4) are not correct. They are all aimed at curing the patient's cancer. If cure is the goal, a referral to hospice is inappropriate.
11. (3) is correct. Accurate identification of a cancer can only be done by biopsy; surgery is not always the treatment of choice.

# Answers

## CHAPTER 12

### VOCABULARY

1. Surgeons
2. perioperative
3. postoperative
4. Induction
5. preoperative
6. intraoperative
7. adjunct
8. dehiscence
9. Anesthesiologists
10. Anesthesia
11. Atelectasis
12. Debridement
13. Hypothermia
14. Evisceration

### SURGERY URGENCY LEVELS

- |        |         |
|--------|---------|
| 1. (4) | 6. (1)  |
| 2. (3) | 7. (2)  |
| 3. (3) | 8. (1)  |
| 4. (4) | 9. (3)  |
| 5. (2) | 10. (1) |

### NOURISHING THE SURGICAL PATIENT

*Corrections are in boldface.*

Healing requires increased vitamin **A and D** for collagen formation, vitamin **K** for blood clotting, and **zinc** for tissue

growth, skin integrity, and cell-mediated immunity. **Proteins** are essential for controlling fluid balance and manufacturing antibodies and white blood cells. Hypoalbuminemia, a low **serum albumin**, impedes the return of interstitial fluid to the venous return system, **increasing** the risk of shock. A serum **albumin** level is a useful measure of protein status.

### MEDICATIONS

1. True
2. False—The surgeon determines if the anticoagulant therapy is stopped several days before surgery, which it often is.
3. False—The patient may be told by the health care provider to either take no insulin, the normal dose of insulin, or half of the normal dose.
4. True
5. True
6. False—Surgery is a serious stressor for the body.
7. True
8. False—Circulatory collapse can develop if steroids are stopped abruptly.

### INTRAOPERATIVE NURSING DIAGNOSES AND OUTCOMES

1. Will remain free from injury.
2. Will maintain skin integrity.
3. Will maintain blood pressure, pulse, and urine output within normal limits.
4. Will be free of symptoms of infection.
5. Will report pain is relieved to satisfactory level.

### WOUND HEALING PHASES

Phase	Time Frame	Wound Healing	Patient Effect
Phase I	Incision to second postoperative day	Inflammatory response	Fever, malaise
Phase II	Third to fourteenth postoperative day	Granulation tissue forms	Feeling better
Phase III	Third to sixth postoperative week	Collagen deposited	Raised scar formed
Phase IV	Months to 1 year	Wound contracts and shrinks	Flat, thin scar

## CRITICAL THINKING

- For nursing interview, diagnostic testing, anesthesia interview, and preoperative teaching to ensure patient is in the best possible condition for surgery.
- Laboratory tests: blood glucose, creatinine, blood urea nitrogen (BUN), electrolytes, complete blood count (CBC), international normalized ratio (INR)/prothrombin time (PT), partial thromboplastin time (PTT), bleeding time, type and screen, and urinalysis are some common tests; oxygen saturation, electrocardiogram (ECG), chest x-ray.
- Explain what is to be done in preadmission testing; explain preadmission prep: bathing, scrubs, preps, medications, nil per os (NPO) time, no nail polish or makeup; admission procedures the day of surgery: registration, nursing unit, emotional support, consent signed, preoperative checklist completion; intravenous (IV) line insertion, medications, surgery, postanesthesia care unit and family waiting locations, surgery time frames; postoperative care: pain control, deep breathing and coughing, leg exercises, activity, leg abduction, drains.
- Explain admission procedures; get consent signed, preoperative checklist completion; IV insertion; give medications.
- Greeting the patient; verifying patient's name, age, and allergies; surgeon performing the surgery; consent; surgical procedure, especially right or left when applicable, and medical history; answering questions; and alleviating anxiety. Explain what to expect in surgery: "The room may feel cool, but you can request extra blankets." "There is a lot of equipment, including a table and large bright overhead lights." "Several health care team members will introduce themselves to you." "The surgeon will greet you."
- Licensed practical nurses/licensed vocational nurses (LPN/LVNs) can scrub in surgery to hand instruments to the surgeon. The LPN/LVN must know sterile technique, surgical instruments, and medications placed in the sterile field for use during surgery.
- Maintaining the patient's airway and safety.
- Pain control is essential to prevent physiological harm to the patient and to ensure that the patient can participate in recovery activities, such as deep breathing and coughing, and physical activity. Deep breathing and coughing prevent atelectasis and pneumonia. Leg exercises and activity prevent thrombophlebitis. Drains might be inserted to prevent fluid accumulation.
- (2) Skin integrity is maintained during surgery with proper positioning and avoidance of pressure points. (1, 3, 4) are preoperative goals.
- (1) Oxygen saturation must be above 90%. (2) is incorrect. (3) Patients do not have to void before postanesthesia care unit (PACU) discharge. (4) IV narcotics cannot have been given less than 30 minutes ago.
- (3) Patients and a responsible adult must understand discharge instructions before discharge. (1) Patients cannot drive home. (2) Patient does not have to have home telephone but must be able to be contacted in some way for follow-up. (4) IV narcotics cannot have been given less than 30 minutes ago.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

The correct answers are in **boldface**.

- (3) The LPN/LVN can offer emotional support as needed to patients. (1) is the role of the registered nurse (RN). (2, 4) are roles of the health care provider.
- (4) The nurse's signature verifies that it was the patient who signed the consent after informed consent was provided by the surgeon. (1, 2, 3) are not the role of the nurse and are not indicated by the witnessing of the consent.
- (3) Presence of flatus occurs with normal bowel function. (1, 4) indicate the bowel is not functioning normally. (2) is not related to bowel function.
- (3) Have patient lie down to reduce pressure on the incisional area to help prevent evisceration. (1) Having patient sit upright promotes evisceration. (2) Intravenous (IV) fluids should be maintained at ordered rate and increased fluid needs anticipated because of large fluid loss occurring with dehiscence and evisceration. (4) This would not be the nurse's first action, and the patient would likely be prepared for surgery.
- (4) Exhaling deeply to reach target is incorrect and would indicate need for teaching. (1, 2, 3) are incorrect because they are appropriate ways to use the spirometer.
- (1) The sympathetic nervous system saves fluid in response to stress of surgery, which reduces urine output initially. (2, 3, 4) are incorrect.

15. (2, 5) New-onset fever occurring shortly after surgery is often due to atelectasis because a new infection related to surgery would take longer to develop, so encouraging coughing and deep breathing and ambulating to expand lungs can help prevent pneumonia. (1) An infection is not usually the cause of a fever in this time frame.

(3) Tylenol is not necessary for a low-grade fever, which is part of the body's defense system and will not help the cause. (4) Fluid intake should be maintained to help thin lung secretions. (5) Intake and output should be monitored routinely, but will not help reduce the risk of a postoperative respiratory complication.

# Answers

## CHAPTER 13

### VOCABULARY

- (3)
- (2)
- (1)
- (5)
- (4)
- (7)
- (6)
- (8)
- (9)
- (10)

### PRINCIPLES FOR TREATING SHOCK

- True
- False—direct pressure
- False—Apply blanket to warm patient.
- True
- False—Take frequent vital signs.
- False—Do not give the patient oral fluids.
- True

### SIGNS AND SYMPTOMS OF INCREASED INTRACRANIAL PRESSURE

- (2)
- (1)
- (1)
- (2)
- (1)
- (2)
- (2)
- (1)
- (1)
- (1)
- (2)
- (2)

### ASSESSMENT OF MOTOR FUNCTION

If the patient is unable to	The lesion is above the level of
Extend and flex arms	C-5 to C-7
Extend and flex legs	L-2 to L-4
Flex foot, extend toes	L-4 to L-5
Tighten anus	S-3 to S-5

### HYPERTHERMIA

- (1)
- (1)
- (2)
- (2)
- (1)
- (2)
- (1)
- (1)

### PRINCIPLES FOR DISASTER OR BIOTERRORISM RESPONSE

- overwhelms
- disaster plans

- called in, discharged
- triage, stabilization
- seriously, full
- drills
- familiar, role
- natural

### CRITICAL THINKING

- Unresolved grieving of his wife's death.
- Withdrawn, rarely leaves home, has not bathed, wearing soiled clothing, refrigerator is empty, curtains drawn, paces, and says, "I want to die." He is exhibiting cognitive, emotional, and behavioral disorganization.
- He no longer possesses coping skills necessary to maintain usual level of functioning. His moods, thoughts, and actions are so disordered that they have the potential to lead to suicide if the situation is not quickly controlled.
- Grieving* related to spouse's unexpected death; *Risk for Injury* related to impaired judgment; *Ineffective Health Maintenance* related to disturbed thought processes.
- Establish an atmosphere of trust. Use active listening. Make environment safe. Reduce external sources of stimulation. Speak directly and truthfully to patient. Include supportive members of patient's family. Patient is prepared for each new development as circumstances evolve. Threatening, challenging, or arguing with disturbed patient is not done.

### REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

- (3) Respiratory distress may be experienced in anaphylactic shock because of fluid in the airways and constricted bronchi. (1, 2, 3) are not common with anaphylactic shock.
- (1) Arterial blood flow is assessed with capillary refill. (2, 3, 4) are not assessed with capillary refill.
- (3) A rapid, thready pulse indicates compensation (rapid and loss of blood volume (thready)). (1, 2, 4) are incorrect.

### REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

- (1) Morbidity and mortality are usually from pulmonary aspiration secondary to loss of the gag reflex. (2, 3, 4) are neurologic signs that would occur later with complications. The nurse's priority is monitoring that will prevent complications from occurring.

5. **(2)** Activated charcoal might be given in this severe case to help absorb the medication. (1, 2, 4) would not be appropriate for a semiconscious patient.
6. **(2)** Patient is alert and oriented. (1, 3, 4) are incorrect. Core body temperature should be within normal range. Skin should be warm and dry.
7. **(3)**  $(3 \text{ mg}/5 \text{ mg}) \times 1 \text{ mL} = 3/5 = 0.6 \text{ mL}$ . (1, 2, 4) are incorrect.
8. **(1)** A rapid, thready pulse indicates compensation (rapid) and loss of blood volume (thready) requiring intervention by the nurse. (2) is a normal pulse finding. (3) This pulse rate is slow; tachycardia is expected with large amounts of blood loss. (4) A bounding pulse would not be noted with hemorrhage.
9. **(3, 2, 1, 4)** Airway is the first priority, then breathing, circulation, disability.
10. **(2)** The brachial artery is the proximal artery to the radial artery. (1, 3, 4) are not the most proximal arteries to the radial artery.
11. **(2, 3, 4)** are needed for the unvaccinated nurse when caring for a patient with smallpox. (a) is for the vaccinated nurse and (5, 6) are not required.

# Answers

## CHAPTER 14

### VOCABULARY

1. respite care
2. powerlessness
3. chronic
4. spirituality
5. hopelessness
6. developmental stage

### CHRONIC ILLNESS AND THE OLDER ADULT

*Corrections are in boldface.*

Older adults constitute one of the **largest** age groups living with chronic illness. Older adult spouses or older family members **are increasingly being called on** to care for a chronically ill family member. Children of older adults who themselves are reaching their **60s** are being expected to care for their parents. These older adult caregivers **may also be experiencing** chronic illness themselves. For older adult spouses, it is usually the less ill spouse who provides care to the other spouse. The older adult family unit is at great risk for ineffective coping or further development of health problems. Nurses should assess **all** members of the older adult family to ensure that their health needs are being met.

Older adults are **very** concerned about becoming dependent and a burden to others. They may become depressed and give up hope if they feel that they are a burden to others. Establishing **short-term** goals or self-care activities that allow them to participate or have small successes are important nursing actions that can **increase** their self-esteem.

### CRITICAL THINKING

1. The nurse should explore Mrs. Martin's spiritual needs: Is she hopeful? What makes her feel at peace? How does she usually meet her spiritual needs? Does she have certain religious customs?
2. *Spiritual Distress; Readiness for Enhanced Spiritual Well-Being; Hopelessness; Powerlessness.*
3. Interventions may include using the meditation room for quiet reflection or prayer, chaplain visits, or worship services; assisting Mrs. Martin with transportation to the meditation room or worship services; and providing desired reading material such as a Bible or prayer book.
4. If Mrs. Martin expresses a feeling of peace or hopefulness.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. **(4)** Integrity versus despair. (1, 2, 3) are developmental stages typically carried out in earlier years of life.
2. **(4)** Stress decreases when the caregiver is given personal time away from the patient, which everyone needs. If respite care is not available then (1) personal time decreases and (2) rest time decreases. (3) There is no cost for most volunteer respite services, so costs would not be increased.
3. **(4)** Allowing the patient to make informed decisions should foster health promotion. (1, 2, 3) Making the choices for the patient and family may not result in implementation of those choices because input was not obtained from them.
4. **(1)** Peripheral vascular disease is a chronic illness. (2, 3, 4) are acute illnesses.
5. **(1)** Being willing and able to carry out the medical regimen is important in dealing positively with the illness. (2, 3, 4) would be unhelpful behaviors in adapting to a chronic illness.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

6. **(2, 6)** Malabsorption syndrome and spina bifida are congenital chronic disorders. (1, 3, 4) are acquired illnesses. (5) is a genetic illness.
7. **(1)** Stress management directly influences how a patient ages. (2, 3, 4) do not directly influence a patient's aging.
8. **(4)** This empowers patients to control their own health care. (1, 2, 3) take control away from the patient.
9. **(2)** Home care nurses can strengthen a patient's self-care capacity by saying, "Let me assist you" instead of "Let me do this for you." (1) Being a caretaker instead of a partner is not helpful in improving self-esteem. (3) Empowering the patient instead of doing it all for the patient would be helpful. (4) Doing everything for the patient instead of assisting makes the patient feel dependent and useless.
10. **(1)** Offering praise for small patient efforts shows interest in the patient and motivates the patient to try other tasks. (2) If praise is offered only for major patient efforts, opportunities to praise small tasks are lost; if the patient never accomplishes major tasks, no praise is ever given. (3) If activities of daily living (ADLs) are done for the

patient, no opportunity for independence and success is allowed for the patient. (4) Assisting patient at first sign of difficulty with ADLs allows the patient no opportunity to succeed at a difficult task.

11. (2) Using humor can be helpful, and this is one method of using humor. (1) Avoiding the use of humor is not beneficial because humor has been shown to enhance health. (3) A serious manner may not be helpful in improving a patient's mood. (4) Limiting conversation to a minimum further isolates the patient.

12. (1) Providing educational information empowers the patient to make informed choices. (2) Limiting visiting hours for family members isolates the patient and does not allow patient free choice. (3) Asking family members to provide care makes the patient dependent if some independence is possible. (4) Setting the goals for the patient and family takes the decision-making process away from the patient.

13. (1) is a genetic condition. (2, 3, 4) are incorrect.



# Answers

## CHAPTER 15

### VOCABULARY

1. activities of daily living
2. arrhythmia
3. cataract
4. attitude
5. aspiration
6. edema
7. glaucoma
8. expectoration
9. constipation
10. homeostasis
11. contracture
12. pressure ulcer
13. nocturia
14. extrinsic factors
15. macular degeneration
16. osteoporosis
17. sensory deprivation
18. optimal functioning
19. reality orientation
20. sensory overload

### AGING CHANGES

- |          |          |
|----------|----------|
| 1. (1)   | 14. (12) |
| 2. (3)   | 15. (15) |
| 3. (5)   | 16. (16) |
| 4. (6)   | 17. (17) |
| 5. (2)   | 18. (18) |
| 6. (8)   | 19. (20) |
| 7. (4)   | 20. (21) |
| 8. (7)   | 21. (19) |
| 9. (11)  | 22. (22) |
| 10. (14) | 23. (23) |
| 11. (13) | 24. (26) |
| 12. (10) | 25. (24) |
| 13. (9)  | 26. (25) |

### COMMUNICATING WITH PEOPLE WHO HAVE HEARING IMPAIRMENTS

1. True
2. False—Face patient so the speaker's face is visible to patient.
3. False—Speak toward patient's best side of hearing.
4. True

5. True
6. False—Recognize that high-frequency tones and consonant sounds are lost first—z, sh, ch, d, g.
7. True

### MEDICATIONS

*Corrections are in boldface.*

Older patients are **more** susceptible to drug-induced illness and adverse medication side effects for various reasons. They take **many** medicines for the **more than** one chronic illness that they have. Different medications interact and produce side effects that can be dangerous. Over-the-counter medicines that older patients take, as well as the self-prescribed extracts, elixirs, herbal teas, cultural healing substances, and other home remedies commonly used by individuals of their age cohort, **do** influence other medications.

If an older patient crushes a large enteric-coated pill so that it can be taken in food and is easily swallowed, it **destroys** the enteric protection and can inadvertently cause damage to the stomach and intestinal system. Some patients **intentionally** skip prescribed doses in an effort to save money. When prescribed doses are not being taken as expected, problems do not clear up as quickly, and new problems may result. The nurse should educate the older patient and the patient's family. Patients need to know what each prescribed pill is for, when it is prescribed to be taken, and how it should be taken.

### CRITICAL THINKING

*This is a values clarification exercise, so answers are your own individualized answers that should be based on guiding principles.*

1. Your individual response
2. Your values and beliefs (what are they)
3. Be tactful and provide privacy during situation resolution.
4. Consider professionalism issues, agency policy, patient safety.
5. Consider professionalism, respect for others' values.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. (2) Wax can obstruct the conduction pathway, causing a bone-conduction problem. (1, 3, 4) are not related to a bone-conduction problem, but a nerve problem.
2. (2) Psychological factors are the primary source of sexual dysfunction, as documented in the literature. (1, 3, 4) are not the primary source.

3. **(2)** Weight-bearing exercise helps fight the degeneration of bone in osteoporosis. (1) Calcium intake should be increased. (3, 4) do not have any influence on osteoporosis.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

4. **(3)** is the only symptom for glaucoma. (1, 2, 4) are incorrect.
5. **(4)** There is a decreased taste sensitivity for salt and sweet flavors. (1, 2, 3) are not aging changes.
6. **(2)** Peripheral vascular resistance increases with age, contributing to hypertension development. (1, 3, 4) decrease with aging.

7. **(2)** Circulatory status is the reason for slow, deliberate movements because gravity shifts body fluids with position change. (1, 3, 4) are incorrect.
8. **(1)** The older circulatory system is very sensitive to fluid-overload situations, and intravenous (IV) therapy increases the risk potential. (2, 3, 4) are incorrect.
9. **(3)** Whispering lowers the pitch of the sounds, making your words easier to hear for someone who has lost only high-pitched frequencies. (1, 2, 4) are incorrect for high-pitched hearing loss.
10. **(1)** This puts the patient's needs ahead of the nurse's needs. (2, 3, 4) do not show respect for the patient's needs.
11. **(2)** Older adults with a disability and older adults with no or partial high school education, tend to use inappropriate medication more than those who went to college.

# Answers

## CHAPTER 16

### VOCABULARY

- |               |                |
|---------------|----------------|
| 1. <b>(6)</b> | 6. <b>(2)</b>  |
| 2. <b>(4)</b> | 7. <b>(8)</b>  |
| 3. <b>(5)</b> | 8. <b>(10)</b> |
| 4. <b>(3)</b> | 9. <b>(1)</b>  |
| 5. <b>(7)</b> | 10. <b>(9)</b> |

### HOME HEALTH SERVICES

- |               |               |
|---------------|---------------|
| 1. <b>(4)</b> | 5. <b>(1)</b> |
| 2. <b>(5)</b> | 6. <b>(8)</b> |
| 3. <b>(3)</b> | 7. <b>(6)</b> |
| 4. <b>(2)</b> | 8. <b>(7)</b> |

### CRITICAL THINKING

- Four times per week for 4 weeks.
- Dressing changes, reinforcement of medication teaching including blood glucose monitoring, vital sign monitoring, O<sub>2</sub> therapy precautions, and management.
- “No smoking” signs need to be posted because Mrs. Thompson is receiving O<sub>2</sub> therapy. Environment needs to be assessed for potential safety hazards including long O<sub>2</sub> tubing, scatter rugs, inadequate lighting, need for assistive devices, and need for monitoring system.
- Yes, social services for meals on wheels, occupational therapy and physical therapy for strength training and identification and instruction of assistive devices, and a home health aide.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

- (3)** is correct. (1, 2, 4) are incorrect because those individuals were involved in nursing in other ways.
- (4)** is correct because the spouse is the caregiver. (1, 2, 3) are incorrect as they do not relate to the caregiver.
- (4)** is correct. (1, 2, 3) are incorrect because the patient is in control in the home environment.

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

- (1)** is correct because it shows caring, understanding, and insight into the patient’s needs. (1, 2, 4) are incorrect. (2) is part of the process for making a visit but does not influence trust. (3) should be done as needed as part of providing nursing care but does not influence trust. (4) reflects confidentiality requirements, but others may be included with patient’s permission such as family members as well as other health care team members involved in the patient’s care.
- (4, 5, 6)** are correct and are general safety measures for any person who is ambulating. (1, 2) are incorrect as the patient may need to get out of bed or ambulate when others are not there—the means to do so safely should be provided. (3) is not a skilled nursing function. If there are concerns with housekeeping, it can be discussed with family and possibly addressed with other services.
- (2)** is correct. (1, 3, 4) are incorrect because they promote the risk of infection.
- 0.8 mL is correct.
- (2, 3, 4, 5)** are correct to promote learning. (1) is incorrect because information should be provided in brief, organized concepts to allow learning and retention.
- (1)** is correct so that the RN can perform an assessment and determine an appropriate plan of action. (2, 4) are not correct because it is inappropriate to direct the patient as to what to do in the patient’s own home and washing the dishes is not the LPN’s function. (3) is not correct because this is an assumption that may not be true and requires assessment by the RN.
- (1, 3, 5, 6)** are correct. (2) is not usually possible, so a time range should be given. (4) is not done for safety but so that the nurse’s car is not blocked in.
- (1, 2, 3, 5)** are correct. The nurse should perform a complete patient assessment during each visit. Assess the home environment for potential safety hazards and need for devices to assist with care. (4) Collecting a urine sample is not ordered or necessary.

# Answers

## CHAPTER 17

### VOCABULARY

1. living will
2. durable power of attorney
3. hospice
4. postmortem care
5. advocate

### TRUE OR FALSE?

1. False—They usually lose weight.
2. False—Most companies provide a hospice benefit.
3. True
4. True
5. False—They will only be discharged if they are no longer terminal.
6. True
7. False—CPR must be started within 3 to 5 minutes.
8. True
9. True
10. False—Weight loss and functional decline are two common indicators.

### CRITICAL THINKING

1. Dyspnea: *Administer morphine, administer oxygen, elevate head of bed, place a fan in the room, provide massage and muscle relaxation.*
2. Bowel and bladder incontinence: *Keep perineal area clean, change briefs often.*
3. Copious oral secretions: *Adjust patient's head so secretions go down throat, place humidifier in room, administer hyoscyamine or scopolamine, administer low-dose morphine, suction.*
4. Body temperature changes: *Administer Tylenol, change clothing as needed, provide warm blankets, change bed clothes and bed linens as needed.*
5. Restlessness: *Assess and treat discomfort such as urinary retention, fecal impaction, medication toxicity; reposition in bed, administer oxygen.*

### REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

1. **(2)** is correct. (1, 4) are not associated with tube feeding. (3) could occur but was not shown with research.
2. **(3)** is correct. (1, 2, 4) are good questions but do not assess the patient's understanding.
3. **(1)** is correct and is a therapeutic response. (2, 3, 4) help the staff or other patients but do not help the family.

### REVIEW QUESTIONS—TEST PREPARATION

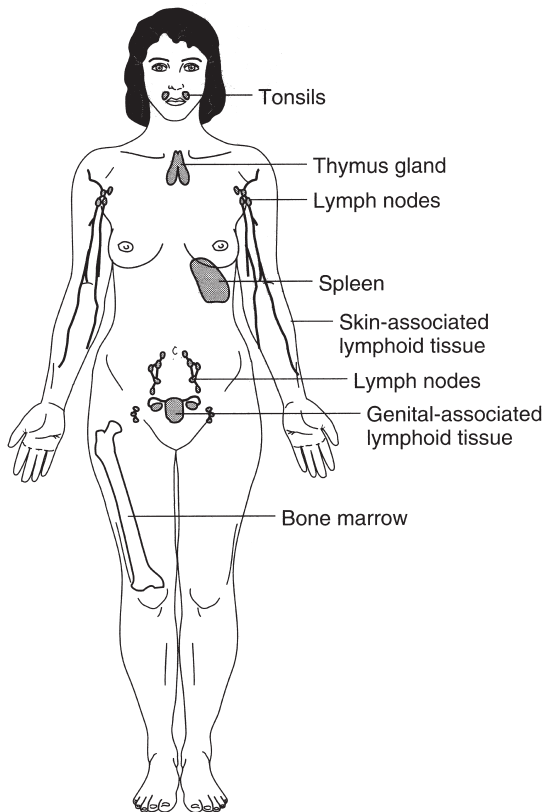
The correct answers are in **boldface**.

4. **(2)** is correct. (1, 4) are also effects of morphine but are not the reason it is given to a dying patient. (3) Morphine will not affect temperature.
5. **(2)** is correct. (1, 3, 4) may also be necessary steps, but allowing the family time to spend with the patient (and having the patient look presentable) is the most important.
6. **(3)** is correct. (1) Redirecting a patient is appropriate if he is expected to improve; (2) the medications may play a part, but this statement does not help the family; (4) oxygen may be used for comfort, but may not improve the thought processes of a dying patient.
7. **(4)** is correct, and validates the wife's feelings. This may help her make a decision. (1) may be appropriate if she needs clarification but is not the best response while she is upset. (2, 3) may be true but do not address her feelings of upset.
8. **(4)** is correct. (1, 2, 3) are important but do not address the specific circumstance of home resuscitation.
9. **(2)** is correct. Cultural traditions should be supported if at all possible. (1, 3, 4) are incorrect—they ignore the importance of the family's cultural tradition.
10. **(1, 2, 4)** are correct. Dyspnea and swelling around tumors are reduced when fluids are withheld; research has shown no benefit to hydration for patients who are actively dying of cancer. It is theorized that dehydration results in increased production of endorphins, and research shows that patients do not express feelings of hunger or thirst near the end of life, although dry mouth is experienced.

# Answers

## CHAPTER 18

### STRUCTURES OF THE IMMUNE SYSTEM



### IMMUNE SYSTEM CELLS

- |        |        |
|--------|--------|
| 1. (4) | 5. (3) |
| 2. (7) | 6. (1) |
| 3. (5) | 7. (6) |
| 4. (2) |        |

### ANTIBODIES

1. IgA
2. IgG
3. IgD
4. IgE
5. IgG
6. IgA
7. IgM

### VOCABULARY

1. Antigens
2. Immunity
3. Natural killer cells, T cells, B cells
4. T cells (or T lymphocytes)
5. immunoglobulins
6. Cell-mediated
7. Naturally acquired active
8. IgG
9. inflammation
10. neutrophils

### IMMUNE SYSTEM

- |        |        |
|--------|--------|
| 1. (7) | 5. (2) |
| 2. (4) | 6. (8) |
| 3. (5) | 7. (3) |
| 4. (1) | 8. (6) |

### NURSING ASSESSMENT—HISTORY

*Corrections are in boldface.*

#### Demographic Data

The patient's age, gender, race, and ethnic background are important. Systemic lupus erythematosus affects **women** eight times more frequently than **men**. The patient's place of birth gives insight into ethnic ties. Where the patient has lived and does live may shed light on the current illness. The patient's occupation, such as that of a coal miner, may contribute to **respiratory** symptoms.

**Common** signs and symptoms found with immune system disorders include fever, fatigue, joint pain, swollen glands, **weight loss**, and skin rash.

#### History

Food, medication, and environmental allergies should include those that the patient experiences and those present in the family history. With a family history a previous exposure to a substance is **not** required before a severe reaction occurs. Conditions such as allergic rhinitis, systemic lupus erythematosus, ankylosing spondylitis, and asthma are thought to be either familial or have a **genetic** predisposition. If the patient's thymus gland has been removed (thymectomy), **T-cell** production may be altered. Corticosteroids and immunosuppressants **alter** the immune response. The patient's lifestyle may place the patient at **high** risk for contracting the human immunodeficiency virus.

The patient's diet and usage of vitamins give insight into the **reserve** of the immune system. Stress (environmental, physical, and psychological) can **depress** immune system function.

### CRITICAL THINKING

1. Demographic data (age, gender, race and ethnic background, place of birth, place of residence, occupation [past and present]); patient history (blood transfusions, high-risk behaviors, allergies [drug, food, environmental], surgeries, diagnosed medical conditions [past, present]); physical (general appearance, cardiovascular, skin, mucous membranes, respiratory, gastrointestinal, renal, musculoskeletal, nervous).
2. Normal lymph nodes are not palpable. Nodes that are nontender, hard, fixed, and enlarged are frequently associated with cancer.
3. If cancer is suspected: recent weight loss, occupational exposures, any high-risk lifestyle behaviors such as smoking, sexual patterns, previous medical history, and family history.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in **boldface**.*

1. **(1)**
2. **(2)**
3. **(2)**
4. **(1)**
5. **(2)**
6. **(2)**

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

7. **(4, 5)** C-reactive protein and erythrocyte sedimentation rate test for inflammation. (1, 2, 3) are incorrect. (1) IgM is an immunoglobulin. (2) CD4 is indicative of immune function and is decreased in cancer, HIV, AIDS, or immunosuppression. (3) Western blot is used to detect HIV antigens.
8. **(1)** This mother has a naturally acquired active immunity to chickenpox and can care for the children without a mask or a booster vaccine. (2, 3, 4) are incorrect.
9. **(1, 2, 4, 5)** Cold virus, plant pollen, bacterial toxins, or vaccines can all stimulate the formation of antibodies. (3) Transplanted organs stimulate cell-mediated immunity, which does not involve the production of antibodies.
10. **(2)** A biopsy requires that the patient sign an informed consent. (1) Iodine is not typically used in a biopsy, but it is used in a computed tomography (CT) scan and magnetic resonance imaging (MRI) scan. (3, 4) are more appropriate when checking a patient with known allergies.
11. **(3)** Systemic lupus erythematosus (SLE), an autoimmune disorder, tends to affect women eight times more than men. In addition, Hispanic, Native American, Asian, and African American women develop SLE two to three times more than Caucasian women.

# Answers

## CHAPTER 19

### VOCABULARY

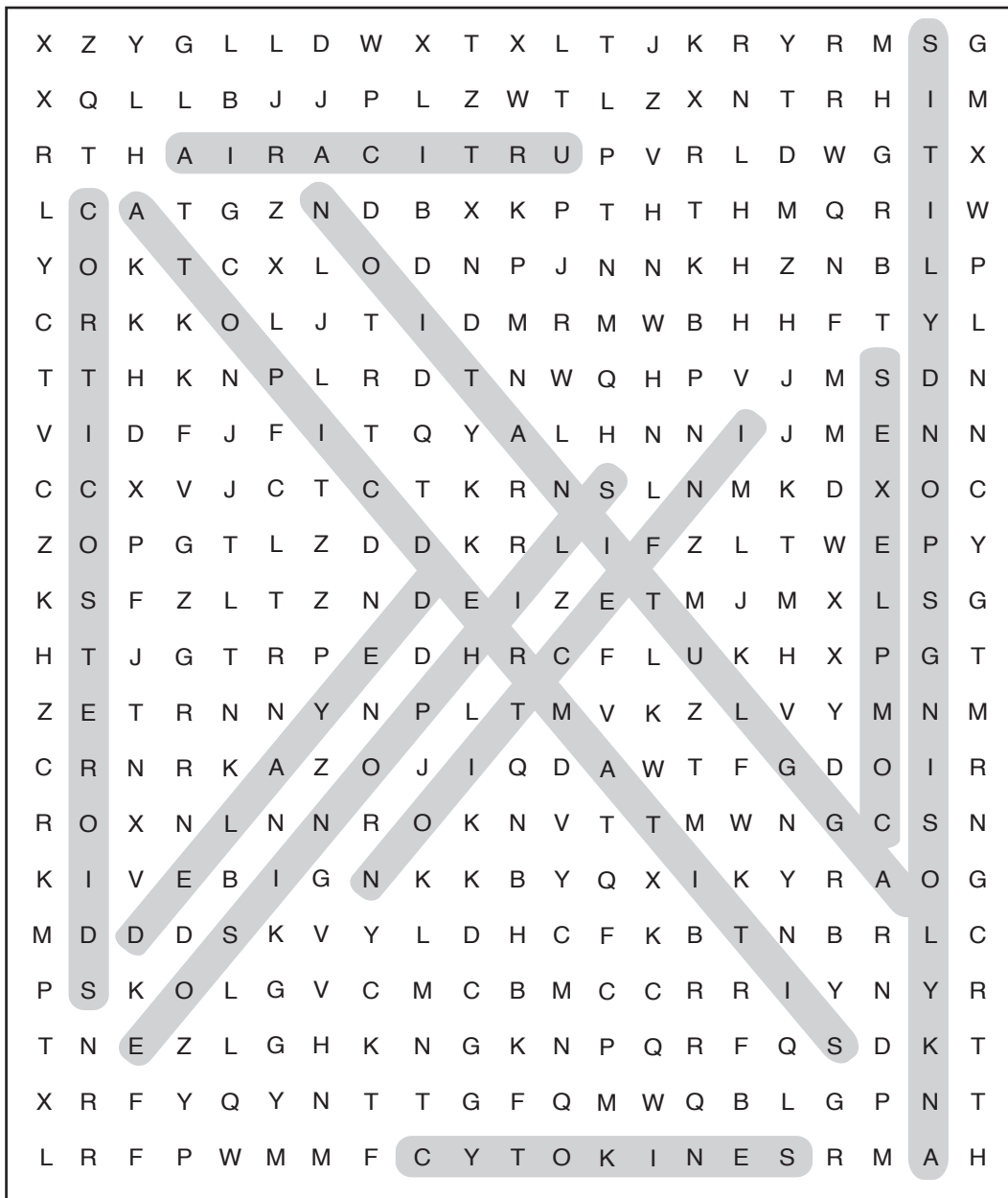
- |         |          |
|---------|----------|
| 1. (10) | 9. (2)   |
| 2. (11) | 10. (4)  |
| 3. (8)  | 11. (6)  |
| 4. (13) | 12. (7)  |
| 5. (3)  | 13. (15) |
| 6. (9)  | 14. (1)  |
| 7. (16) | 15. (5)  |
| 8. (14) | 16. (12) |

### IMMUNE DISORDERS

1. type I, type II, type III, type IV
2. hayfever

3. sinusitis, nasal polyps, asthma, chronic bronchitis
4. Infection
5. epinephrine
6. hives
7. pruritic, edema, longer
8. Coombs' test
9. Shock, renal failure
10. penicillins, sulfonamides
11. MSG, bisulfates
12. Poison ivy (or oak)
13. vitamin B<sub>12</sub>
14. Erythrocytapheresis
15. sacroiliac, costovertebral, large peripheral

### IMMUNE WORD SEARCH SOLUTION



### IMMUNE DISORDERS PUZZLE SOLUTION

**Across**

- 1. Pernicious
- 3. Fifteen
- 6. Anaphylaxis
- 8. Humoral
- 9. Monocytes
- 13. Hypothyroidism
- 15. Nasal polyps
- 17. Angioedema
- 19. Intrinsic factor
- 20. Steroids
- 21. Butterfly
- 22. Discord

**Down**

- 1. Penicillins
- 2. Obstruction
- 4. Epinephrine
- 5. Fatigue
- 7. Hypogammaglobulinemia
- 10. Sacroiliac
- 11. Mast cells
- 12. Latex allergy
- 14. Autoimmunity
- 16. Allergen
- 18. Stress



**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(4)** Respiratory distress with wheezing occurs in anaphylaxis. (1, 2, 3) are incorrect.
2. **(1)** Epinephrine is the initial treatment for anaphylaxis. (2, 3, 4) are incorrect.
3. **(4)** is correct. (1, 2, 3) are incorrect.
4. **(1)** is correct. (2, 3, 4) are incorrect.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

5. **(1)** An infection can develop if treatment is not followed. (2, 3, 4) are incorrect.
6. **(3)** The medication should not be given and the health care provider must be informed to determine if the medication should be given. It is not within the nurse's scope of practice to make that decision. (1, 2, 4) are incorrect.
7. **(4)** The antibiotic, which is the cause of the problem, should be stopped immediately so that no more medication

enters the patient. (1, 2) would be done next or as the antibiotic is stopped if assistance is available. (3) is incorrect.

8. **(1)** Red blood cells are destroyed by this condition, so red cell fragments would be present. (2, 3, 4) are incorrect.
9. **(2)** When a portion of the stomach is removed, intrinsic factor, which is necessary for the absorption of vitamin B<sub>12</sub>, is reduced. Patients must have lifelong vitamin B<sub>12</sub> to prevent pernicious anemia from developing. (1, 3, 4) are incorrect.
10. **(2)** is correct. (1, 3, 4) are incorrect.
11. **(3, 4, 5)** Respiratory distress with stridor, dyspnea occurs in anaphylaxis. Tachycardia occurs as a compensatory mechanism. (1, 2, 4) are incorrect.
12. **(2)** Opening windows will allow pollen to enter the car. (1, 3, 4) will control the allergy.
13. **(4)** is correct. (1, 2, 3) are incorrect.
14. **(2)** is correct. (1, 3, 4) are incorrect.
15. **(1)** occurs commonly in patients with systemic lupus erythematosus. (2, 3, 4) are not common nursing diagnoses for systemic lupus erythematosus.

# Answers

## CHAPTER 20

### VOCABULARY

1. Acquired immune deficiency syndrome (AIDS)
2. CD4+
3. Genotyping
4. Opportunistic infections
5. Human immunodeficiency virus (HIV) wasting syndrome
6. Viral load

### DIAGNOSTIC TESTS

1. ELISA test: The typical HIV diagnostic tests and testing pattern include the following:
  1. ELISA test is done to detect antibodies to HIV antigen on test plates.
  2. If positive, the ELISA test is repeated.
  3. If the ELISA test is again positive, another test, often the Western blot, is done for confirmation.
  4. If all test results are positive, the patient is HIV-antibody positive.
  5. Other tests can be used, especially if initial test results are not conclusive. It is important that the patient be counseled before and after the ELISA test is done. Patients need to be instructed on safe-sex practices, resources, and support systems.
2. Viral load: Measures the amount of HIV RNA in plasma and is extremely important for determining prognosis and monitoring the response to antiretroviral therapy. Viral loads should be performed at diagnosis, 1 month after initiation of new treatments, and at 3- to 4-month intervals thereafter.
3. CD4+ cell count: Is essential for evaluating the status of the immune system. In healthy adults, levels average approximately 600 to 1400/mm<sup>3</sup>. It is recommended that CD4+ cell counts be performed at 4-month intervals for most patients.
4. Genotyping: Genotyping measures resistance to currently available antiviral treatments. This information guides health care providers in choosing treatment regimens that will most likely be effective against that person's virus.

### HIV

1. blood, semen, vaginal secretions, and breast milk
2. many

3. early
4. Women

### HIV AND AIDS

1. True
2. False—End stage of HIV infection is AIDS.
3. False—Anyone may contract HIV if exposure occurs.
4. True
5. False—An incubation period occurs following exposure, so testing 1 to 2 days later would be inconclusive; antigens are detectable 2 weeks after infection with the virus.
6. False—Standard precautions are used with all patients, so isolation is not routinely necessary for patients with AIDS unless ordered for special reasons.

### CRITICAL THINKING

1. The patient is told that he is HIV positive but does not have AIDS at this time. With treatment, HIV is considered a chronic condition that may not develop into AIDS for many years. If AIDS develops, there is currently no cure, but it is treatable in most cases.
2. When the CD4+ T-cell count is less than 200/mL and/or in the presence of 1 of 25 clinical conditions. These conditions are often opportunistic infections or cancers.
3. To prevent *Pneumocystis pneumonia* (PCP) and toxoplasmosis opportunistic infections from developing.
4. (a) Candidiasis, medications, and peripheral and central nervous system disease tend to decrease the senses of taste and smell. This, along with discomfort, anorexia, and fatigue, predisposes the patient with AIDS to nutritional deficiencies. (b) Medicated swish and swallows, topical anesthetic sprays, and flavor enhancers may promote an increased food intake.
5. Dementia occurs from encephalopathy caused by direct infection of brain tissue by HIV.
6. Bodily secretions of infected person coming in contact with recipient's blood through a break in the recipient's skin.
7. The recommended disinfectant is household bleach in a 1:10 dilution mixture. This needs to be prepared within 24 hours of use. Use it to (a) clean toilet seats and bathroom fixtures; (b) clean inside the refrigerator to avoid growth of mold; and (c) wash clothing separately that is soiled with blood, urine, feces, or semen. Dishes are washed normally in hot soapy water and rinsed thoroughly after use.

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(2)** is correct. AIDS is the final phase of a chronic progressive immune disorder caused by HIV. It is characterized by a CD4+ T-lymphocyte percentage of less than 14% of total lymphocytes and the presence of one or more specified clinical conditions, some of which are candidiasis, *Pneumocystis pneumonia*, *cytomegalovirus (CMV) disease*, and *Mycobacterium tuberculosis*. (1, 3, 4) are incorrect.
2. **(2)** is correct. A complete blood count (CBC) and CD4+/C8+ T-lymphocyte should be repeated at least every 3 months. (1, 3, 4) are incorrect.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

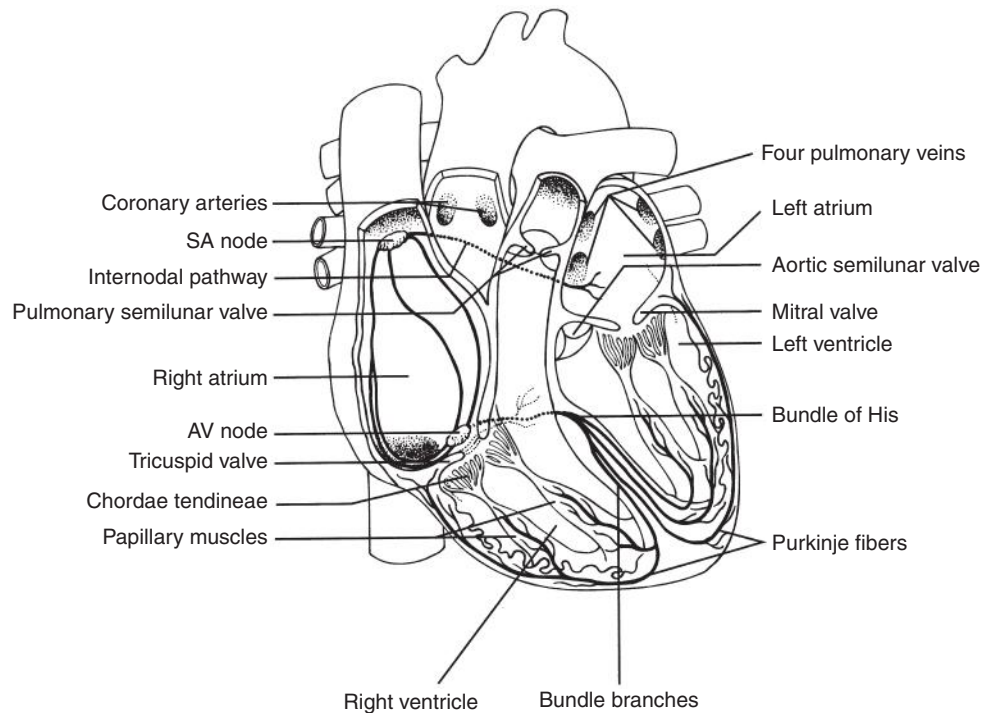
3. **(3, 4, 5)** are correct. (1, 2) are incorrect.
4. **(3)** is correct. (1, 2, 4) are incorrect.

5. **(2)** is correct. Fruits and vegetables increase bowel function. (1, 3, 4) are incorrect.
6. **(1)** is correct. (2, 3, 4) are incorrect.
7. **(4)** is correct. (1, 2, 3) are incorrect.
8. **(2)** is correct. Cooked vegetables are safer. (1, 3, 4) are incorrect because they contain raw foods, which are riskier for infection.
9. **(2)** is correct. Standard precautions are used for all patients. (1, 3, 4) are incorrect.
10. **(4)** is correct. Three large randomized controlled studies in Africa revealed strong evidence that male circumcision prevents men from acquiring HIV from heterosexual sex. (a, b, c) are incorrect.

# Answers

## CHAPTER 21

### STRUCTURES OF THE CARDIOVASCULAR SYSTEM



### CARDIAC BLOOD FLOW

- |              |               |
|--------------|---------------|
| 1. <b>1</b>  | 8. <b>8</b>   |
| 2. <b>11</b> | 9. <b>13</b>  |
| 3. <b>2</b>  | 10. <b>9</b>  |
| 4. <b>4</b>  | 11. <b>10</b> |
| 5. <b>14</b> | 12. <b>12</b> |
| 6. <b>7</b>  | 13. <b>3</b>  |
| 7. <b>6</b>  | 14. <b>5</b>  |

### AGING AND THE CARDIOVASCULAR SYSTEM

*Corrections are in boldface.*

It is believed that the “aging” of blood vessels, especially arteries, begins in **childhood**. Average resting blood pressure tends to **increase** with age and may contribute to stroke or **left-sided heart failure (HF)**. The **thinner** walled veins, especially those of the legs, may also weaken and stretch, making their valves incompetent.

With age, the heart **muscle** becomes less efficient, and there is a **decrease** in both maximum cardiac output and heart rate. The health of the myocardium depends on **its** blood supply. Hypertension causes the **left** ventricle to work harder, so it may **hypertrophy**. The heart valves may become **thickened by** fibrosis, leading to heart murmurs. Dysrhythmias become more common in older adults as the cells of the conduction pathway become **less** efficient.

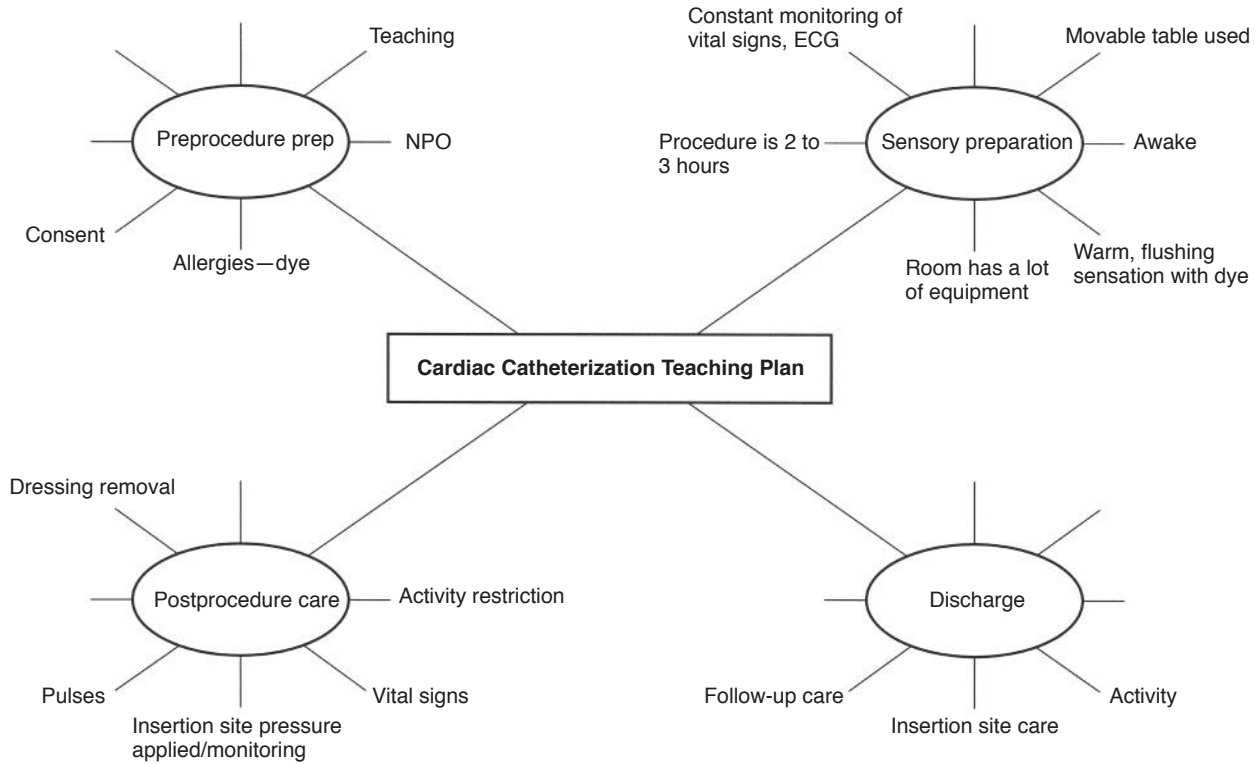
### CARDIOVASCULAR SYSTEM

1. cardiovascular system
2. heart's
3. vascular system, capillaries
4. stiffen
5. lubb, diastole
6. absent, normal
7. cardiac, catheterization
8. peripheral, pain, poikilothermia
9. vascular, venography

## ACUTE CARDIOVASCULAR NURSING ASSESSMENT

1. Allergies
2. Smoking
3. Pain
4. Weight gain
5. Crackles
6. Dizziness
7. Fatigue
8. Pink-tinged sputum

### CRITICAL THINKING: SUGGESTED ANSWERS



### REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

1. **(1)**
2. **(2)**
3. **(3)**
4. **(4)**
5. **(1)**
6. **(4)**
7. **(1)**
8. **(3)**
9. **(2)**
10. **(4)**
11. **(2)**
12. **(3)**

### REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

13. **(1)** The leg reading is 10 mm Hg higher. (2, 3, 4) are incorrect.
14. **(2)** is the arm with the higher reading, which is what should be used. (1) The reading is lower. (3) It is not as

practical to use the leg because the higher reading arm is available, although the leg could be used. (4) The arm with the lower reading should not be used.

15. **(2)** is correct. Blood pressure can drop by up to 15 mm Hg when a patient sits or stands, (1, 3) are incorrect, and (4) does not address the patient's concerns or explain the reason for the change.
16. **(3)** Pulse normally increases up to 20 beats per minute to compensate for the position change. (1) The patient does not need to return to bed. (2, 4) No cardiac symptoms are expected because the body is compensating normally, and orthostatic hypotension is not present.
17. **(2)** Reduced blood supply results in a lack of oxygen and nutrients that contribute to the signs seen. (1, 3, 4) are incorrect.
18. **(2)** Medication is used in lieu of exercise when the patient cannot tolerate exercise to simulate the increased blood flow that would occur with exercise. (1, 3, 4) are incorrect.
19. **(1, 3, 4, 6)** are data related to a possible cardiac event or dysrhythmia, which could be causing the fatigue and dizziness. (2, 5) are not of acute importance for these symptoms.

# Answers

## CHAPTER 22

### VOCABULARY

- |        |         |
|--------|---------|
| 1. (1) | 7. (2)  |
| 2. (7) | 8. (11) |
| 3. (6) | 9. (10) |
| 4. (5) | 10. (9) |
| 5. (4) | 11. (8) |
| 6. (3) |         |

### DIURETICS

- |        |        |
|--------|--------|
| 1. (3) | 6. (3) |
| 2. (2) | 7. (1) |
| 3. (1) | 8. (1) |
| 4. (3) | 9. (2) |
| 5. (2) |        |

### HYPERTENSION RISK FACTORS

1. False
2. True
3. False
4. True
5. False
6. True
7. True

### STAGES OF HYPERTENSION AND RECOMMENDATIONS FOR FOLLOW-UP

1. False—1 year
2. True
3. True
4. False—1 month
5. True
6. False—2 months
7. True
8. False—1 month
9. True
10. True

### CRITICAL THINKING

1. Thiazide diuretics are one of the recommended first-line drugs. Diuretics remove excess salt and water to decrease blood volume and lower blood pressure. Hydrochlorothiazide (HydroDIURIL) is a first-line drug for

hypertension treatment if lifestyle modification does not lower blood pressure.

2. Weight, smoking history, diet and salt intake, alcohol use, exercise patterns, life roles, finances, knowledge base. Feedback: 5 feet 4 inches, 156 lb; does not smoke or use alcohol; salts food liberally, eats three meals and snacks, moderate fat intake; walks when time permits; deals with issues as they come, which is often in her roles as wife and mother to three children; has no prescription insurance coverage; knows very little about hypertension.
3. Individualized teaching plan for Mrs. Martin's needs should include addressing knowledge deficits through teaching according to protocols for weight management, diet and salt intake, exercise and sleep importance, and medications.
4. Provide information regarding the importance of controlling her hypertension; financial assessment to ensure that she has a funding source to buy medication because she may need lifelong medication.
5. Blood pressure readings on follow-up visits are within normal limits with medication.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. (3) Isolated systolic hypertension has been found in the older adult population when the systolic blood pressure is 140 mm Hg or more but the diastolic blood pressure is less than 90 mm Hg. (1) Primary hypertension is the result of unknown causes. (2) Secondary hypertension has an identifiable cause.
2. (3) Stage 2 hypertension is classified as a systolic blood pressure of  $\geq 160$  mm Hg and a diastolic blood pressure of  $\geq 100$  mm Hg. (1) Prehypertension is systolic blood pressure 120 to 139 mm Hg and/or diastolic blood pressure 80 to 89 mm Hg. (2) Stage 1 is 140 to 159/90 to 99 mm Hg.
3. (1) Enalapril maleate (Vasotec) inhibits the conversion of angiotensin I to angiotensin II, thereby decreasing the levels of angiotensin II, which decreases vasopressor activity and aldosterone secretion. (2, 3, 4) The actions of enalapril maleate (Vasotec) achieve antihypertensive effects by suppression of the renin-angiotensin-aldosterone system, but not by adjusting the fluid volume, dilating vessels, or decreasing cardiac output.
4. (2) Propranolol (Inderal) blocks the effects of beta-adrenergic stimulation, decreasing blood pressure,

cardiac output, and cardiac contractility. (1, 3, 4) Propranolol (Inderal) does not increase heart rate, affect fluid volume, or increase cardiac contractility.

## REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

5. **(2, 3, 4, 5)** are modifiable risk factors for hypertension. (1) Race is a nonmodifiable risk factor.
6. **(2)** *Hypertension* is defined as a blood pressure of more than 140/90 mm Hg on two separate occasions. (1) Blood pressure measurement is the heart contracting or systolic, as well as relaxing, or diastolic. (3) Stress, activity, and emotions may temporarily raise blood pressure. (4) Peripheral vascular resistance may help determine blood pressure, but it does not define hypertension.
7. **(1)** Smoking is associated with a high incidence of stages 1 and 2 hypertension. (2, 3) Patients who smoke may show an increase in blood pressure because nicotine vasoconstricts the blood vessels. (4) Smoking is a major risk factor for cardiovascular disease but has not been shown to cause hypertension.
8. **(4)** is correct. (1, 2, 3) do not have headache as a common side effect.
9. **(3)** Medications for hypertension should be taken daily as directed. (1) Sunbathing may increase dehydration, a side effect of the drug. (2) Lifestyle modifications are to be continued with antihypertensive therapy. (4) The medication is keeping the blood pressure lowered and will have to be taken daily.
10. **(2)** Thiazide diuretics reduce the reabsorption of potassium, so patients should be monitored for signs of hypokalemia or muscle weakness. (1, 3, 4) Numb hands, gastrointestinal distress, and nightmares are not common side effects of metolazone.
11. **(3)** Cough is a side effect of enalapril maleate. (1, 2, 4) Acne, diarrhea, and heartburn are not common side effects of enalapril maleate.
12. **(3)** Stopping propranolol (Inderal) abruptly may cause withdrawal syndrome. (1) Propranolol (Inderal) does not affect fluid volume or electrolytes unless combined with a diuretic. (2) Gastrointestinal side effects are not common. (4) Patients are instructed to avoid prolonged standing and to make position changes slowly because they may experience hypotension.
13. **(4)** Knowledge is needed to control this chronic condition. (1) Defining characteristics of activity intolerance include abnormal electrocardiographic readings and vital signs and reports of dyspnea or fatigue. (2) Ineffective airway clearance is the state in which an individual is unable to clear secretions. (3) Impaired physical mobility is a temporary limitation of the ability to move freely, which is not the focus of care for hypertension.
14. **(3)** Although a patient may feel better after taking medication, the hypertension is well controlled but not cured. (1, 2, 4) Hypertension can damage the target organs if it is not controlled. Accurate statements by patients regarding complications of hypertension and lifestyle modifications may indicate that patients are well informed.
15. **(1)** The Joint National Committee (JNC) recommends regular aerobic exercise to prevent and control hypertension. (2) Smoking, even low-tar cigarettes, is a risk factor for heart disease. (3) Alcohol intake is limited to 1 oz/day by the JNC. (4) A daily multivitamin supplement has not been shown to prevent or control hypertension.

# Answers

## CHAPTER 23

### VOCABULARY

- |                   |                        |
|-------------------|------------------------|
| 1. annuloplasty   | 9. myocarditis         |
| 2. commissurotomy | 10. petechiae          |
| 3. insufficiency  | 11. pericardiocentesis |
| 4. regurgitation  | 12. cardiac tamponade  |
| 5. stenosed       | 13. cardiomyopathy     |
| 6. valvuloplasty  | 14. cardiomegaly       |
| 7. chorea         | 15. myectomy           |
| 8. pericarditis   | 16. thrombophlebitis   |

### MITRAL VALVE PROLAPSE

*Corrections are in boldface.*

During ventricular **systole**, when pressures in the left ventricle rise, the leaflets of the mitral valve normally remain **closed**. In mitral valve prolapse (MVP), however, the leaflets bulge backward into the left **atrium** during systole. Often there are **no** functional problems seen with MVP. However, if the leaflets do not fit together, mitral **regurgitation** can occur with varying degrees of severity.

MVP tends to be hereditary, and the cause is **unknown**. Infections that damage the mitral valve may be a contributing factor. It is the most common form of valvular heart disease and typically occurs in **women** ages 20 to 55. Most patients with MVP have **no** symptoms. Symptoms that may occur include chest pain, dysrhythmias, palpitations, dizziness, and syncope. No treatment is needed unless symptoms are present. Stimulants and caffeine should be avoided to prevent symptoms.

### VALVULAR DISORDERS

1. False—narrowing
2. True
3. True
4. False—allows
5. True
6. False—mitral, aortic
7. True
8. False—late
9. True
10. True
11. True
12. True

13. False—enlarges
14. True
15. False—Current guidelines consider antibiotics only for a few conditions before some invasive procedures.

### CRITICAL THINKING—MRS. MURPHY

1. Aging.
2. Ask if there is a history of rheumatic fever.
3. The left ventricle increases atrial kick; the left ventricle hypertrophies to increase contractility.
4. Left ventricular failure.
5. Decreased coronary artery blood flow results from the reduced cardiac output at the same time that the left ventricular workload is increased. This imbalance in oxygen supply and demand results in angina.
6. Hypertrophy is a compensatory mechanism.
7. Sudden death may occur from aortic stenosis, so the valve is replaced.

### INFLAMMATORY AND INFECTIOUS CARDIOVASCULAR DISORDERS

- |        |        |
|--------|--------|
| 1. (2) | 4. (3) |
| 2. (5) | 5. (4) |
| 3. (1) |        |

### RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

*Corrections are in boldface.*

Rheumatic fever is a **complication** of a streptococcal infection such as a sore throat. Rheumatic fever signs and symptoms include polyarthritis, subcutaneous nodules, **chorea** with rapid, **uncontrolled** movements, carditis, fever, arthralgia, and **pneumonitis**. A throat culture diagnoses a **streptococcal infection at the time of the infection**. The heart valves and their structures can be scarred and damaged. Rheumatic fever can be prevented by detecting and treating streptococcal infections promptly with **penicillin**.

### DIAGNOSTIC TESTS FOR INFECTIVE ENDOCARDITIS

1. (3)
2. (5)
3. (2)
4. (4)
5. (1)



## THROMBOPHLEBITIS

**NURSING DIAGNOSIS***Acute Pain* related to inflammation of vein**Interventions**

Assess pain using rating scale such as 0 to 10.

Provide analgesics and nonsteroidal anti-inflammatory drugs (NSAIDs) as ordered.

Apply warm, moist soaks.

Maintain bed rest with leg elevation above heart level.

**Rationale**

Self-report is the most reliable indicator of pain.

Pain is reduced when inflammation is decreased.

Heat relieves pain and vasodilates, which increases circulation to reduce swelling. Moist heat penetrates more deeply.

Elevation decreases swelling, which reduces pain.

**Evaluation**

Does patient report pain using scale?

Is patient's rating of pain lower after medication?

Does patient report increased comfort with warm, moist soaks?

Is swelling reduced?

**NURSING DIAGNOSIS***Deficient Knowledge* related to lack of knowledge about disorder and treatment**Interventions**

Explain condition, symptoms, and complications.

Explain medications, therapies ordered, monthly lab test monitoring, and need for Medic Alert identification.

Teach patient not to massage extremity.

**Rationale**

Patient must have basic knowledge to comply with therapy.

Adherence to the medication regimen and safe use of medications are promoted with an adequate knowledge base.

Massage can dislodge an embolus.

**Evaluation**

Is patient able to verbalize knowledge taught?

Can patient explain medications, therapies, lab tests, purpose of Medic Alert identification?

Does patient avoid massaging extremity?

**CRITICAL THINKING—MR. EVANS**

1. Enlargement of heart muscle, especially along the septum without dilation of the ventricle, which does not relax or fill easily.
2. Smaller, reduced because of decreased relaxation and size.
3. Chest x-ray.
4. It would increase contractility in a heart that does not relax easily, so filling would be decreased with even less relaxation.
5. (a) Because cardiac output is reduced, dehydration must be avoided to prevent a further decrease in cardiac output. (b) Exertion is avoided so that an increase in cardiac

output, which the compromised heart is unable to provide, is not required.

6. The family will feel useful and included in the patient's care if they are taught cardiopulmonary resuscitation (CPR). They will feel a sense of control and purpose in the event that CPR is required.

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(2)** Impaired emptying of blood from the left ventricle occurs because the blood cannot easily leave the left ventricle through the narrowed aortic valve. (1) The aortic valve is narrowed. (3) Backflow of blood into the left

- atrium occurs with mitral regurgitation. (4) Impaired emptying of the left atrium occurs with mitral stenosis.
- (1) Backflow of blood into the left atrium occurs through the mitral valve, which does not close tightly. (2, 3, 4) are incorrect.
  - (3) Ventricular hypertrophy occurs to help maintain cardiac output. (1, 2, 4) are incorrect.
  - (2) Left ventricular failure results in decreased cardiac output, which reduces oxygen to the tissues and causes fatigue. (1, 3, 4) are incorrect.
  - (4) Cardiac catheterization measures chamber pressures. (1, 2, 3) do not.
  - (4) is a bacterial infection that can precede rheumatic fever. (1, 2, 3) are incorrect.
  - (3) Chest pain is the most common symptom, especially with deep inspiration. (1, 2, 4) are incorrect.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

- (3) The patient's goal would be to be able to verbalize knowledge of disorder. (1, 2, 4) are incorrect.
- (1, 6) Furosemide helps prevent pulmonary edema, a complication of decreased cardiac output and heart failure, and a potassium supplement is needed with furosemide, a potassium-wasting diuretic. (2, 3, 4, 5) help prevent complications that are not related to decreased cardiac output.
- (1) Determining the patient's learning priorities helps ensure that the patient is motivated to learn because the patient's needs and not the nurses' needs are being met. (2, 4) do not promote learning and may hinder it. (3) is not correct.
- (1) Wearing Medical Alert identification is essential in case of a bleeding problem or loss of consciousness. (2) An increased intake of green leafy vegetables can counteract the effects of warfarin (Coumadin) because they contain vitamin K, the antidote for Coumadin. (3) Blood test appointments are monthly. (4) An electric razor is to be used when shaving.
- (1) If the patient understands to breathe normally when moving, Valsalva's maneuver will not occur. (2, 3) are incorrect. (4) results in Valsalva's maneuver.
- (4) Dyspnea and coughing are indicators of heart failure because of fluid congestion in the lungs, so you would listen to lung sounds to see if crackles are present. (1, 2, 3) are not the current priority.
- (1) To prevent endocarditis from recurring because of increased risk from previous heart damage. (2) is not the reason they are given. (3, 4) are not prevented by antibiotics.
- (3) They can cause the clot to dislodge and become an embolus. (1) They do not prevent calf swelling. (2) Preventing a life-threatening complication is the priority. (4) They do not cause a clot to form.
- (3) is monitored for heparin. (1, 2, 4) are not monitored for heparin; (2) and (4) are monitored for warfarin (Coumadin) therapy.
- (1) Vitamin K is the antidote. (2, 3, 4) are incorrect; (4) is the antidote for heparin.
- (2) The desired outcome for pain is that it is satisfactorily relieved according to patient. (1) is the outcome for anxiety. (3, 4) would not be appropriate for a patient with acute thrombophlebitis because bedrest is ordered.
- (2) A throat culture must be done to rule out a streptococcal infection, which can lead to complications. (1, 3, 4) are not as essential to prevent complications.
- (2) The next dose of warfarin (Coumadin) should be held and the health care provider informed because INR and PT monitor Coumadin effects and they are over the high end of therapeutic range. (1) is incorrect because the PT is elevated and could cause bleeding. (3, 4) are incorrect because PT does not monitor heparin.
- (1, 5, 6) Bedrest is essential to prevent emboli development. It is OK to apply stocking to nonaffected leg to prevent venous stasis. Heat provides pain relief and increases circulation. (2, 3, 4) would encourage emboli development if the affected leg is involved.
- (2) is above therapeutic range. (3) measures for heparin. (1) does not measure warfarin. (4) is therapeutic.
- (4) The patient is experiencing paroxysmal nocturnal dyspnea, which occurs from increased fluid returning to the heart from reclining; the fluid then builds up in the lungs. (1, 2, 3) are incorrect.
- (2) Anorexia is a side effect of digoxin (Lanoxin). (1, 3, 4) are incorrect.
- (2)
$$\frac{45 \text{ mg}}{60 \text{ mg}} \left| \frac{2 \text{ mL}}{60 \text{ mg}} \right. = 1.5 \text{ mL}$$
 (1, 3, 4) are incorrect
- (4) Pericardial friction rub indicates inflamed pericardial tissue and would be the highest priority for this patient. (1) Bronchovesicular sounds over the major airways are a normal finding. (2, 3) Chest soreness and tenderness and sternal bruising are expected with chest trauma and are not the highest priority.

# Answers

## CHAPTER 24

### VOCABULARY

- |         |          |
|---------|----------|
| 1. (4)  | 11. (3)  |
| 2. (9)  | 12. (1)  |
| 3. (13) | 13. (8)  |
| 4. (10) | 14. (11) |
| 5. (18) | 15. (14) |
| 6. (16) | 16. (19) |
| 7. (12) | 17. (15) |
| 8. (2)  | 18. (17) |
| 9. (5)  | 19. (20) |
| 10. (7) | 20. (6)  |

### ATHEROSCLEROSIS

1. A fatty streak appears on the lining of an artery. This buildup of fatty deposits is known as *plaque*. Plaque has irregular, jagged edges that allow blood cells and other material to adhere to the wall of the artery. With time, this buildup can cause stenosis of the vessel, which leads to partial or total occlusion of the artery. When this occurs, the area distal to it can become ischemic due to lack of blood flow. This buildup will become calcified and harden, leading to damage of the vessel with loss of elasticity and compliance.
2. Cigarette smoking, hypertension, elevated serum cholesterol, diabetes mellitus, obesity, stress, and sedentary lifestyle.
3. Determine readiness to learn. Example for smoking: Explain what occurs when one smokes, including changes to vessels and effect on blood flow. Determine when patient craves cigarettes most, and teach patient to try a different activity to distract from smoking. Teach patient to avoid caffeine products—chocolate, cocoa, and caffeinated soft drinks. Avoid stimulants. Increasing fluid intake, especially during the first 3 days of quitting smoking, will help wash nicotine out of the system. Have patients read books instead of magazines; magazines have many cigarette ads.

### MYOCARDIAL INFARCTION

Corrections are in **boldface**.

Myocardial infarction (MI) is the death of a portion of the **heart muscle** caused by a blockage or spasm of a coronary artery. When the patient has an MI, the affected part of the

muscle becomes damaged and no longer functions properly. Ischemic injury takes **several hours** before complete necrosis and infarction take place. The ischemic process affects the subendocardial layer, which is **most** sensitive to hypoxia. Myocardial contractility is depressed, so the body attempts to compensate by triggering the **autonomic** nervous system. This causes **an increase** in myocardial oxygen demand, which further depresses the myocardium. After necrosis, the contractility function of the muscle is **permanently** lost. If treatment is initiated at the **first sign** of an MI, the area of damage can be minimized. If prolonged ischemia occurs, the size of the infarction can be quite **large**.

The area that is affected by an MI depends on which coronary artery is involved. The left anterior descending (LAD) branch of the left main coronary artery is the area that feeds the **anterior** wall. The right coronary artery (RCA) feeds the **inferior** wall and parts of the atrioventricular node and the sinoatrial node. An occlusion of the RCA leads to an inferior MI and to abnormalities of impulse conduction and formation. The left circumflex coronary artery feeds the **lateral** wall and part of the posterior wall of the heart.

Pain is the **most** common symptom. The pain **may radiate to one or both arms and shoulders, the neck, and the jaw**. The patient usually **denies** that an MI is occurring. Other symptoms may include restlessness, a feeling of impending doom, nausea, diaphoresis, and cold, clammy, ashen skin. The only symptom that might be present in the older adult may be a **sudden onset of shortness of breath**. Women may have atypical symptoms of an MI.

The three strong indicators of an MI are patient history, abnormal electrocardiographic (ECG) readings, and **troponin I** levels.

Initially, patients are kept on bedrest to **decrease** myocardial oxygen demand. Patients are medicated promptly when experiencing chest pain. **Morphine sulfate** is the most widely used narcotic for MI. It helps decrease anxiety, **slows** respirations, and **vasodilates** the coronary arteries. Oxygen is given usually at **2 L/min** via nasal cannula. Nitroglycerin sublingual, topical, or by intravenous (IV) drip can also be administered. PCI is a frequent treatment option for an occluded coronary artery.

A nursing care plan should include factors that may contribute to **increased** cardiac workload. Changes in diet, stress reduction, regular exercise program, cessation of smoking, and following a medication schedule require extensive patient and family teaching.

**PHARMACOLOGICAL TREATMENT**

- |        |          |
|--------|----------|
| 1. (4) | 6. (6)   |
| 2. (3) | 7. (9)   |
| 3. (1) | 8. (5)   |
| 4. (7) | 9. (8)   |
| 5. (2) | 10. (10) |

**CRITICAL THINKING**

- (1) is correct. Patient will exhibit signs of increased arterial blood flow and tissue perfusion.
- Associated with arterial occlusive disease. This is pain in the calves of the lower extremities associated with activity or exercise. With poor blood supply to the muscles, they are unable to receive increased oxygen to meet the demand of increased activity. As ischemia increases, a cramping-type pain develops.
- When activity stops, the muscle does not have increased oxygen demand, so the pain begins to subside with rest.
- Smoking contributes to loss of high-density lipoproteins (HDL), which is the best type of cholesterol to have in order to decrease the risk of cardiovascular disorders. The rate of progressive damage to vessels is increased with smoking. Smoking also contributes to vasoconstriction, which reduces blood delivery to muscles and can also lead to angina and cardiac dysrhythmias.

**REVIEW QUESTIONS—CONTENT REVIEW**

The correct answers are in **boldface**.

- (3) Iodine is the base for the radiopaque dye used for the arteriogram. Notify the health care provider if the patient is allergic to it. The health care provider may cancel the procedure or take other precautions, such as the administration of an antihistamine or other emergency medication. (1, 2, 4) are not related to the test dyes used.
- (3) Pulmonary edema. These symptoms are classic signs of pulmonary edema. (1, 2, 4) Respiratory distress may be observed, but the frothy sputum is symptomatic of pulmonary edema.
- (2) Capillary refill is normally less than 3 seconds. (1, 3, 4) are all symptomatic of atherosclerosis.
- (3) 7% Kcal as saturated fat can help reduce LDL. (1, 2, 4) are incorrect and will likely raise LDL.
- (3) Lack of sufficient oxygen to the myocardium is the cause of chest pain. (1) causes wasting of heart muscle. (2) causes dysrhythmias. (4) will not cause chest pain unless oxygen supply is insufficient to meet the workload.

**REVIEW QUESTIONS—TEST PREPARATION**

The correct answers are in **boldface**.

- (4) A stress ECG demonstrates the extent to which the heart tolerates and responds to the additional demands

placed on it during exercise. The heart's ability to continue adapting is related to the adequacy of blood supplied to the myocardium through the coronary arteries. If the patient develops chest pain, dangerous cardiac rhythm changes, or significantly elevated blood pressure, the diagnostic testing is stopped. (1, 2, 3) are incorrect.

- (4) When a patient is apprehensive and afraid, the nurse should listen and encourage patient expression of feelings. This can ease the mental burden and help the patient feel less overwhelmed, alone, and helpless. Listening is an active process even if the patient does most of the talking. (1) Learning is impaired during times of anxiety. (2) Avoiding the subject may indicate to the patient that the nurse does not care. (3) How others have done ignores the fact that for this person, the experience is unique.
- (1) If nitroglycerin tablets are fresh, the patient should feel a tingling or fizzing in the mouth. Tablets usually need to be replaced about every 3 months. (2, 4) Nitroglycerin tablets do not disintegrate or change color when old. (3) Aspirin smells like vinegar when it becomes old.
- (2) Fresh vegetables without added salt are low in sodium. (1, 3, 4) are high in sodium.
- (1, 4, 5) Hypertension and diabetes can be controlled with proper diet, exercise, and medications. Smoking can be stopped. (2, 3) cannot be changed.
- (3, 5, 6) Saturated fats come primarily from animal products and some plants including the "tropical oils"—palm oil and coconut oil. Avocado, tuna, and olive oil have polyunsaturated fats. See the American Heart Association website.
- (1, 2, 4) are all found with venous insufficiency. (3) is not correct because edema, moderate to severe, is a manifestation of venous insufficiency. (5) is not a sign of venous insufficiency but may indicate thrombophlebitis. (6) Hyperemia is an intense reddening of the hands and is associated with arterial spasm/Raynaud's disease.
- (2, 3, 6) Pain is the outstanding symptom; cramping is also a feature to a lesser extent; intermittent claudication and other symptoms of occlusive disease are common. (1, 4, 5) Numbness, swelling, and bounding pulses are not characteristic.
- (2) Arteriolar vasoconstriction. (1, 3, 4) are not descriptive of Raynaud's disease.

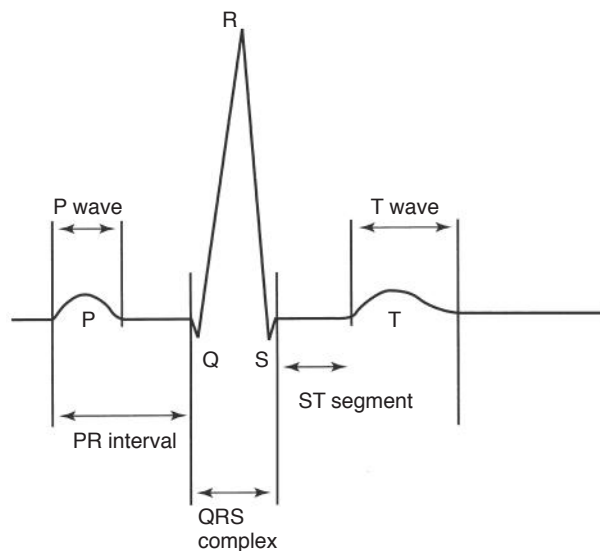
# Answers

## CHAPTER 25

### VOCABULARY

- |          |          |
|----------|----------|
| 1. (19)  | 12. (10) |
| 2. (9)   | 13. (16) |
| 3. (5)   | 14. (1)  |
| 4. (15)  | 15. (7)  |
| 5. (8)   | 16. (14) |
| 6. (4)   | 17. (3)  |
| 7. (12)  | 18. (17) |
| 8. (11)  | 19. (20) |
| 9. (21)  | 20. (18) |
| 10. (2)  | 21. (6)  |
| 11. (13) |          |

### COMPONENTS OF A CARDIAC CYCLE



### HEART RATE

- 100
- 110
- 80

### CARDIAC CONDUCTION

- |          |          |
|----------|----------|
| 1. (5)   | 13. (22) |
| 2. (9)   | 14. (20) |
| 3. (12)  | 15. (14) |
| 4. (18)  | 16. (3)  |
| 5. (24)  | 17. (19) |
| 6. (21)  | 18. (16) |
| 7. (17)  | 19. (4)  |
| 8. (1)   | 20. (7)  |
| 9. (23)  | 21. (10) |
| 10. (13) | 22. (11) |
| 11. (8)  | 23. (6)  |
| 12. (15) | 24. (2)  |

### ELECTROCARDIOGRAM INTERPRETATION

#### A.

- Rhythm: Regular
- Heart rate: 39 beats per minute
- P waves: Smoothly rounded and upright in lead II, precede each QRS complex, alike
- PR interval: 0.16 second
- QRS interval: 0.10 second
- QT interval: 0.40 second
- Electrocardiogram (ECG) interpretation: Sinus bradycardia

#### B.

- Rhythm: Regular
- Heart rate: 100 beats per minute
- P waves: Smoothly rounded and upright in lead II, precede each QRS complex, alike
- PR interval: 0.14 second
- QRS interval: 0.06 second
- QT interval: 0.34 second
- Electrocardiogram (ECG) interpretation: Normal sinus rhythm

### CRITICAL THINKING

- Assess patient: vital signs, heart sounds, note symptoms, place on heart monitor per agency protocol.

2. Report the patient findings to the registered nurse or health care provider. Elevate head of bed for comfort, monitor vital signs, maintain oxygen per nasal cannula at 2 L/min per agency protocol, remain with patient to help alleviate anxiety.
3. Hypokalemia or ischemia causing irritability of the heart.
4. Light-headedness, feel heart skipping, chest pain, or fatigue.
5. ECG, oxygen, administration of potassium, electrolyte levels; may consider antiarrhythmic agent if symptomatic.

## REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

1. **(3)** The complete heartbeat consisting of contraction, or systole, and relaxation, or diastole, of the atria and ventricles. (1, 2) The circulation of the blood is a result of the action of the cardiac cycle. (4) is the contraction portion of the cardiac cycle.
2. **(3)** The superior and inferior vena cava. (1) delivers the blood back to the left side of the heart after oxygenation in the lungs. (2) receives the blood pumped from the left ventricle into the systemic circulation. (4) is a part of the heart's own circulation.
3. **(4)** is correct. (1) controls the flow of blood from one heart chamber to another and into the pulmonary and systemic circulations. (2) is the sac covering the heart. (3) collects blood that is then pumped out of the heart into the circulation.
4. **(1)** The left ventricle is the largest chamber. (2) The right ventricle is smaller. (3, 4) Both the right and the left atria are smaller than either ventricle.
5. **(4)** The T wave represents ventricular *repolarization*, or the resting state of the heart when the ventricles are filling with blood and preparing to receive the next impulse. (1) The P wave represents atrial *depolarization*. (2) the QRS represents ventricular depolarization. (3) The U wave is frequently seen in patients with hypokalemia.
6. **(3)** 60 to 100 beats per minute is the inherent rate for the sinoatrial node. (1) is the inherent rate for the ventricles. (2) is the normal rate for the atrioventricular node. (4) is not a normal heart rate.
7. **(3)** Sinus rhythms identify the impulse as having originated in the sinoatrial node. (1) Escape beats are late beats occurring when a more rapid focus fails to initiate a beat. (2) A block occurs when the normal conduction pathway of the heart is disturbed. (4) Ectopic rhythms are abnormal beats.
9. **(2)** Digoxin (Lanoxin) slows the heart rate and increases the force of contraction. (1) To decrease ectopic beats, an antiarrhythmic would be given. (3) To relieve chest pain, nitroglycerin would be given sublingually or intravenously. (4) To raise blood pressure, a vasopressor such as dopamine would be given.
10. **(1)** Atrial fibrillation can cause interruptions in the movement of blood through the heart and the formation of a thrombus, with serious consequences. Aspirin or warfarin will be used to prevent thrombus formation and remain an important component of patient care. (2) Swelling of feet, often an early sign of heart failure, could be a less serious result of atrial fibrillation. (3) is not contraindicated, although an exercise routine should be carefully constructed for a patient with a cardiac history. (4) is a psychosocial concern and not the highest priority for this patient.
11. **(1, 3, 4, 5)** are appropriate treatments for atrial fibrillation. (2) Nitroglycerin is not an appropriate treatment. (6) Epinephrine is not a treatment for atrial fibrillation.
12. **(1)** Three or more premature ventricular contractions (PVCs) in a row constitute ventricular tachycardia. (2) Bigeminy is a PVC every second beat. (3) Trigeminy is a PVC every three beats. (4) Multifocal PVCs are PVCs arising from different foci in the ventricle and therefore vary in appearance.
13. **(4)** In a hemodynamically stable patient, treatment with medication is the first choice. (1) Cardioversion would be tried only if other measures did not work. (2) Pacing is not an option for this. (3) Defibrillation is not appropriate treatment.
14. **(2)** is the correct answer. (1) is the name of the rhythm of a dying heart with wide QRS complex and slowing irregular rate. (3) is the absence of a firing mechanism in the sinus node. (4) is a pattern with no ventricular activity.
15. **(3)** Elevate the head of the bed and start oxygen by nasal cannula per agency policy to improve oxygenation because oxygen hunger is a common cause of heart irritability. (2) Call the health care provider next. (1) Then with orders, an ECG is next. (4) is not an appropriate action.
16. **(4, 5)** Third-degree heart block requires a permanent pacemaker, and symptomatic bradycardia may require it depending on the cause. (1, 2, 3, 6) do not require a permanent pacemaker.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

8. **(2)** Examine patient. Monitored rhythms can be deceptive. Always “treat the patient, not the monitor.” (1, 3, 4) may be appropriate actions *after* the patient is examined, if indicated.

# Answers

## CHAPTER 26

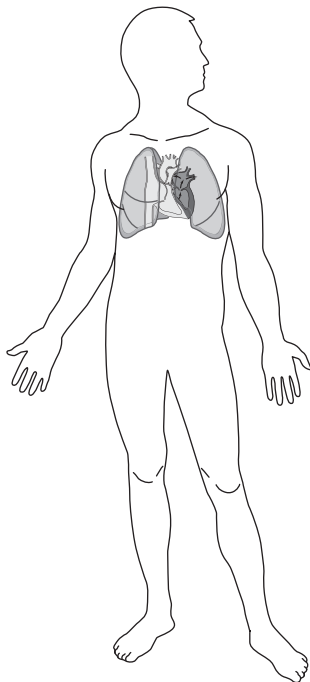
### VOCABULARY

1. Pulmonary edema (acute heart failure)
2. Cor pulmonale
3. splenomegaly, hepatomegaly
4. peripheral vascular resistance
5. Paroxysmal nocturnal dyspnea
6. preload
7. afterload
8. Orthopnea

### FLUID ACCUMULATION PATTERNS

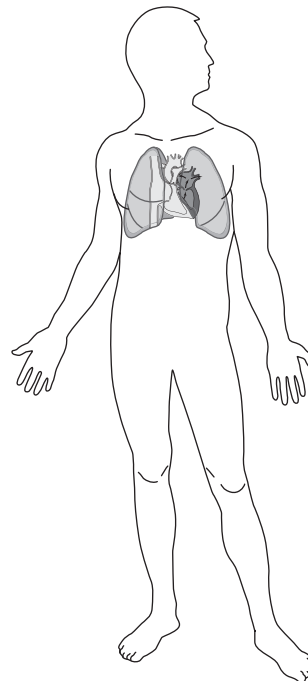
#### Left-sided Heart Failure

Left ventricle → left atrium → pulmonary veins → lungs



#### Right-sided Heart Failure

Right ventricle → right atrium → vena cavae → jugular vein distention → hepatomegaly → splenomegaly → peripheral edema



### SIGNS AND SYMPTOMS OF HEART FAILURE

- |        |        |
|--------|--------|
| 1. (1) | 5. (2) |
| 2. (2) | 6. (1) |
| 3. (1) | 7. (2) |
| 4. (2) | 8. (1) |

### CRITICAL THINKING

1. Left-sided heart failure (HF) leading to backward fluid accumulation in lung tissues and decreased cardiac output.
2. Left: dyspnea, cough, crackles, orthopnea. Right: jugular vein distention, peripheral edema.

3. (a) Potent diuretic to reduce fluid congestion and fluid returning to the heart (preload) to improve cardiac output. (b) Decreases afterload. Decreases cardiac hypertrophy. (c) Restricting sodium may reduce fluid volume and aid in reducing edema. (d) Provides greater availability of oxygen to the tissues by increasing the percentage of oxygen in inhaled air.
4. Mr. Donner is experiencing acute HF—pulmonary edema. Fluid accumulation in his lungs is severe and requires immediate treatment.
5. (a) Decreases fluid returning to the heart (preload) to ease the heart's workload and improve cardiac output. (b) Provides greater availability of oxygen in inhaled air. (c) Potent diuretic; when given intravenously (IV) has a quicker onset of action to reduce the amount of fluid congestion and fluid returning to the heart to improve cardiac output. (d) Decrease preload, which reduces cardiac workload. (e) Sedative action reduces anxiety, and given IV, it has a quicker onset of action.
6. *Excess Fluid Volume* related to (r/t) pump failure; clear breath sounds and free of edema. *Activity Intolerance* r/t fatigue; tolerates activity with appropriate increases in heart rate, blood pressure, and respirations. *Sleep Pattern Disturbance* r/t nocturnal dyspnea; awakens refreshed and is less fatigued during day. *Impaired Gas Exchange* r/t pump failure; maintains clear lung fields. *Anxiety* r/t dyspnea; verbalizes decrease in anxiety. *Self-Care Deficits* (total) r/t fatigue and dyspnea; activities of daily living (ADLs) completed with assistance. *Ineffective Therapeutic Regimen Management* r/t lack of knowledge; states understanding of treatment plan and willingness to follow it.
7. Signs and symptoms of heart failure; medications; purpose, monitoring (heart rate, potassium), side effects; diet; energy conservation; daily weights.
5. (4) The heart is failing as a pump to move blood forward. (1) occurs in cardiac arrest, (2) occurs in a myocardial infarction, (3) is the opposite of what occurs with heart failure.
6. (3) Fluid in the lungs is heard as crackles. (1, 2, 4) are related to right-sided heart failure.
7. (1) If fluid accumulates from heart failure, weight will increase and is detectable by daily weights. (2) would be monitored for problems with an adequate caloric intake, not a fluid problem. (3) would be monitored for the effects of digitalis toxicity. (4) would be monitored for ascites development.
8. (2) Lanoxin increases the strength of the heart's contraction. This allows better emptying of the ventricle, which improves cardiac output and increases blood flow to the kidneys, so increased urine output occurs. (1) If urine output decreases, the Lanoxin has not improved cardiac output to increase blood flow to the kidneys. (3) Lanoxin slows the heart rate. A rapid heart rate occurs to compensate for reduced cardiac output. (4) A slow heart rate is expected with Lanoxin, but below 50 beats per minute is slower than desired for effectiveness.
9. (1) Poor appetite is a common sign of Lanoxin toxicity. (2) Diarrhea is a side effect of Lanoxin. (3) Yellow lights, not halos, are a sign of toxicity. (4) Bradycardia occurs with toxicity.
10. (4) Furosemide is a loop diuretic that may deplete electrolytes, especially potassium, so ongoing monitoring of potassium is necessary. (1, 2, 3) are not affected directly by furosemide (Lasix) and are not monitored for this therapy.
11. (1, 5) Morphine sulfate is given to relieve the patient's anxiety caused by the dyspnea of pulmonary edema. It also reduces preload and afterload to decrease the workload of the failing heart. (2) Chest pain is usually associated with a myocardial infarction, not pulmonary edema. (3) It does not strengthen the heart's contraction. (4) It may decrease blood pressure.

## REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

1. (3) 0.25 mg by mouth (PO) is the usual adult daily dose of digoxin (Lanoxin). (1, 2) are less than the usual daily dose of Lanoxin. (4) is greater than the usual daily dose of Lanoxin.
2. (1) Hypokalemia may predispose to Lanoxin toxicity. (2, 3, 4) do not predispose to Lanoxin toxicity.
3. (4) The right ventricle enlarges from the extra workload that occurs from the increased pulmonary pressures while ejecting blood into the pulmonary artery. (1, 2, 3) are not directly affected by pulmonary pressures.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

4. (2) Decreased cardiac output occurs with heart failure, leading to reduced oxygenation of the tissues and therefore fatigue. (1, 3, 4) all result from heart failure, as does fatigue. They do not cause the fatigue.
12. (3) is a common sign of pulmonary edema. (1, 2) are associated with right-sided heart failure. (4) Tachycardia occurs in pulmonary edema as a compensatory mechanism.
13. (4) Inotropic agents strengthen the heart's contractions. (1) An agent that slows the heart rate is a chronotropic agent. (2) An inotropic agent does not increase heart rate. (3) Conduction time is not affected by the inotropic property of a medication.
14. (1) Furosemide is a potent diuretic that works quickly when given IV to increase urine output and subsequently pull fluid from extravascular spaces, thereby reducing fluid in the lungs so bilateral crackles will diminish. (2, 3, 4) are not the reasons a diuretic is given.
15. (2) An anxious patient is comforted by the presence of the nurse and does not want to be left alone. (1) would increase oxygen needs and increase dyspnea and anxiety. (3, 4) could make the dyspneic patient feel more confined, increasing dyspnea and anxiety.



# Answers

## CHAPTER 27

### VOCABULARY

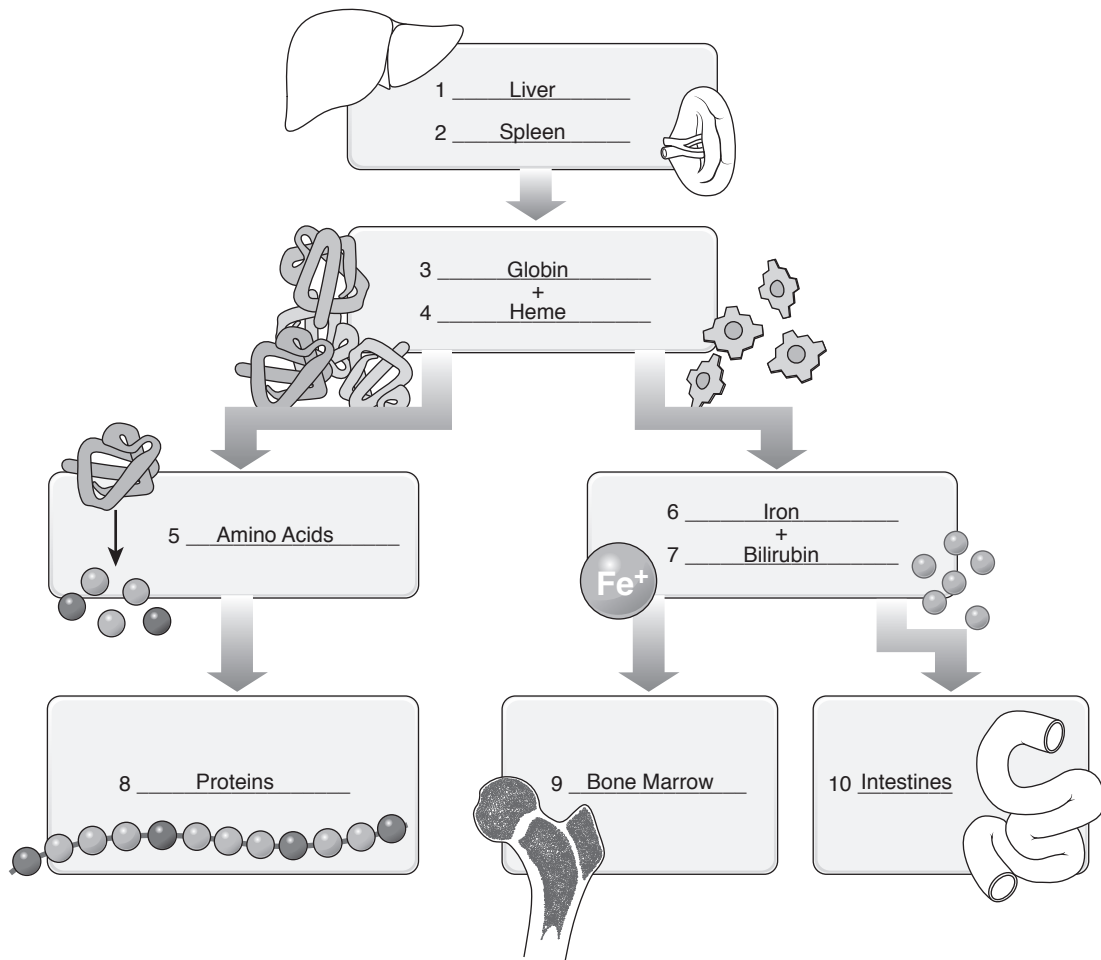
1. Ecchymosis
2. Lymphedema
3. Petechiae

4. Purpura
5. Thrombocytopenia

### LYMPHATIC SYSTEM

- |        |        |
|--------|--------|
| 1. (2) | 4. (1) |
| 2. (4) | 5. (3) |
| 3. (5) |        |

### BREAKDOWN OF RED BLOOD CELLS



**HEMATOLOGIC SYSTEM**

- |                |                |
|----------------|----------------|
| 1. <b>(10)</b> | 6. <b>(3)</b>  |
| 2. <b>(6)</b>  | 7. <b>(4)</b>  |
| 3. <b>(2)</b>  | 8. <b>(1)</b>  |
| 4. <b>(7)</b>  | 9. <b>(8)</b>  |
| 5. <b>(9)</b>  | 10. <b>(5)</b> |

**CRITICAL THINKING**

1. Fever may indicate a febrile or hemolytic reaction. Back pain is an early symptom of hemolytic reaction. Respiratory distress may signal circulatory overload or anaphylaxis. Crackles are a symptom of circulatory overload. Hives indicate an urticarial reaction.
2. Even though 20 breaths per minute may be normal, it is an increase for Mr. Foster. A thorough assessment should be done and the registered nurse notified in case this is an early sign of a reaction.
3. The maximum time blood can hang is 4 hours from the time it is picked up from the blood bank.

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(4)** is correct.
2. **(4)** is correct.
3. **(2)** is correct.
4. **(3)** is correct. The partial thromboplastin time (PTT) is monitored for heparin therapy. (1, 2) are used to monitor warfarin therapy. (4) indicates platelet function.
5. **(4)** is correct. Cryoprecipitate contains clotting factors. (1, 2, 3) do not contain clotting factors.
6. **(2, 3, 4, 5, 6)**

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

7. **(2)** is correct. The international normalized ratio (INR) should be between 2 and 3; 1.6 is low. (1) The patient is unlikely to bleed with a low INR. (3) The dose should be altered only by the health care provider. (4) Vitamin K might be given if the INR is prolonged.
8. **(3)** is correct. The transfusion must be stopped immediately because these are symptoms of a possible deadly hemolytic reaction. (1) A head-to-toe examination would be nice, but this is an emergency and there is no time for that. (2) There is no time for a pain assessment. (4) An analgesic can be administered after emergency care has stabilized the patient.
9. **(2)** is correct. A bone marrow biopsy is painful. (1) Explaining the procedure to the family should be done, but it is not as important as pain control for the patient. (3) The patient is observed for bleeding after, not before, the procedure. (4) The health care provider can drape the site.
10. **(4)** is correct. Neutrophils comprise 54% to 75% of the white blood cell count and are a critical component in protecting patients from infection. (1) is a normal WBC, (2) is a low platelet count but increases risk for bleeding not for infection, (3) is a normal hematocrit and does not correlate with infection risk.

# Answers

## CHAPTER 28

### VOCABULARY

1. False
2. True
3. True
4. True
5. False
6. True
7. False
8. False
9. True
10. False
11. True
12. True

### CRITICAL THINKING: LEUKEMIA

1. Mr. Frantzis is in the final stage of his disease, and he has opted for no treatment. Rehabilitation is no longer a goal. On days when he is feeling especially tired, it would be appropriate to bring him his breakfast in bed. A liquid supplement that is easy to drink might also be helpful.
2. Do a complete pain assessment using the **WHAT'S UP?** format. The pain might be sternal or rib tenderness from crowding of bone marrow. Administer analgesics as ordered.
3. Not all runny noses are infectious. Find out if the nursing assistant has a cold. If so, reassign Mr. Frantzis's care to another assistant because he is at risk for infection.
4. Mr. Frantzis may be developing confusion if the leukemia has invaded the central nervous system. Clarify with him who Jennifer is, and assess him for confusion. (Keep in mind that you may look like someone named Jennifer, and he may not be confused at all.) If he is becoming confused, assess for other causes, such as medication use or oxygen saturation, and institute measures to keep him safe.
5. Provide good mouth care after each meal and as required. Use a soft toothbrush or a swab if irritation is severe. Avoid giving him foods that are irritating, acidic, or extremely hot or cold. If he has dentures, remove for cleaning and at bedtime. Inspect his mouth carefully while dentures are out.

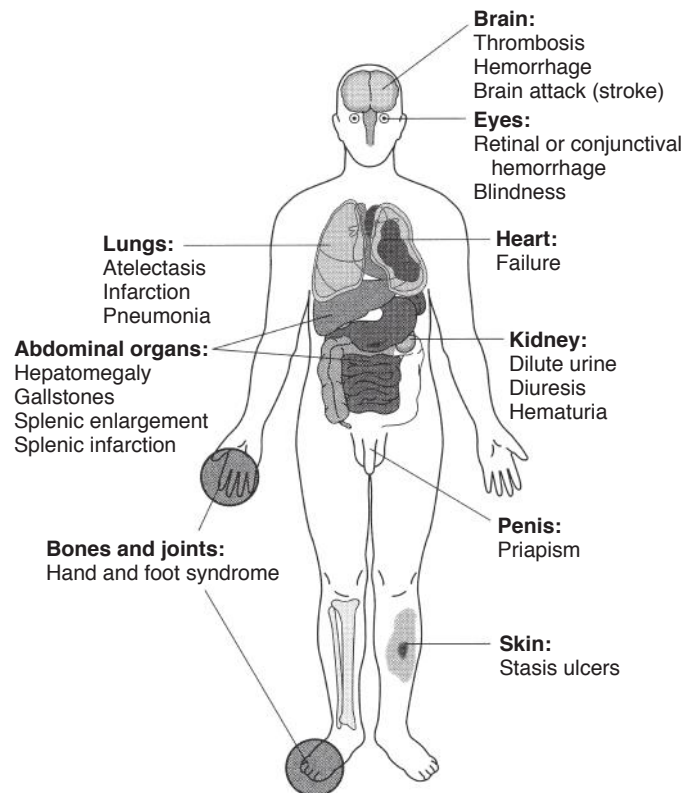
### CRITICAL THINKING: HODGKIN'S DISEASE

*Corrections are in boldface.*

Joe is a 28-year-old construction worker diagnosed with stage I Hodgkin's disease. He initially went to his health care provider because of a **painless** lump in his neck. He is also experiencing **low-grade fevers** and weight loss. The diagnosis

was confirmed in a laboratory test by the presence of Reed-Sternberg cells. He expresses his fears to his nurse, who tells him that **although Hodgkin's disease is a cancer**, it is often curable. Joe takes a leave from work and begins **curative** radiation therapy. (At age 28, it would be very unusual for Joe to choose palliative therapy.)

### SICKLE CELL ANEMIA



### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. **(2)** is correct. Red meat is high in iron. (1, 3, 4) are not as high in iron.
2. **(4)** is correct. The conjunctivae are pale in a patient with anemia. (1, 2, 3) are not necessarily pale in anemia, especially in a dark-skinned patient.
3. **(1)** is correct. The patient with anemia may experience palpitations as an early compensatory mechanism. (2, 3, 4) are later signs.

4. **(4)** is correct. Multiple myeloma attacks bone, making it prone to fractures. (1, 2, 3) are not directly related to multiple myeloma.
5. **(1)** is correct. Fluids help dilute and promote excretion of calcium. (2) Respiratory problems are not related to hypercalcemia. (3) Activity should be encouraged to keep calcium in the bones. (4) Heat will not affect calcium levels.
6. **(1)** is correct. Vitamin K can help correct clotting problems and prevent bleeding during surgery. (2, 3, 4) are not affected by vitamin K.

## REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

7. **(2)** is correct. A high incision often discourages deep breathing and coughing because of the resulting pain. This can result in infection. (1) Platelet count is not related to infection. (3, 4) Early ambulation and discharge may help prevent infection.
8. **(4)** is correct. Fever is a sign of infection. (1, 2, 3) are not signs of infection.
9. **(2)** is correct. Hemoglobin carries oxygen to tissues; hemoglobin level is reduced in anemia. (1) Oxygen transport to tissues is the problem. (3) Oxygen, not nutrients, is the problem. (4) Anemia does not cause lung damage.
10. **(2)** is correct. Chilling and exercise may both contribute to hypoxemia and a crisis. (1, 3, 4) do not cause hypoxemia.
11. **(1)** is correct. Infarction of small bones in the fingers and toes causes unequal growth. (2, 3, 4) are not symptoms of hand-foot syndrome.
12. **(3)** is correct. The best measure of effective teaching is actual change in behavior, as evidenced by the patient using an electric razor. (1, 2, 4) are all good measures of learning, but they are not as convincing as the actual change in behavior.
13. **(2)** is correct. Often the patient knows best when bleeding is occurring, and treatment should be initiated as soon as possible. (1) Deep palpation may injure tissue and worsen bleeding. (3) An x-ray will waste valuable time when the patient could be receiving treatment. (4) Heat is a vasodilator and could increase bleeding. Also, waiting before beginning treatment is not recommended.
14. **(4)** is correct. Fatigue is subjective and is best described by the patient. (1, 2, 3) may be indirectly related to fatigue, but they rely on the nurse's interpretation.
15. **(1)** is correct. Crowds of people will increase risk of exposure to infection, and lymphoma affects the immune system. (2, 3, 4) do not expose the patient to infection.
16. **(3)** is correct. This can assist the patient to identify support systems that will help the patient cope. (1, 2) offer false reassurance. (4) is inappropriate because there is no evidence that the patient is terminal at this time, and it will not help coping. It may be addressed at a time when the patient is coping better.
17. **(3)** is correct. Vaccines will help guard against infection. (1, 2) do not help prevent infection; (4) is unnecessary.

# Answers

## CHAPTER 29

### VOCABULARY

1. dyspnea
2. crepitus
3. thoracentesis
4. barrel
5. excursion
6. adventitious
7. tracheotomy
8. tidalng
9. apnea
10. tracheostomy

### ANATOMY

1, 4, 6, 5, 7, 8, 3, 2

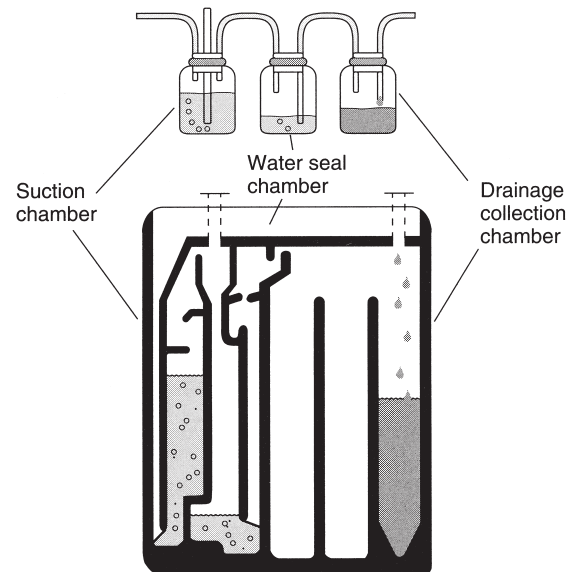
### VENTILATION

1, 4, 3, 6, 2, 5, 7

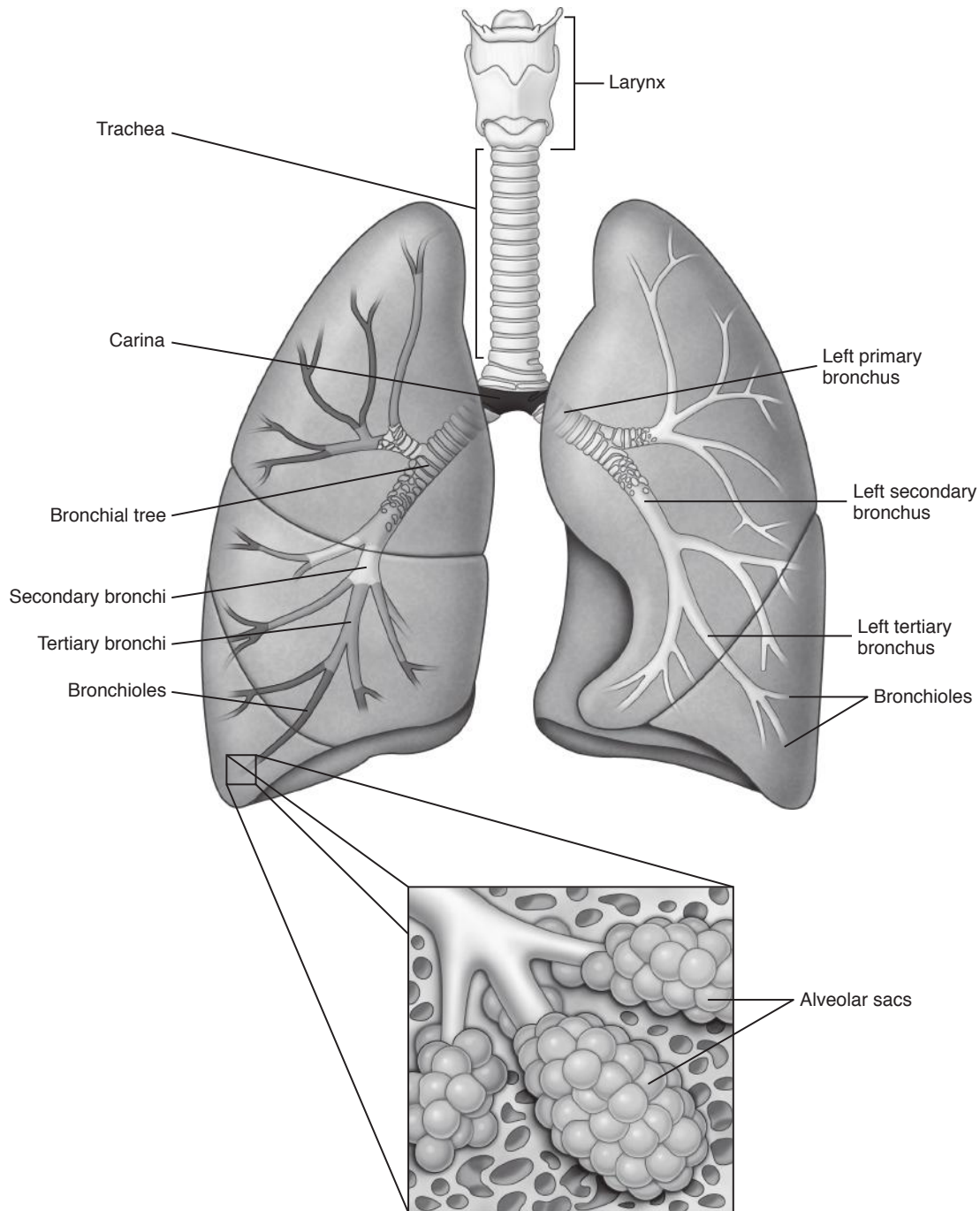
### ADVENTITIOUS LUNG SOUNDS

- |        |        |        |
|--------|--------|--------|
| 1. (5) | 3. (6) | 5. (3) |
| 2. (1) | 4. (4) | 6. (2) |

### CHEST DRAINAGE



## THE RESPIRATORY SYSTEM



### CRITICAL THINKING

1. Mr. Howe's cough should be assessed using the **WHAT'S UP?** technique. He should be asked how it feels, how bad it is, what makes it better or worse, and when it started. In addition, he should be asked about amount, color, odor, and consistency of sputum.
2. Night sweats, cough, and weight loss are symptoms of tuberculosis (TB). Bloody sputum is also common. These symptoms should alert the nurse to ask the health care provider about the likelihood of TB and the need for isolation to protect staff and other patients.
3. A chest x-ray and sputum culture and sensitivity will be ordered. Additional tests for TB are discussed in Chapter 31.
4. Mr. Howe should be kept NPO (nothing by mouth) according to institution policy before the bronchoscopy. An injection of atropine may be ordered to dry secretions. After the test, Mr. Howe's vital signs and respiratory status should be closely monitored. Mr. Howe will remain NPO until his gag reflex returns. The nurse should consult the health care provider's orders for additional post-procedure instructions.

## REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

1. **(4)** is correct.
2. **(2)** is correct.
3. **(4)** is correct.
4. **(2)** is correct.
5. **(3)** is correct.
6. **(3)** is correct. Cilia help remove potential pathogens. (1, 2, 4) are not affected by changes in cilia.
7. **(2)** is correct. Wheezes sound like a violin. (1) Crackles sound like Velcro being pulled apart. (3) A friction rub sounds like leather rubbing together. (4) Crepitus is not an adventitious sound.
8. **(1)** is correct. Pursed-lip breathing helps excrete carbon dioxide. (2, 3, 4) are not promoted by pursed-lip breathing.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

9. **(2)** is correct. The first concern is increasing oxygenation, and replacing the oxygen will help. (1, 3) may be

appropriate, but oxygen should be tried first. (4) Normal  $SpO_2$  is 95% to 100%.

10. **(4)** is correct. “Good lung down” has been shown to increase oxygenation. (1, 2, 3) do not increase oxygenation.
11. **(1)** is correct. Assistance with cleaning the catheter two to three times a day should be provided. (2) Transtracheal oxygen usually prevents the need for another oxygen source. (3) Removal of the catheter for this length of time may cause the tract into the trachea to close. Also, if removed, another oxygen source would be needed. (4) A transtracheal catheter is not hooked to humidification.
12. **(4)** is correct. Chest physiotherapy (CPT) helps mobilize secretions. (1) CPT does not affect chest muscles. (2) CPT does not use humidification. (3) CPT does not promote expansion.
13. **(3)** is correct. Reducing the level of wall suction will reduce the bubbling. (1) Bubbling in the water-seal chamber, not the suction chamber, indicates a system leak. (2) There is no need to replace the system. (4) Increasing the water level will increase the level of suction.

# Answers

## CHAPTER 30

### VOCABULARY

1. laryngectomy
2. epistaxis
3. Exudate
4. rhinoplasty
5. dysphagia
6. Rhinitis

### CRITICAL THINKING: NASAL SURGERY

1. Wake Mr. Jones and examine his throat. He may be swallowing blood. Vital signs should also be checked for signs of blood loss. Make sure that he is in semi-Fowler's position to help prevent aspiration and reduce swelling. Notify the health care provider if indicated.
2. "You may need to ask your health care provider for an antihistamine or cough suppressant. If you must sneeze, be sure to do so with your mouth open. A stool softener and plenty of liquids and fiber can help keep your stools soft."
3. "Aspirin and related drugs such as ibuprofen can increase your risk for bleeding and should be avoided." Check with his health care provider to see if acetaminophen can be recommended.

### CRITICAL THINKING: INFLUENZA

1. Influenza is caused by a virus. Antibiotics will not be effective. Antibiotics must be used with discretion to prevent the development of resistant strains of bacteria.
2. Fever and illness can lead to dehydration. Fluids will also help thin respiratory secretions so that they are more easily expectorated.
3. Fever may be beneficial if it is not too high. Ask the health care provider at what temperature acetaminophen should be taken. Some sources say to give it only if fever reaches above 103°F (39.4°C) or if discomfort is severe.
4. Influenza is contagious, so if symptoms are the same, it would be reasonable to provide the same care as was recommended for her husband. (If any medications were prescribed, however, they should not be shared.) It is probably not necessary to take her to the urgent care center unless additional symptoms develop or symptoms persist. A call to the center can always be placed to be sure a visit is not recommended.

5. Older adults are more at risk for complications of influenza, especially pneumonia. She should see her health care provider. An antiviral agent might be helpful if given within 48 hours of exposure.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. **(4)** is correct. Interventions were aimed at comfort. (1, 2, 3) do not evaluate effectiveness of comfort measures.
2. **(1)** is correct. A patient with a laryngectomy does not have a voice box and can't vocalize by blocking the escape of air through the stoma. (2, 3, 4) are all options for communication for a patient with a laryngectomy.
3. **(1)** is correct. Narcotics depress the respiratory rate and cough reflex, which would increase risk for postoperative complications. (2) Narcotics do not increase secretions; (3) they do not cause stomal edema; and (4) narcotics can be addictive but not when they are taken for legitimate pain.
4. **(4)** is correct. Dysphagia and hoarseness are common symptoms of cancer of the larynx. (1, 2, 3) may possibly develop later or as complications, but they are not early symptoms.
5. **(1)** is correct. Facial tenderness is a symptom of a sinus infection. (2, 3, 4) are not symptoms of sinus infection.

### REVIEW QUESTIONS—TEST PREPARATION

6. **(3, 4, 6)** are correct. Hot moist packs can help reduce inflammation, humidity will help loosen secretions, and semi-Fowler's position helps reduce pressure. (1, 5) are effective for pulmonary, not sinus, secretions; (2) is not a nursing intervention.
7. **(3, 4, 1, 2)** A patent airway is always a priority. Remember your ABCs (airway, breathing, circulation). Pain is second, because it is physiological. Physiological needs are priorities according to Maslow. Ambulation is third, because it promotes recovery. A visit from someone who has had a laryngectomy is important, but acceptance of the laryngectomy would come after physiological needs.
8. **(3)** is correct. Pollutants in the tracheostomy can cause infection and irritation. (1) The patient will be taught to suction the tracheostomy as needed. (2) This is not a therapeutic statement. (4) The patient, not the health care provider, will need to do routine tracheostomy care.
9. **(4)** is correct. A sitting position will help reduce bleeding. Leaning forward will allow the blood to drain out



of the nose so that bleeding can be monitored. (1, 3) Lying down increases pressure in the nose and may increase bleeding, and (2) extending the neck will allow blood to drain down the back of the throat and be swallowed, making it impossible to monitor the severity of the bleeding.

10. (4) is correct. Phenylephrine is a vasoconstrictor.

(1) Raising the blood pressure can increase bleeding.

(2) It may dilate bronchioles, but this will not help bleeding. (3) Epinephrine does not enhance clotting.

11. (3) is correct. Swine flu is named for a virus that usually occurs in pigs. Symptoms and prevention are similar to other types of flu. (1) It cannot be caught by eating cooked pork. (2) It is also transmitted to humans, and from human to human. (4) Antiviral agents may be used, but no agent is specific to swine flu.

# Answers

## CHAPTER 31

### VOCABULARY

#### Across

3. ARDS (acute respiratory distress syndrome)
4. Paradoxical
7. Hemoptysis
9. MDI (metered-dose inhaler)
10. Mucous
13. Thoracotomy
18. NMT (nebulized mist treatment)
20. Pleurodesis
21. Bleb
22. TB

#### Down

1. AP (anteroposterior)
2. Ectopic
3. Antitussive
5. Adjuvant
6. ABG (arterial blood gases)
8. Anergy
11. Status
12. Exudate
14. Hemothorax
15. Tachypnea
16. Induration
17. Risk
19. SOB (short of breath)

### RESPIRATORY MEDICATIONS

1. (2)
2. (4)
3. (5)
4. (6)
5. (1)
6. (3)
7. (7)

### CRITICAL THINKING

1. A complete respiratory assessment should be completed. Edith's respiratory symptoms can be assessed using the **WHAT'S UP?** format. Have her rate her degree of dyspnea on a scale of 0 to 10. Auscultate lung sounds and assess activity tolerance. Collect vital signs and SpO<sub>2</sub>. Note skin color and ask about cough and sputum.
2. A 48-pack-year history can mean two packs a day for 24 years, or three packs a day for 16 years, and so on. Multiply packs per day by number of years for pack-years.

3. Emphysema causes destruction of alveolar membranes and adjacent capillaries, reducing the surface area available for gas exchange. Reduced gas exchange results in hypoxia, which causes dyspnea.
4. Edith's lung sounds will most likely sound diminished.
5. Edith probably has a chronically high PCO<sub>2</sub>, making a low PO<sub>2</sub> her stimulus to breathe. If a high flow rate of oxygen is administered, it can reduce her stimulus to breathe.
6. Emphysema increases the risk for occurrence of bullae and blebs. Rupture of these can cause pneumothorax.
7. Fowler's, semi-Fowler's, or orthopneic (leaning over bedside table) position increases room for lung expansion and helps reduce dyspnea. Sitting in a chair may also help if it is not too tiring.
8. Edith has probably had many lectures on the evils of smoking. Determine her desire to quit and her knowledge of the relationship between her illness and her smoking. If she is willing, ask her health care provider for an order for nicotine patches and medication, and she can be referred to a local stop-smoking program (check the Yellow Pages). Assist her to identify a friend who has quit smoking for support.

### REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

1. **(4)** is correct. Corticosteroids have potent anti-inflammatory action. (1, 2, 3) are not affected by corticosteroids.
2. **(1)** is correct; 2 L/min is the maximum rate for patients with chronic respiratory disease, unless they are in a closely monitored environment or mechanically ventilated. (2, 3, 4) are too high and may reduce respiratory drive.
3. **(3)** is correct. Intravenous (IV) morphine can reduce acute dyspnea. (1) Cortisone is slower acting. (2) Meperidine (Demerol) will not help. (4) A beta blocker may worsen dyspnea.
4. **(1)** is correct. Smoking is a major risk factor for many kinds of lung disease. (2, 3, 4) are risk factors for a variety of problems, but they are not as significant as smoking in causing lung disease.

### REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

5. **(1)** is correct; 86% is low, and the patient would benefit from supplemental oxygen. (2) 86% is not normal. (3) 86% does not warrant emergency treatment unless additional symptoms are present. (4) Walking in the hall will further reduce the SpO<sub>2</sub>.

6. (1) is correct. A bronchoscopy is an endoscopic procedure. (2, 3, 4) A bronchoscopy does not involve dyes or x-rays.
7. (4) is correct. The patient's throat will have been numbed and irritated by the scope. A gag reflex must be present before the patient can safely eat. (1) Breakfast should be held until the gag reflex returns. (2) There is no dye. (3) The patient did not receive a general anesthesia. Any sedation given should be gone before the patient is returned to the room.
8. (2, 3, 4, 6) are correct; all have been shown to increase risk. (1, 5) do not increase cancer risk.
9. (2) is correct. Radiation for small cell lung cancer is palliative. (1) Surgery is the treatment for cure. (3) The patient will probably require oxygen eventually. (4) Treatment may slow the spread but will probably not totally prevent it.
10. (1) is correct. Airways are inflamed and spastic in asthma. (2) Asthma does not cause fluid collection. (3) Asthma constricts rather than stretches airways. (4) Asthma is not caused by infection, although infection may exacerbate it.
11. (3) is correct. Emphysema destroys alveoli, causing loss of elasticity and air trapping. (1) Inflammation and secretions are more characteristic of bronchitis. (2) Capillaries are damaged in emphysema, but the entire blood supply is not destroyed. (4) Large sacs of sputum are not present in emphysema.
12. (2) is correct. Auscultating lung sounds will help determine whether the lung is reexpanding. (1, 3, 4) may all be appropriate, but they do not monitor whether the chest drainage system is effectively reducing the pneumothorax.

# Answers

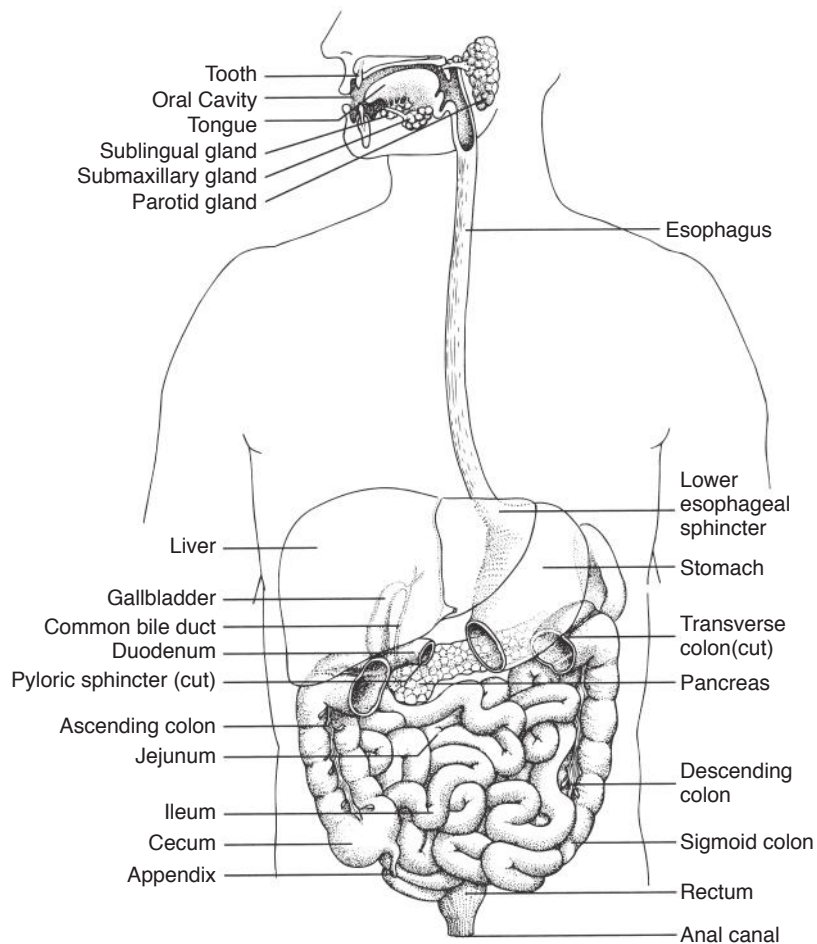
## CHAPTER 32

### FUNCTIONS OF THE GASTROINTESTINAL SYSTEM

1. lower esophageal
2. ileocecal
3. pyloric
4. small

5. stomach
6. large
7. small
8. esophagus
9. external anal
10. salivary
11. teeth, tongue
12. villi
13. rectum
14. bile

### STRUCTURES OF THE GASTROINTESTINAL SYSTEM



**VOCABULARY**

1. endoscope
2. bowel sounds
3. colonoscopy
4. gavage
5. impaction
6. guaiac
7. fluoroscope
8. steatorrhea
9. gastric analysis
10. gastroscopy

**LABORATORY TESTS**

- |        |        |
|--------|--------|
| 1. (5) | 4. (1) |
| 2. (4) | 5. (3) |
| 3. (2) |        |

**BOWEL PREPARATION**

*Corrections are in boldface.*

A **bowel** preparation is required for several procedures that visualize the lower bowel. This preparation is important for effective test results. An incomplete bowel preparation may prevent the test from being done or cause the need for it to be repeated. This can result in the patient's **delayed** discharge and **increased costs**. The patient usually receives a **clear liquid** diet 24 hours before the test. A bowel preparation medication (liquid or pill) may be given. A **warm** tap-water enema or Fleet enema may be given **until returns are clear**. Older or debilitated patients should be carefully assessed during the administration of multiple enemas, which can fatigue the patient and **decrease** electrolytes. In patients with bleeding or **severe diarrhea**, the bowel preparation may not be ordered by the health care provider.

**PANCREAS**

1. Trypsin
2. Lipase
3. Amylase

**LIVER**

1. clay
2. clotting
3. radioactive
4. 2
5. bleeding

**CRITICAL THINKING**

1. The parenteral nutrition rate should be started at a lower rate and gradually increased until the ordered rate is reached. This allows body systems and the pancreas time to adjust to the high dextrose concentration.
2. The high dextrose percentage can cause the patient to become hyperglycemic, so it is necessary to monitor

serum glucose levels to detect this and treat it with insulin. If the patient becomes hyperglycemic, it does not indicate that he or she is diabetic. When the high dextrose percentage is stopped, the patient's blood glucose returns to baseline levels. If insulin is given, it is used only temporarily to control the hyperglycemia.

3. (a) Dextrose of 12% or less may be given in peripheral veins; (b) dextrose greater than 12% must be given in a central vein such as the subclavian or jugular vein because the high glucose concentration is irritating to veins.
4. It is important to run parenteral nutrition on an infusion pump to carefully control the rate. It is important not to allow the parenteral nutrition to go in too quickly, or hyperglycemia and then dehydration from the high blood sugar can result. Dehydration occurs from the body's attempt to dilute and eliminate the high levels of blood sugar.
5. Maintain the ordered rate. Parenteral nutrition should never be increased to catch it up if it is behind schedule because the patient would become hyperglycemic and dehydrated.
6. When parenteral nutrition is discontinued, the infusion usually is slowly weaned off to prevent hypoglycemia from occurring if the dextrose was abruptly stopped. This weaning can take several hours.
7. When parenteral nutrition is ordered to be stopped, the patient is fed, if not contraindicated, to prevent hypoglycemia from occurring when the dextrose is stopped.
8. *Possible nursing diagnosis: Imbalanced Nutrition: Less Than Body Requirements.*  
*Outcome:* Patient will maintain ideal body weight or gain weight toward goal weight.  
*Interventions:*  
Obtain baseline patient weight and identify ideal body weight.  
Identify barriers to nutrient ingestion.  
Weigh patient weekly and report changes to health care provider.  
Administer and monitor parenteral nutrition as ordered according to protocols.  
Monitor lab values such as albumin and absolute lymphocyte levels.  
If patient is receiving parenteral nutrition, monitor blood glucose levels.  
Teach patient about parenteral nutrition and necessary management of it if it is used in the home setting.

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. (2)
2. (2)
3. (1)
4. (3)
5. (4)
6. (1)

7. **(3)** Stool cultures must be collected using sterile technique so as not to introduce any pathogens into the specimen that would alter the test results. (1, 2, 4) can be done using clean technique.
8. **(3)** The chalky barium will cause the patient's stool to look white for 1 to 3 days after the procedure. (1) Stools usually gradually return to a brown color; (2, 4) are not associated with the color of barium and are not normal stool colors.
9. **(2)** The gag reflex must return before the patient eats or drinks to prevent aspiration. (1) Keeping the patient nil per os (NPO) does not rest the vocal cords. (3) There is no reason to keep the throat dry after an esophagogastroduodenoscopy (EGD). (4) An absent gag reflex does not stimulate vomiting.
10. **(4)** The patient sits upright to facilitate the tube moving down into the stomach by gravity. (1, 2, 3) do not facilitate insertion of the nasogastric (NG) tube by gravity and would inhibit the tube insertion.

## REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

11. **(3)** Hypoactive bowel sounds occur less than 5 to 30 per minute. (1) There are some bowel sounds, so they are not absent. (2) Hyperactive bowel sounds occur at a rate greater than 30 per minute. (4) The rate of 4 per minute is less than normal.
12. **(1, 3, 4, 5, 6)** all require either clear visibility or they have a risk of aspiration. (b) A flat plate x-ray can be done with food in the stomach or feces in the bowel, which does not impair visibility of the structures and has no risk for aspiration.
13. **(1, 5)** Barium can produce constipation if it is not diluted; it is important the patient be taught to increase fluid intake after the procedure and that stool is normally white for up to 3 days postprocedure. (2) is incorrect because the barium can produce constipation, not diarrhea, if it is not diluted. (3) is incorrect because there is no pain during or after a barium swallow. (4) is incorrect because nutritional intake is not excessive as a result of the barium ingestion.
14. **(3)** Disturbed body image is expressed by how patients see themselves and the pride they take in their appearance. (1, 2, 4) do not address the embarrassment the patient expresses.
15. **(2)** Swallowing helps insertion by closing the epiglottis, thus preventing the NG tube from slipping into the trachea, which could obstruct the airway and be dangerous to the patient. (1, 3) close the throat, preventing passage of the tube into the esophagus. (4) has no effect on the insertion of the NG tube.

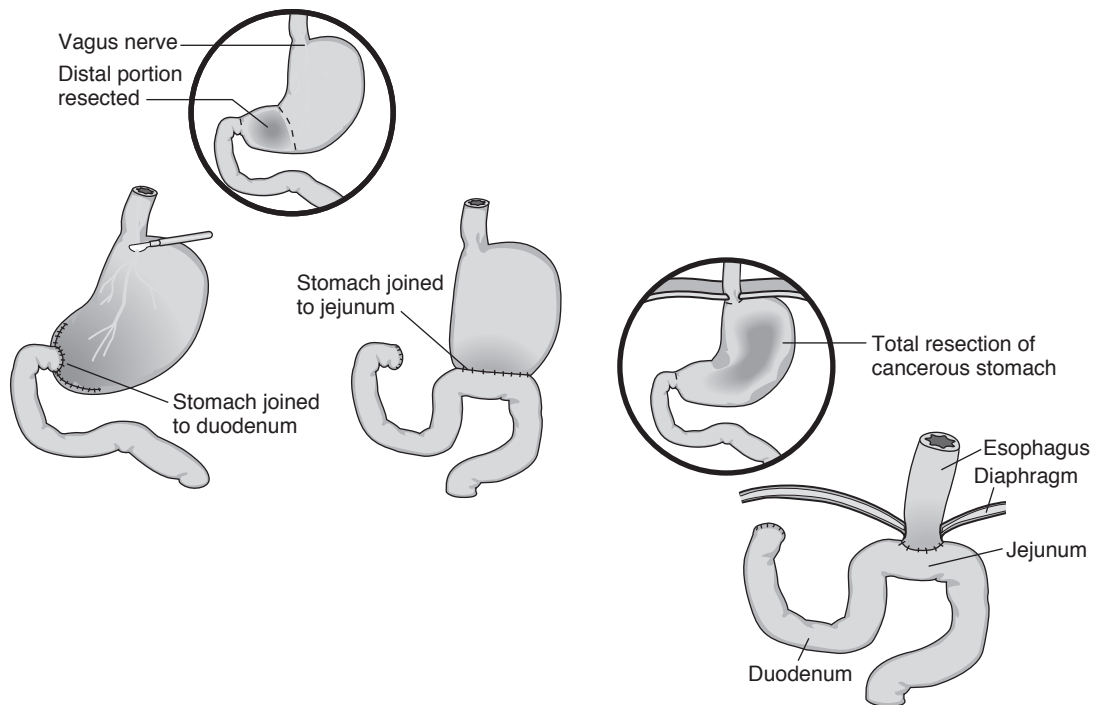
# Answers

## CHAPTER 33

### VOCABULARY

1. *Helicobacter pylori*
2. anorexia
3. gastritis
4. aphthous stomatitis
5. bulimia nervosa
6. dumping syndrome
7. gastrectomy
8. obesity
9. hiatal hernia
10. gastrojejunostomy

### GASTRECTOMY



### GASTRITIS

- |        |        |
|--------|--------|
| 1. (1) | 5. (2) |
| 2. (2) | 6. (1) |
| 3. (1) | 7. (3) |
| 4. (3) | 8. (1) |

### PEPTIC ULCER DISEASE

*Corrections are in boldface.*

Most peptic ulcers are caused by the **bacterium *Helicobacter pylori***. Peptic ulcers are commonly found in the **duodenum**. Symptoms of peptic ulcers include burning and a gnawing pain in the **epigastric region**. With a duodenal ulcer, there is pain and discomfort **on an empty** stomach, which may be relieved by **ingesting** food. Peptic ulcers **can** be cured. Medication treatment for most peptic ulcers should include **antibiotics** as indicated.

**CRITICAL THINKING**

- The nurse's first action is to prevent Mrs. Sheffield from aspirating. The nurse maintains her side-lying position and reminds her to remain in this position, propping her with pillows so she does not aspirate.
  - The next action is to take her vital signs.
  - The nurse believes that Mrs. Sheffield is in the early stages of hypovolemic shock (increased pulse and respirations, decreased temperature and blood pressure, and diaphoresis) and that her gastric bleeding needs to be stopped immediately. The nurse maintains her intermittent low-wall suction to remove the gastric output and thus prevent further gastric distention. The nurse also maintains her intravenous (IV) setting to compensate for her fluid loss.
  - The nurse notifies the health care provider of Mrs. Sheffield's condition.
  - Report current vital signs; signs and symptoms—diaphoresis, nausea, slightly distended abdomen; intake and output—vomit (amount and color), nasogastric output (amount and color), IV (solution and rate), urine output since return to the unit; other data: the time Mrs. Sheffield returned from the perianesthesia care unit, her vital signs, and her general assessment data upon return to the unit.
  - Apply oxygen at 2 L/min via nasal cannula and reassure the patient that her condition is being closely monitored and that her HCP is taking her back to surgery to repair her abdomen. Request the laboratory work. Gather the equipment necessary to transport Mrs. Sheffield with oxygen, an emesis basin, and some extra blankets.
- (1) Anorexia is a symptom of chronic gastritis type B. (2) Dysphagia is seen in gastroesophageal reflux disease. (3) Diarrhea is not a sign of chronic gastritis type B. (4) A feeling of fullness can occur in patients with dumping syndrome.
  - (2, 4, 5) Diaphoresis and hypotension are common signs of hypovolemic shock. Altered level of consciousness or confusion is an indication of altered oxygenation, which accompanies shock. (1) Hypotension, not hypertension, is a sign of hypovolemic shock. (3) The pulse would be weak and thready, not bounding.
  - (3) A low-fat diet is advised to decrease the fat content in the stool. (1) A bland diet may decrease irritation of the bowel, but the patient's problem stems from inadequate mixing of food with pancreatic and biliary secretions to digest fats, and a low-fat diet would be more helpful for this. (2) A high-carbohydrate diet does not prevent fat from being introduced in the diet. (4) A pureed diet would not be helpful because it could contain fat.
  - (4) Diet management and exercise are the first interventions used to promote weight loss in the obese patient because they are noninvasive. Also, monitoring the patient in a diet and exercise program gives the health care provider information about the patient's metabolism, food preferences, food habits, rate of weight loss, and activity tolerances. (1) is a surgical procedure that would be considered if noninvasive interventions were not successful. (2, 3) are not surgical procedures used for treating obesity; they are used for diseases such as cancer.
  - (1) Eating small, frequent meals that can pass easily through the esophagus prevents the rapid filling of the stomach and thus heartburn and regurgitation. (2) The patient should avoid reclining for 1 hour after eating because reclining would promote reflux, not prevent it. (3) The patient should sleep in an elevated position to prevent reflux by raising the head of the bed on 6-inch blocks and using pillows. (4) Eating before bedtime should be avoided so the stomach is empty to prevent reflux.

**REVIEW QUESTIONS—CONTENT REVIEW**

The correct answers are in **boldface**.

- (4) Gastrectomy is the only effective treatment for gastric cancer. (1) Gastroplasty reduces the size of the stomach to treat morbid obesity. (2) Gastrorrhaphy is suturing of the stomach wall. (3) Gastric stapling is a surgical treatment for obese patients.
- (1) A painless ulcer is common early in oral cancer. (2) White painful ulcers describe aphthous stomatitis (canker sore). (3) Feeling of fullness occurs with hiatal hernia or esophageal cancer. (4) Heartburn occurs with hiatal hernia.
- (2) Esophageal dilation is performed to enlarge the esophagus and allow food to pass the obstruction caused by the tumor. (1) Gastrectomy is done for stomach cancer. (3, 4) Radical or modified neck dissection is performed for oral cancer that has metastasized to cervical lymph nodes.

**REVIEW QUESTIONS—TEST PREPARATION**

The correct answers are in **boldface**.

- (1) Confusion is a common side effect of cimetidine, especially in the older adult. (2, 3, 4) are not side effects of cimetidine.

- (1) Anorexia is a symptom of chronic gastritis type B. (2) Dysphagia is seen in gastroesophageal reflux disease. (3) Diarrhea is not a sign of chronic gastritis type B. (4) A feeling of fullness can occur in patients with dumping syndrome.
- (2, 4, 5) Diaphoresis and hypotension are common signs of hypovolemic shock. Altered level of consciousness or confusion is an indication of altered oxygenation, which accompanies shock. (1) Hypotension, not hypertension, is a sign of hypovolemic shock. (3) The pulse would be weak and thready, not bounding.
- (3) A low-fat diet is advised to decrease the fat content in the stool. (1) A bland diet may decrease irritation of the bowel, but the patient's problem stems from inadequate mixing of food with pancreatic and biliary secretions to digest fats, and a low-fat diet would be more helpful for this. (2) A high-carbohydrate diet does not prevent fat from being introduced in the diet. (4) A pureed diet would not be helpful because it could contain fat.
- (4) Diet management and exercise are the first interventions used to promote weight loss in the obese patient because they are noninvasive. Also, monitoring the patient in a diet and exercise program gives the health care provider information about the patient's metabolism, food preferences, food habits, rate of weight loss, and activity tolerances. (1) is a surgical procedure that would be considered if noninvasive interventions were not successful. (2, 3) are not surgical procedures used for treating obesity; they are used for diseases such as cancer.
- (1) Eating small, frequent meals that can pass easily through the esophagus prevents the rapid filling of the stomach and thus heartburn and regurgitation. (2) The patient should avoid reclining for 1 hour after eating because reclining would promote reflux, not prevent it. (3) The patient should sleep in an elevated position to prevent reflux by raising the head of the bed on 6-inch blocks and using pillows. (4) Eating before bedtime should be avoided so the stomach is empty to prevent reflux.
- (4) Start the oxygen first. Use Maslow's hierarchy to help prioritize interventions. Oxygen administration will increase the amount of oxygen in the vascular system, thus increasing the oxygen to the tissues. (1) The IV should be hung next to help restore and maintain volume. (2) The laboratory can be called to draw blood for a complete blood cell count while other interventions are occurring, which will give a hemoglobin level that will indicate oxygen-carrying capacity. (3) While the patient's blood is being drawn and processed, insert the nasogastric tube, which will decompress the stomach, and keep the head of the bed up 30 to 45 degrees to prevent aspiration of any emesis.
- (4) Foods that cause discomfort need to be identified so they can be avoided. (1) Large meals promote reflux, so small meals should be eaten. (2) Sleeping flat without pillows promotes reflux, so the patient should be elevated. (3) Lying down after each meal would promote reflux, so the patient should sit up for 2 hours after a meal.



12. (3) Fundoplication, in which the stomach fundus is wrapped around the lower part of the esophagus, is the most common surgical procedure performed for a hiatal hernia. If dysphagia occurs, the physician should be no-

tified right away because the repair may be too tight, causing obstruction of the passage of food. (1, 2, 4) can be common after surgery, are not of a serious nature, and should have postop orders in place for intervention.

# Answers

## CHAPTER 34

### VOCABULARY

- |         |         |
|---------|---------|
| 1. (12) | 7. (8)  |
| 2. (10) | 8. (9)  |
| 3. (2)  | 9. (3)  |
| 4. (11) | 10. (5) |
| 5. (1)  | 11. (7) |
| 6. (4)  | 12. (6) |

### OSTOMIES

Corrections are in **boldface**.

- Michelle Braun is a 16-year-old with ulcerative colitis. She is taking cortisone. She is on a **low**-residue diet. She has just been admitted to the hospital for a colectomy and **permanent end ileostomy**. The nurse monitors her intake and output (I&O), daily weights, and electrolytes. The nurse also monitors for signs of inflammation in her joints, skin, and other parts of her body. The nurse teaches her to **increase** fluids following surgery, **but it is not feasible** to limit the number of stools she has daily.
- James Key is a 46-year-old with a new sigmoid colostomy. Following surgery the nurse monitors his stoma every shift for 3 days to ensure that it remains **pink** and moist. The nurse explains that the stool will be **formed** and that **irrigation is optional to establish regularity**. The nurse contacts the dietitian to provide a list of the high-fiber foods that he should **avoid**.

### CRITICAL THINKING

- Collect data on Mrs. Hendricks' abdomen for normal bowel sounds, distention, tenderness, and other signs of problems such as impaction; her diet, exercise, fluid intake, and other possible factors that may have caused constipation.
- Because Mrs. Hendricks has arthritis, she may not be getting much exercise. Lack of teeth probably prevents her from eating many fresh fruits or vegetables. Poor fluid intake and certain medications may also be factors. Chronic laxative abuse can be a factor, but Mrs. Hendricks only takes milk of magnesia occasionally.
- Mrs. Hendricks is only 1 day behind her normal bowel movement schedule. This is not a major concern. How-

ever, the nurse should intervene to prevent the problem from becoming worse. Unrelieved constipation can lead to fecal impaction, megacolon, and complications related to use of Valsalva's maneuver.

- Before giving Mrs. Hendricks more milk of magnesia, the nurse can try giving her some prune juice, have her ambulate in the halls if she is able, and have her sit on the toilet or bedside commode (avoid use of bedpan) to attempt to have a bowel movement. Placing her feet on a footstool while sitting on the toilet may also help.
- Prevention is the best treatment for constipation. Place Mrs. Hendricks on a regimen of 2 g bran with her cereal each morning. Include pureed fresh fruits and vegetables as much as possible in her diet. Encourage fluids and assist her to walk in the halls several times each day. Establish a regular time each day (or two) for Mrs. Hendricks to have the bathroom to herself for a bowel movement. Offer a warm drink such as a cup of coffee or tea or warm water before this time. If these measures do not work, add Metamucil to her daily regimen. Avoid the milk of magnesia, senna (Senokot), and use of enemas as much as possible.

### REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

- (3, 4) are correct because diverticulitis involves infection and inflammation of the outpouchings and is usually symptomatic. (1, 2, 5) Diverticulosis and diverticulitis both have outpouchings of the bowel mucous membranes and weakness in the bowel wall and are found in the large intestine.
- (3) is correct. Inflammatory bowel syndrome is a disorder of altered intestinal mobility in which disorderly contractions of the colon lead to a pattern of alternating diarrhea and constipation. It is a functional problem, not a disease. (1, 2) Crohn's disease and ulcerative colitis are both inflammatory bowel diseases often characterized by diarrhea that may lead to complications. (4) With a large-bowel obstruction constipation usually occurs.
- (3) is correct. For some women with IBS and constipation, paroxetine HCl (Paxil) is used as antidepressants block the brain's perception of abdominal pain. (1, 2, 4) The other three drugs listed are used to treat IBS with diarrhea.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in **boldface**.*

4. **(3)** is correct. Parenteral nutrition (PN) is the only way to adequately feed a person for an extended period without using the gut. (1, 2) both require a functional bowel; (4) provides inadequate nutrition for an extended period.
5. **(1)** is correct. A low-fiber diet increases risk for diverticulosis. (2, 3, 4) do not increase risk for diverticulosis.
6. **(1)** is correct. Foods with seeds may need to be avoided. (2, 3, 4) do not exacerbate diverticulosis.
7. **(3)** is correct. A bowel obstruction can cause nausea and vomiting. (1, 2) are not related to diverticulitis. There is no evidence that (4) is correct.
8. **(4)** is correct. The loop can be returned to the abdomen after the resected area of bowel has healed. (1) Transverse ostomies do not usually drain constant liquid stool, (2) there is no such thing as a looped bag, and (3) the ostomy will drain stool.
9. **(1)** is correct. Fluids are needed to replace those lost in liquid stools. (2, 3, 4) can all increase liquid stools and fluid loss.
10. **(2)** is correct. Pouches are made of odor-proof plastic. (1) Nothing will absorb all odor, (3) effluent does have an odor, and (4) daily pouch changes are hard on skin and therefore not recommended.
11. **(2)** is correct. Pain may be so severe that the patient delays defecation, leading to further constipation and worsening symptoms. (1) Treatment of anal fissures involves measures to ensure soft stools to allow fissures time to heal. Sitz baths may be used to promote circulation to the area to aid in healing. (3) Instructions to prevent constipation includes a high-fiber diet and 2 to 3 L of fluid a day to promote regular bowel movements. (4) A side effect of opioid analgesics is constipation, which needs to be avoided; anesthetic suppositories and nonopioid analgesics may be ordered for comfort.

# Answers

## CHAPTER 35

### VOCABULARY

- |         |         |
|---------|---------|
| 1. (4)  | 7. (12) |
| 2. (3)  | 8. (1)  |
| 3. (10) | 9. (9)  |
| 4. (5)  | 10. (2) |
| 5. (7)  | 11. (8) |
| 6. (11) | 12. (6) |

### LIVER

#### Across

2. HBV
6. Caput medusae
9. TIPS
10. Asterixis
11. HAV

#### Down

1. Encephalopathy
2. Hepatorenal
3. Portal
4. Hepatitis
5. RUQ
6. Cirrhosis
7. Ascites
8. Varices

### GALLBLADDER

- |        |         |
|--------|---------|
| 1. (4) | 6. (8)  |
| 2. (6) | 7. (9)  |
| 3. (7) | 8. (10) |
| 4. (5) | 9. (2)  |
| 5. (1) | 10. (3) |

### PANCREAS

1. (A) Serum glucose may elevate because damage to the islets of Langerhans causes decreased insulin production.
2. (A) The digestive enzyme amylase is released in large quantities by an inflamed pancreas.
3. (N)
4. (A) Pleural effusion is caused by a local inflammatory reaction to the irritation from pancreatic enzymes.
5. (N)
6. (A) Serum albumin is decreased, usually from decreased protein metabolism.
7. (A) A positive Cullen's sign indicates hemorrhage from pancreatic destruction.
8. (A) Urinary output of less than 30 mL/hr can indicate hepatorenal syndrome or shock from circulatory collapse.

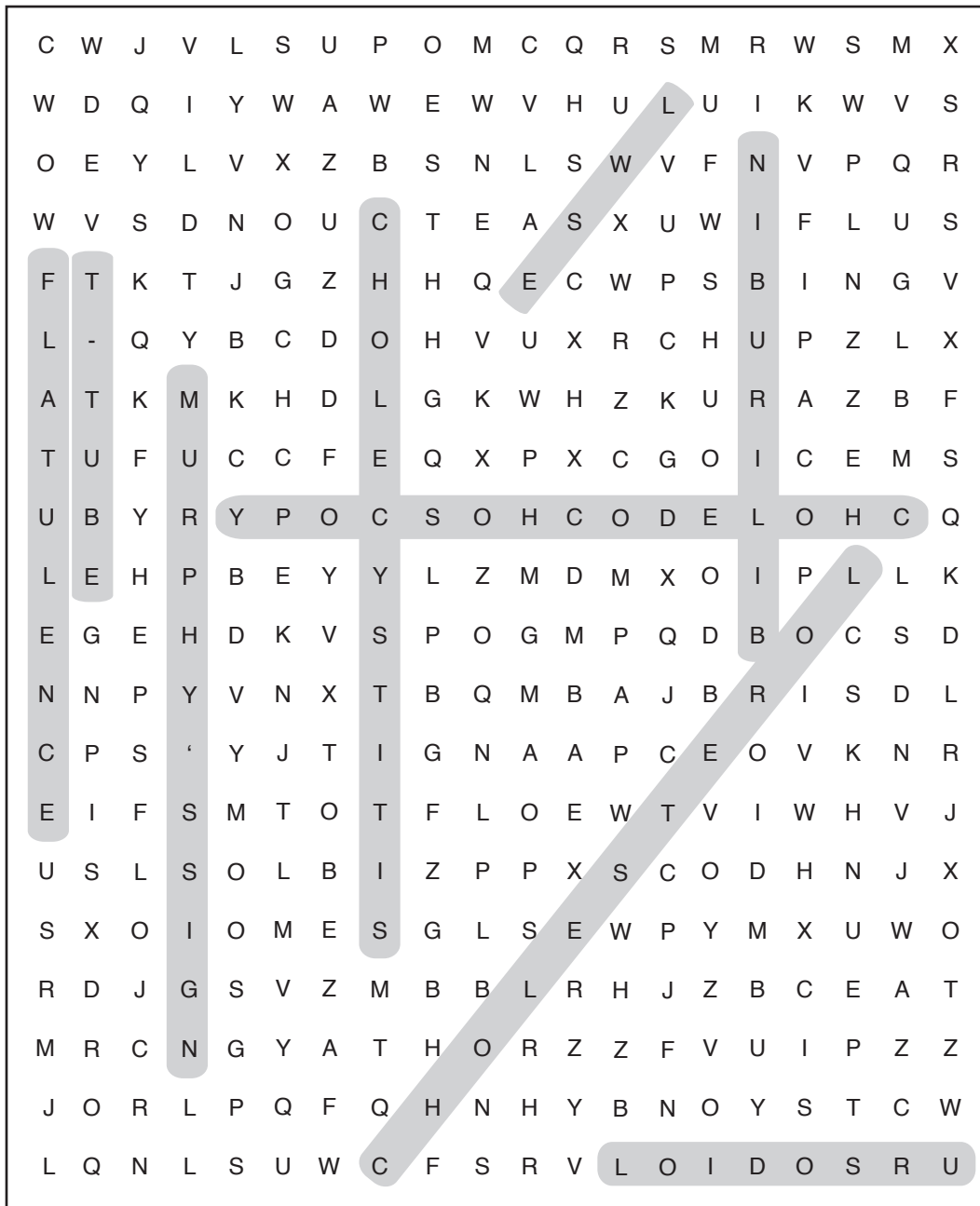
9. (A) Indicates neuromuscular irritability from decreased serum calcium levels.
10. (A) Indicates malabsorption of dietary fats from decreased lipase.

### CRITICAL THINKING

1. The data collected about Ms. Smythe that support the diagnosis of cirrhosis are a grossly distended abdomen, jaundiced sclerae and skin, multiple bruises, and pitting edema of the lower extremities. Ms. Smythe also scratches her arms and legs frequently, indicating pruritus. Her laboratory data indicate that her serum bilirubin, ammonia, and prothrombin time are elevated and that her serum albumin, total protein, and potassium are below normal.
2. The nurse notes that Ms. Smythe is irritable, has difficulty answering questions, and appears to doze off often during the interview. Other observations the nurse might make include asterixis, increasing difficulty in arousing the patient, muscle twitching, and fetor hepaticus.
3. The pitting edema and abdominal distention are due to the decreased amount of serum albumin being produced by the impaired liver. Reduced levels of this protein permit fluid to seep into the abdominal cavity and other body tissues.
4. The nurse expects the physician to order a severely protein-restricted diet for the hepatic encephalopathy. In addition, the physician may order lactulose or neomycin to rid the patient's body of excess ammonia.
5. The physician may order vasoconstrictors such as vasopressin, octreotide (Sandostatin), beta-blockers or nitrates, and endoscopic variceal ligation (banding) or sclerotherapy.
6. Monitor the patient's emesis, stool, and urine at least every 8 hours for blood. Observe for any increase in bruising or bleeding from the gums. Monitor blood clotting laboratory studies such as the international normalized ratio and prothrombin time, as well as the complete blood count for excess blood loss.
7. Measure Ms. Smythe's abdomen and weigh her daily; document results. Report any weight gain or increase in circumference promptly. Because Ms. Smythe will usually be ordered a low-sodium diet and will have fluids restricted, carefully monitor and record intake and output. Monitor Ms. Smythe's vital signs and mental status every 4 hours and report changes promptly. Administer diuretics as ordered.
8. Teach Ms. Smythe that acetaminophen (Tylenol) is to be avoided because it is toxic to the liver and may cause further damage.

## WORD SEARCH

## Gallbladder



- Bilirubin** is the yellow part of the breakdown hemoglobin. Serum levels increase with liver disease as the liver is unable to use it to produce bile.
- Choledochoscopy** is viewing of the biliary tract with endoscope via incision into the common bile duct.
- Cholesterol** is a lipid molecule necessary for cell membranes; if the cholesterol level is elevated it is a risk factor for heart attack.
- Cholecystitis** is inflammation of the gallbladder.
- ESWL**, extracorporeal shock wave lithotripsy, is a non-invasive treatment of kidney stones using sound waves.
- Flatulence** is excess intestinal or stomach gas.
- Murphy's Sign** is pain that occurs with palpation of the right upper abdomen on inspiration. It can indicate acute cholecystitis.
- T-tube** is a T-shaped external biliary drainage tube inserted after gallbladder surgery.
- Ursodiol** is a bile acid that decreases cholesterol produced by the liver. It is also used to dissolve gallstones.

## REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

- (2)** is correct. Standard precautions protect the nurse from exposure to disease. (1) Reverse isolation protects the patient, not the nurse. (3, 4) do not protect from blood exposure.
- (4)** is correct. Acetaminophen is the most common cause. (1, 2, 3) are not the most common causes.
- (1, 2, 4)** are correct. Banding of varices with rubber bands during endoscopy stops bleeding. The synthetic hormone octreotide (Sandostatin) IV may vasoconstrict; injection of a sclerosing agent causes thickening and closing of dilated vessels. (3) A soft diet does not treat the varices. With bleeding, the patient would be NPO.
- (4)** is correct. Pro-Banthine is an anticholinergic agent that may help relieve biliary colic. (1) will worsen gallbladder spasms, (2) will not help, and (3) is used to dissolve stones.
- (3)** is correct. Excessive alcohol intake is associated with pancreatitis. (1, 2, 4) are not associated with pancreatitis.
- (1)** is correct. Patients describe their pain as dull, boring, and beginning in the mid-epigastrium and radiating to the back. (2, 3, 4) are not characteristic of pancreatitis.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

- (3)** is correct. This is a low-sodium meal. (1, 2, 4) are all high in sodium.
- (2, 3, 4, 5, 6)** are correct. Females are more at risk for gallbladder disease, so (1) is not a risk.
- (2, 3)** are correct. Straining and heavy lifting will further increase pressure and may cause bleeding. (1, 4, 5) are not appropriate. Coughing could rupture a varix (enlarged tortuous vein), increasing fluid intake can further increase pressure. Vitamin K supplements will not alter portal hypertension.
- (1)** is correct. These are symptoms of hepatic encephalopathy. They are not symptoms of (2, 3, 4).

# Answers

## CHAPTER 36

### VOCABULARY

- |        |        |
|--------|--------|
| 1. (3) | 5. (8) |
| 2. (1) | 6. (6) |
| 3. (4) | 7. (5) |
| 4. (2) | 8. (7) |

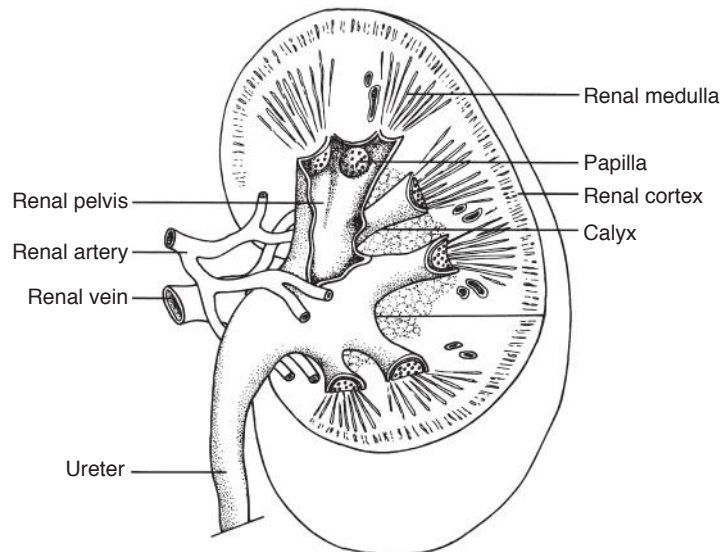
### ANATOMY

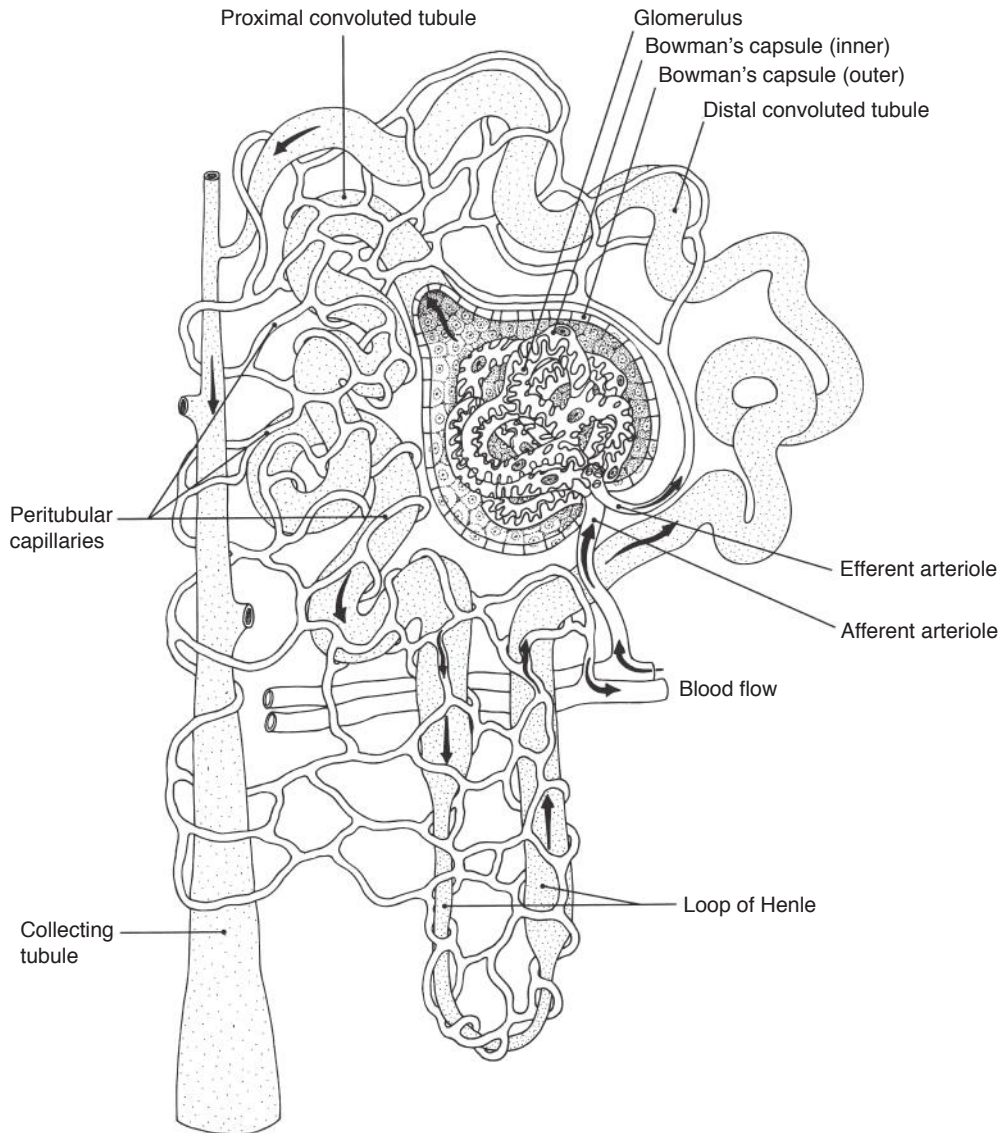
### SAMPLE URINALYSIS RESULTS

Patient A: urinary tract infection  
Patient B: dehydration, deficient fluid volume  
Patient C: liver disease

### RENAL DIAGNOSTIC TESTS

1. False—It is an intravenous (IV) pyelogram.
2. False—It is a renal ultrasound.





3. False—It is a urine culture and sensitivity.
4. True
5. False—Allergic reactions are possible; also can be nephrotoxic.

### CRITICAL THINKING

1. These are classic symptoms of stress incontinence.
2. Mrs. Bohke should be taught how to perform Kegel's exercise. She also should be referred to a health care provider such as a urologist or gynecologist who specializes in incontinence. She may benefit from medications or surgery.
3. Functional incontinence. Mrs. Simmon would have been continent if she had been able to call the nurse for assistance in time.
4. The patient should receive a call light that she can feel and that is pinned to the front of her gown. It would also be helpful to have the nurse make hourly rounds that include the need to toilet. A regular toileting schedule

could be helpful. A roommate might be able to turn on the call light for her, if needed.

5. Fluids should not be restricted. Fluid restriction can result in concentrated urine, which is more irritating to the urinary tract and can cause incontinence. Some people become continent only by increasing their fluid intake and setting up a regular pattern of voiding.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in **boldface**.*

1. **(1)**
2. **(2)**
3. **(3)**
4. **(2)**
5. **(4)**
6. **(1)**
7. **(1, 2, 3, 4, 6)**



## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

8. **(1)** is correct. The perineum should be washed before collecting a urine sample from a female to decrease contamination of the specimen. (2, 3, 4) are not necessary for a routine urine specimen.
9. **(1)** is correct. The elevated specific gravity is seen with dehydration because the urine is more concentrated. When a patient is dehydrated, the amount of urine that the patient makes is decreased, which makes the urine more concentrated. A small amount of bacteria is normally found in the urinalysis. (2, 3) A small amount of bacteria does not indicate infection. (4) No blood was noted on the results.
10. **(4, 5)** are correct. The elevated creatinine level and blood urea nitrogen level reflect reduced kidney function. (1, 2, 3, 5) are incorrect.
11. **(2)** is correct. The patient should be nil per os (NPO) before undergoing an intravenous pyelogram (IVP) so the dye is more concentrated for better visualization of renal structures. After the IVP, the nurse should force fluids to clear the dye from the kidneys. (1, 3, 4) are not restricted.
12. **(1)** is correct. It is important that the nurse determine whether the patient is able to urinate. There may be edema of the urethra after a cystoscopy, which can result in urinary retention. (2, 3, 4) are not necessary.
13. **(1)** is correct. Urge incontinence is associated with difficulty retaining urine once the urge to urinate is sensed. (2) is stress incontinence. (3) is not a specific type of incontinence. (4) is total incontinence.
14. **(3)** is correct. It is important to keep the catheter taped to prevent movement of the catheter, which increases the chance of introducing bacteria into the urine and trauma to the urethra. (1) increases risk of infection and (2) is not necessary. (4) A full bag increases risk of backflow and contamination.
15. **(4)** is correct. With total incontinence, the patient is unable to control urination, and an adult incontinence brief is appropriate. (1) Cranberry juice would be helpful to decrease onset of a urinary tract infection, but the patient would still be incontinent of urine. (2) A urinal will not help if the patient cannot tell when he or she has to go. (3) Kegel's exercises will not help total incontinence.

# Answers

## CHAPTER 37

### VOCABULARY

1. Urethritis
2. Cystitis
3. Pyelonephritis
4. urethroplasty
5. calculi
6. Nephrolithotomy
7. hydronephrosis
8. nephrostomy
9. nephrectomy
10. nephrosclerosis

### URINARY TRACT INFECTIONS

1. The usual cause of urinary tract infections (UTIs) in women is contamination in the area from the proximity of the rectum to the urinary meatus. Women who void infrequently are predisposed to UTIs.
2. The usual cause of UTIs in men is the presence of prostatic hypertrophy leading to obstruction of urinary flow predisposing to infection.
3. The patient should be advised to drink large amounts of water and a glass of cranberry juice daily. If the patient cannot void frequently, he or she should drink less water.
4. The single most important thing a patient with a history of UTIs should do is void frequently to prevent stasis of urine and then infection.

5.	<b>Cystitis</b>	<b>Pyelonephritis</b>
Symptoms	Dysuria; frequency; urgency; cloudy, foul-smelling urine; sometimes hematuria	Dysuria; frequency; urgency; cloudy, foul-smelling urine; sometimes hematuria; also chills and fever, flank pain, and general malaise
Urinalysis	Increased bacteria, results white blood cells (WBCs); positive nitrites; positive leukocyte esterase	Increased bacteria, WBCs; positive nitrites, positive leukocyte esterase; may also have casts in the urine
Prognosis	Good with treatment; can become chronic condition with repeat infections	Acute pyelonephritis has a good prognosis; with repeat infections the patient can develop chronic pyelonephritis with scarring and eventual destruction of the kidneys

### URINARY TRACT OBSTRUCTIONS

1. The most common symptom of cancer of the bladder is hematuria because cancerous tissue readily bleeds.
2. The most common risk factor for cancer of the bladder is smoking because of continual exposure of the bladder mucosa to the carcinogenic byproducts of smoking.
3. The most common symptom of cancer of the kidney is bleeding, again because cancerous tissue bleeds readily, just as in cancer of the bladder.
4. The urine of a patient with an ileal conduit is cloudy because of the presence of mucus because a portion of the small intestine is used and it continues to secrete mucus.
5. To care for a patient with an ileal conduit, an appliance is kept on at all times that either holds urine or drains into a Foley bag. When the appliance needs changing, it is necessary to use a wick to catch urine until the appliance can be applied. See textbook for how to apply an appliance to a patient with an ileal conduit.
6. The most important care of a patient with a kidney stone is to strain all urine to catch the stone. Pain relief measures are also important.
7. The patient with a calcium oxalate kidney stone should avoid foods high in calcium, such as large quantities of milk, and sources of oxalate, such as colas and beer. It can also be helpful to keep the urine acidic. The patient with a uric acid kidney stone should avoid foods that are high in purines, such as organ meats and sardines.

### CRITICAL THINKING

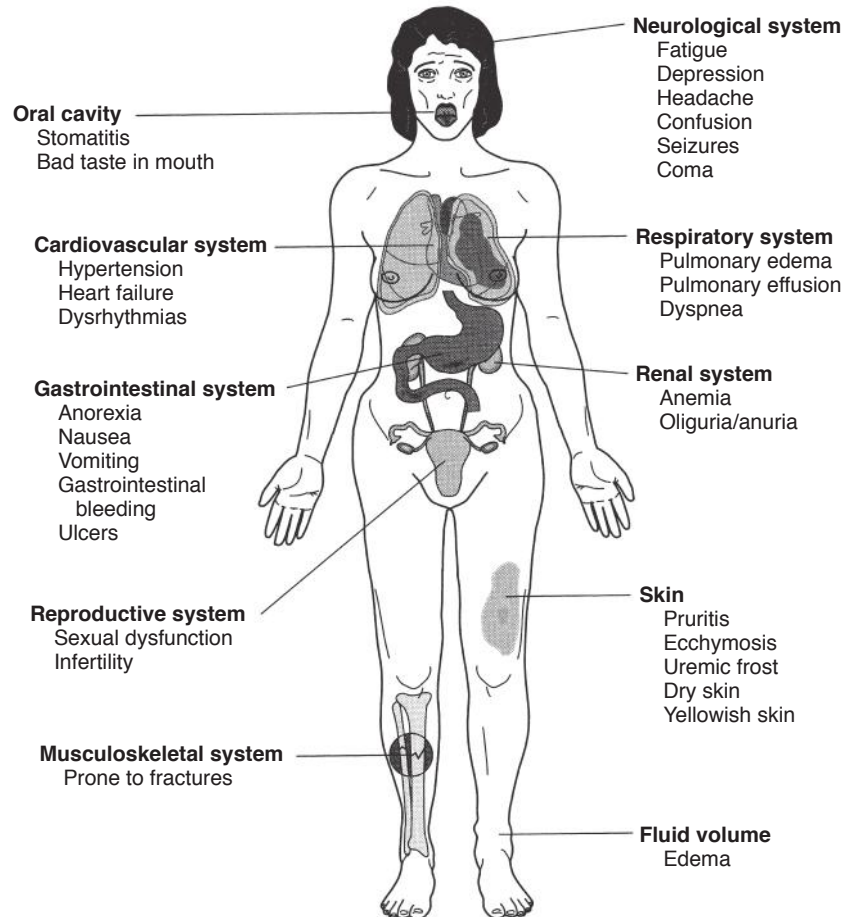
1. Mrs. Zins is having incidences of hypoglycemia because her kidney function is declining. The kidney helps degrade insulin and excrete it from the body. As the kidneys fail, smaller amounts of insulin are needed because it is not removed from the body.
2. It is important that Mrs. Zins not receive orange juice as would normally be given for a hypoglycemic patient because her potassium level is already high. Instead, cranberry juice or another low-potassium carbohydrate source should be given.
3. Diabetes causes atherosclerotic changes in the kidney vessels. In addition, diabetes causes an abnormal thickening of the glomerulus, which damages it. The patient with diabetes is predisposed to frequent pyelonephritis (kidney infections), which can damage the kidney. Also, the patient with diabetes can develop a

- neurogenic bladder, which predisposes the patient to both infection and obstruction of the urinary system.
4. Good control of diabetes, that is, keeping blood sugars within a defined range, can decrease the development of diabetic complications including kidney disease.
  5. Nursing diagnoses that would be relevant for Mrs. Zins include *Excess Fluid Volume* (she has edema, weight gain, and jugular venous distention) and *Fatigue* (she states she feels exhausted and also has a hemoglobin level of 7.2).
  6. The serum creatinine of 5.4 is most diagnostic of kidney disease. A 24-hour creatinine clearance is more diagnostic, but this laboratory test is not available in this case study.
  7. Mrs. Zins is anemic because her kidneys have decreased or stopped production of a substance called erythropoietin,

which stimulates the bone marrow to make red blood cells. It is also possible that she has slowly been bleeding through her gastrointestinal tract, a common occurrence in patients with kidney disease.

8. The three most important areas to monitor when caring for a patient with chronic kidney disease are daily weight, intake and output (with fluid restriction if prescribed), and monitoring laboratory test for dangerous levels of electrolytes.
9. Mrs. Zins would probably be on a defined diabetic diet that was also low sodium, low potassium, decreased protein, and fluid restricted. If her phosphorus level was elevated, she would also be put on a low-phosphorus diet. This is one of the most restrictive diets possible and is very difficult to follow.

## CHRONIC KIDNEY DISEASE



## REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

- (4)** is correct. Hematuria is the most common symptom of cancer of the bladder. (1) Nocturia or (2) dysuria may occur related to a resulting infection, or (3) retention may occur because of obstruction, but these are not the most common symptoms.
- (2)** is correct because a 24-hour creatinine clearance is most diagnostic of acute kidney injury; a result of 5 mL/min means that the patient has approximately 5% of normal kidney function. (1, 3, 4) would be elevated in the patient with acute kidney injury, but the creatinine clearance is most diagnostic.
- (2)** is correct. Beer is high in oxalate, which predisposes the patient to calcium oxalate kidney stones. (1, 3, 4) are not especially high in oxalate or calcium.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

- (4)** is correct because mucus is normally found in the urine of a patient with an ileal conduit. This is because a portion of the small bowel is used to make the conduit, and that portion of bowel continues to secrete mucus. (1, 2, 3) are not necessary.
- (3)** is correct because often the first and most obvious sign of acute kidney injury is a decrease in urine output. (1) The blood pressure may elevate later as the patient continues into kidney disease, but the urine output is most significant. (2, 4) may occur in some patients, but they are not the most common.
- (4, 5)** are correct because they are the only foods listed that do not contain significant potassium. (1, 2, 3) are all high in potassium.
- (4)** is correct because there is a sudden decrease in urine output, and the patient has symptoms of urinary retention, which are distention and pain in the suprapubic area. (1) Decreased renal perfusion would be an appropriate answer if the patient had not had symptoms of urinary retention. (2, 3) would not cause the symptoms of urinary retention.
- (3)** is the correct answer because the patient should collect the specimen partway through urination. (1, 2, 4)

are all relevant to other diagnostic tests of the urine but are not relevant to a midstream culture.

- (2)** is the correct answer because the most serious complication of a high potassium level is cardiac dysrhythmias. (1, 3, 4) may be present in kidney disease but are not associated with high potassium levels.
- (3)** is the correct answer because the daily weight is the single best determinant of fluid balance in the body. (1, 2, 4) are also important, but daily weight remains most significant.
- (2)** is the correct answer because orange juice is high in potassium, and the patient's potassium level is already high. (1, 3) would still give the patient too much potassium; (4) it would be important to check the kind of diet later, but the first priority is to protect the patient from a dangerously high potassium level.
- (1)** is the correct answer because there is a larger blood flow, and dialysis is more efficient. (2) All blood access sites can clot. (3) It is harder to access a graft than a two-tailed subclavian. (4) Either site can be damaged by trauma.
- (2, 4, 5)** is correct because the patient must be weighed following dialysis to determine fluid balance after dialysis and vital signs are obtained to determine patient stability. After dialysis the patient is very tired and usually needs to sleep for a short time. (1, 3) are not relevant.
- (2)** is correct because this is the mechanism by which dialysis works. (1, 3, 4) do not describe how dialysis works.
- (3)** is correct because these are symptoms that are seen with fluid retention related to untreated kidney disease. (1, 2, 4) are not symptoms of fluid excess and kidney disease.
- (4)** is correct because hematuria is the most common symptom of trauma to the kidney because the kidney has a very large blood supply. (1, 2, 3) are not symptoms of trauma.
- (2)** is correct because the patient has symptoms of too much fluid in the body, which is a fluid volume excess. (1, 3, 4) are not relevant. In certain situations, a nursing diagnosis of *Noncompliance* may have caused the symptoms, but there is not enough information in the question to be able to support this diagnosis.

# Answers

## CHAPTER 38

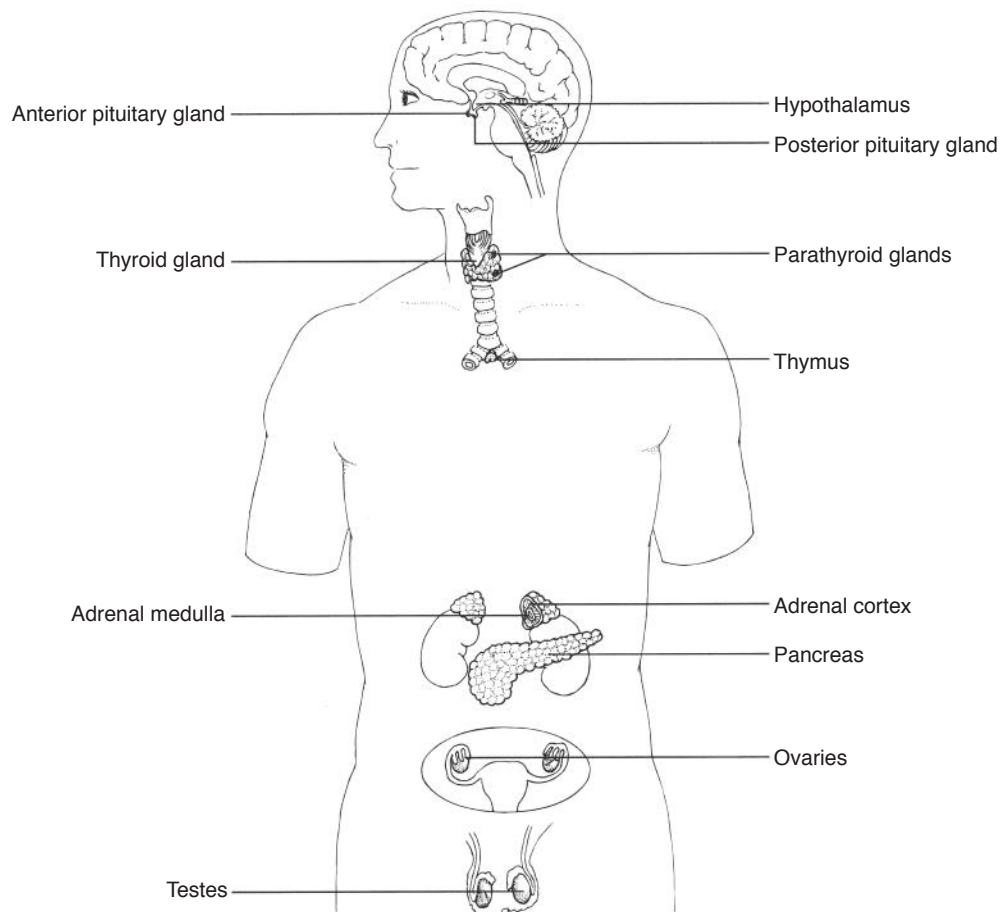
### VOCABULARY

1. glycogen
2. hyperglycemia
3. affect
4. exophthalmos
5. feedback

### ENDOCRINE GLANDS AND HORMONES

### HORMONES

- |         |          |
|---------|----------|
| 1. (10) | 10. (3)  |
| 2. (17) | 11. (14) |
| 3. (1)  | 12. (6)  |
| 4. (8)  | 13. (7)  |
| 5. (5)  | 14. (4)  |
| 6. (13) | 15. (15) |
| 7. (16) | 16. (2)  |
| 8. (11) | 17. (12) |
| 9. (9)  |          |



**REVIEW QUESTIONS—CONTENT REVIEW**

The correct answers are in **boldface**.

1. **(2)** is correct.
2. **(4)** is correct.
3. **(1)** is correct.
4. **(2)** is correct.

**REVIEW QUESTIONS—TEST PREPARATION**

The correct answers are in **boldface**.

5. **(3, 4, 5)** are correct. ADH increases water reabsorption by the kidney tubules while aldosterone and cortisol increase reabsorption of Na<sup>+</sup> ions and therefore water by the kidneys to the blood. Both affect blood volume and blood pressure. (1) influences metabolic rate; (2 and 6) affect glucose level.
6. **(3)** is correct. The final urine voided at 24 hours must be added to the specimen. (1) The first, not the last, urine voided is discarded. (2) A separate container is not necessary. (4) All urine produced in 24 hours is necessary for the test.
7. **(1)** is correct. A history is appropriate. (2) could cause release of hormone and exacerbate symptoms. (3) evaluates diabetes, not thyroid function. (4) A buffalo hump is present when there is too much cortisol, not thyroid hormone.
8. **(3)** is correct. This answers her question. Further testing must be done to determine a definite diagnosis. (1) She may have cancer of the thyroid, but she needs further testing; also, the nurse does not make a medical diagnosis. (2) is not true. (4) A cold spot is not normal.
9. **(1, 3, 4, 5)** Cortisol stimulates gluconeogenesis (the conversion of triglycerides, lactic acid, and some amino acids to glucose) in the liver. It also increases lipolysis and protein breakdown to liberate fatty acids and amino acids, respectively, for gluconeogenesis. Cortisol also has an anti-inflammatory effect because it blocks the effects of histamine and stabilizes the lysosomes in cells. (2) is not correct. Cortisol does not stimulate storage of glucose. This would lower glucose levels, and cortisol raises glucose.

# Answers

## CHAPTER 39

### VOCABULARY

1. euthyroid
2. goiter
3. polydipsia
4. polyuria
5. pheochromocytoma
6. dysphagia
7. myxedema
8. Nocturia
9. amenorrhea
10. ectopic

### HORMONES

Disorder	Hormone Problem	Signs and Symptoms
Diabetes insipidus	ADH deficiency	Polyuria
SIADH	ADH excess	Water retention
Cushing's syndrome	Steroid excess	Moon face
Addison's disease	Deficient steroids	Hypotension
Graves' disease	High T <sub>3</sub> and T <sub>4</sub>	Exophthalmos
Hypothyroidism	Low T <sub>3</sub> and T <sub>4</sub>	Weight gain and fatigue
Pheochromocytoma	Epinephrine excess	Labile hypertension
Hyperparathyroidism	High serum calcium	Muscle weakness, brittle bones
Short stature	Growth hormone (GH) deficiency	Failure to grow and develop
Acromegaly	GH excess	Growing hands and feet
Hypoparathyroidism	Low serum calcium	Tetany

### CRITICAL THINKING

1. Because Mr. Samuels has too much ADH, he will be retaining water. An appropriate nursing diagnosis would be *Excess Fluid Volume*.
2. The best way to monitor fluid balance is by daily weights, at the same time each day, on the same scale, and in about the same clothes. In addition to daily weights, intake and output, vital signs, urine specific gravity, lung sounds, and skin turgor can be monitored.
3. Mr. Samuels will retain water, which will reduce the osmolality of his blood. This in turn can cause cerebral edema, increased intracranial pressure, and seizures.
4. Mr. Samuels's side rails should be padded. If a seizure occurs, he should be protected from harming himself.
5. Mr. Samuels's urine will be very concentrated because he is not excreting much water.
6. When Mr. Samuels is effectively treated, his urine will look more dilute because he will be excreting more water.
7. A head injury can directly or indirectly damage the pituitary gland, placing the patient at risk for reduced ADH secretion and DI.
8. Polyuria and polydipsia are symptoms of both DI and DM.
9. Mrs. Jorgensen's urine specific gravity will be low because she is excreting too much water.
10. Mrs. Jorgensen's serum osmolality will be high because she is losing water and becoming dehydrated.
11. Mrs. Jorgensen is at risk for *Deficient Fluid Volume*.
12. Mrs. Jorgensen should watch for signs of fluid overload, such as increasing weight and concentrated urine.

**THYROID DISORDERS**

- |        |         |
|--------|---------|
| 1. (O) | 7. (R)  |
| 2. (O) | 8. (R)  |
| 3. (R) | 9. (O)  |
| 4. (R) | 10. (R) |
| 5. (O) | 11. (R) |
| 6. (O) | 12. (O) |

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

- (1) is correct. Numb fingers and muscle cramps are symptoms of tetany. (2, 3, 4) are not symptoms of tetany.
- (3) is correct. Thyrotoxicosis causes blood pressure, pulse, temperature, and respiratory rate to rise. (1, 2, 4) are not affected by thyrotoxicosis (peripheral pulses may be indirectly affected).
- (3) is correct. Fluids will help prevent kidney stones by flushing excess calcium through the kidneys. (1, 2, 4) will not help.
- (3) is correct. Acromegaly is caused by an excess of GH. (1, 2, 4) do not cause acromegaly.
- (3) is correct. Addison's disease is associated with fluid loss. (1, 2, 4) are not relevant.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

- (3) is correct. Negative feedback causes the pituitary to produce more thyroid stimulating hormone (TSH). (1) TSH does not take the place of  $T_3$  and  $T_4$ , (2) TSH will not directly affect the metabolic rate, and (4) fat cells do not make TSH.
- (3) is correct; the patient is experiencing fatigue. (1) There is no evidence in the data that the patient is overeating, (2) weight gain does not necessarily affect gas exchange, and (4) there is no evidence that the patient is experiencing depression.

- (1) is correct. Tachycardia can occur if she gets too much Synthroid. (2, 3) are not side effects of Synthroid; and (4) she should lose weight, not gain weight, on Synthroid.
- (2) is correct. Body fluids will be radioactive. (1, 3) are not necessary; and (4) exposure to even small doses of radioactivity should be minimized.
- The correct order is (2, 3, 1, 4, 6, 5). Airway is always a priority (remember your ABCs). Vital signs are second because the patient must be monitored for thyrotoxicosis, which could be life threatening. Surgical site is third, because physiological problems take priority, and excessive bleeding could also be life or health threatening. An analgesic is next, so the patient will be comfortable for range-of-motion exercises. Teaching is last; although it is important, it does not maintain the immediate physiological integrity of the patient.
- (4) is correct. It is the only outcome that addresses pain. (1, 2, 3) may all be appropriate, but they are not related directly to the nursing diagnosis.
- (2) is correct. Buffalo hump and easy bruising are often present in Cushing's syndrome. (1, 3, 4) are not symptoms of Cushing's syndrome.
- (1) is correct. Vital signs are important because the patient with pheochromocytoma has labile hypertension. (2, 3, 4) are all part of a routine assessment, but they are not as important as vital signs in this case.



# Answers

## CHAPTER 40

### VOCABULARY

1. glycosuria
2. Hyperglycemia
3. Hypoglycemia
4. Kussmaul's
5. Polyphagia
6. Polydipsia
7. nocturia
8. peak
9. duration
10. tight

### HYPOGLYCEMIA AND HYPERGLYCEMIA

1. O
2. R
3. R
4. R
5. O
6. R
7. O
8. R

### LONG-TERM COMPLICATIONS OF DIABETES

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

### CRITICAL THINKING

1. Keeping the blood glucose level too low can increase risk of hypoglycemia, especially in a patient who has had diabetes for some time. If autonomic neuropathy is present, symptoms of hypoglycemia may go unnoticed, making hypoglycemia even more risky. Although most people are advised to keep their premeal glucose readings between 70 and 130 mg/dL, the physician should always be consulted for desired glucose range.

2. Jennie is exhibiting symptoms of hypoglycemia. You should follow hospital policy, which usually directs the nurse to check the blood glucose level and provide a quick source of glucose such as juice or glucose tablets. Notify the registered nurse according to policy.
3. It appears that the treatment has been effective; 80 mg/dL is probably OK, especially if a meal tray is to be served soon. Check to be sure her meal is on its way, and watch her for further symptoms. Consult with the RN or physician before administering her supper dose of Humalog.
4. Common causes of hypoglycemia include skipping or delaying meals, eating less than prescribed at a meal, and more exercise than usual.
5. Because she is receiving regularly scheduled insulin, it is important to eat regularly to prevent periods during which there is insulin but not enough glucose in her blood.
6. Obesity causes insulin resistance. Losing weight has probably decreased Jennie's insulin resistance, making her insulin dose too effective. She now needs a lower dose, or it is possible that she will no longer need insulin to control her diabetes.
7. Metformin increases tissue sensitivity to insulin and reduces glucose production by the liver.
8. Jennie has type 2 diabetes. If she had type 1 diabetes, she would not be able to take oral hypoglycemics. Obesity is also common in type 2 diabetes.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in **boldface**.*

1. **(2)** is correct; 70 to 130 mg/dL is recommended by the ADA. (1) is too low. (3, 4) are too high.
2. **(2)** is correct. Insulin should never be given without first evaluating the blood glucose level. (1, 3, 4) may all be significant for the person with diabetes, but they are not immediately necessary before administering insulin.
3. **(1)** is correct. Insulin lispro is a rapid-acting insulin. (2, 3, 4) are incorrect.
4. **(3)** is correct. These are symptoms of hypoglycemia. (1, 2, 4) are not associated with hypoglycemia; in fact, (2, 4) are symptoms of hyperglycemia.
5. **(3)** is correct. Micronase increases tissue sensitivity to insulin. (1, 2, 4) can all potentially raise blood glucose levels, an undesirable result.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in **boldface**.*

6. **(1)** is correct. Ketones and DKA usually occur in type 1 diabetes, especially in a newly diagnosed patient.  
 (2) Type 2 diabetes is not usually associated with ketones, except late in the disease. (3) A patient with prediabetes would have a blood glucose closer to normal.  
 (4) Gestational diabetes occurs in pregnant women.
7. **(4)** is correct. If a patient forgets a prescribed oral hypoglycemic, blood sugar levels will go up. Fatigue, thirst, and blurred vision are the only symptoms of hyperglycemia. (1, 2) are symptoms of hypoglycemia. (3) is not related to diabetes.
8. **(3, 4, 5)** are all correct. Insulin is given subcutaneously most of the time; it can be given intravenously or intramuscularly in urgent situations. (1, 2) are incorrect. Insulin is never given orally because it would be digested; it is not currently given via a topical route.
9. **(2)** is correct. The peak action time of NPH is 6 to 12 hours after administration. (1) is the onset of NPH.  
 (3) is the duration of long-acting insulin. (4) is incorrect.
10. **(1)** is correct. Raisins contain sugar, which will raise the blood glucose level. (2, 4) are protein foods and will affect the blood glucose level only very slowly. (3) is not a food.
11. **(4)** is correct. Glucagon stimulates the liver to convert glycogen to glucose, which raises the blood glucose level. (1, 2, 3) are all related to hyperglycemia, which would be worsened by glucagon.
12. **(4)** is correct. Oatmeal and bread are both bread/starch exchanges. (1, 2, 3) are not starch exchanges.

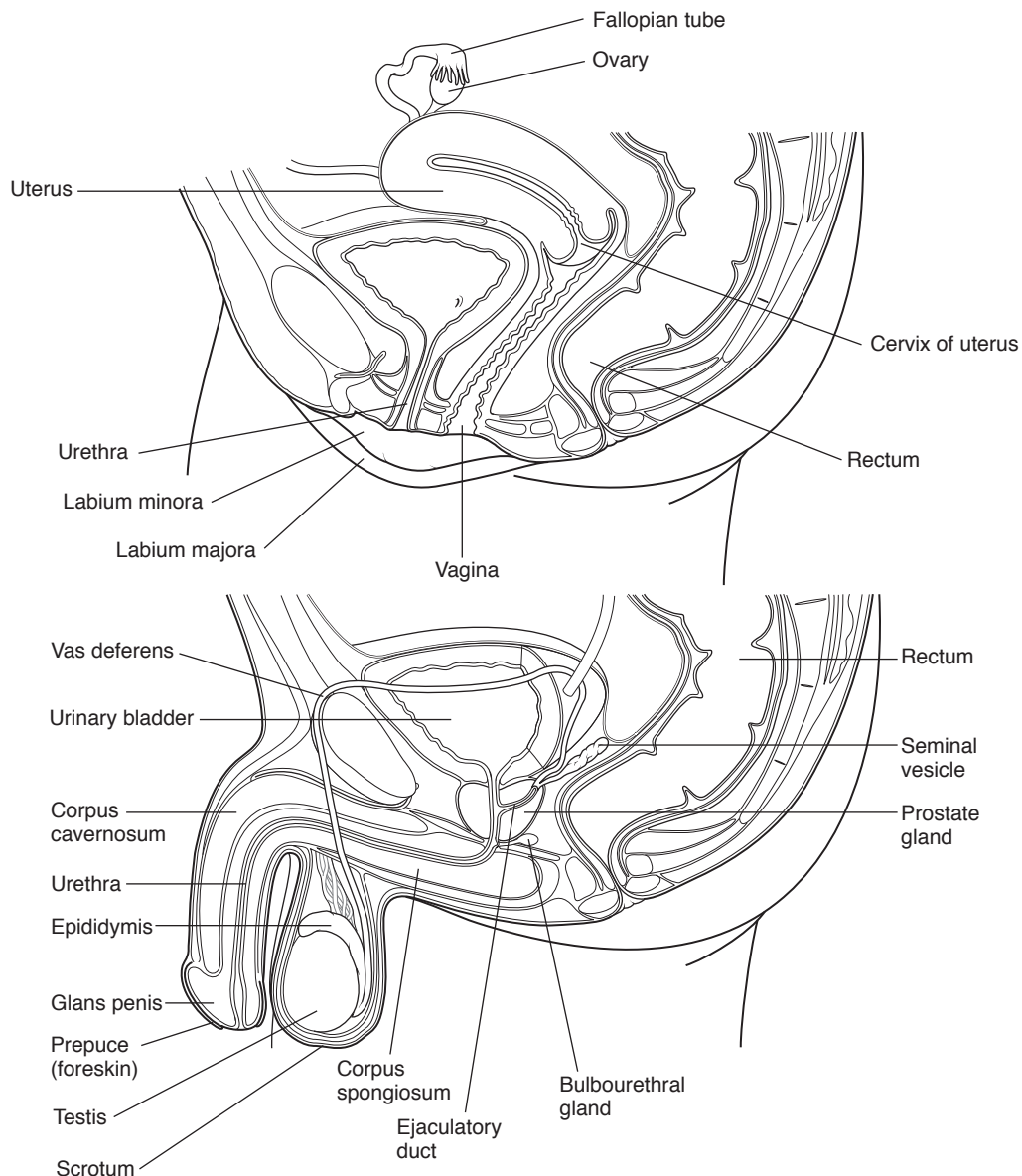
# Answers

## CHAPTER 41

### VOCABULARY

1. hysteroscopy
2. insufflation
3. digital rectal
4. gynecomastia
5. hypospadias
6. hydrocele
7. varicocele
8. libido
9. menarche
10. mammography

### ANATOMY AND PHYSIOLOGY



**FEMALE REPRODUCTIVE STRUCTURES**

- |        |        |
|--------|--------|
| 1. (5) | 5. (2) |
| 2. (7) | 6. (1) |
| 3. (6) | 7. (4) |
| 4. (3) |        |

**MALE REPRODUCTIVE SYSTEM**

4, 2, 5, 1, 3

**DIAGNOSTIC TESTS**

- |        |        |
|--------|--------|
| 1. (2) | 4. (6) |
| 2. (1) | 5. (4) |
| 3. (3) | 6. (5) |

**CRITICAL THINKING**

- “Even though you had prostate surgery, unless you had your entire prostate gland removed, some of the tissue will grow back, and a rectal examination is still important.”
- Examine her abdomen, and check her medical record for the report of her procedure. Most likely she had carbon dioxide (CO<sub>2</sub>) pumped into her abdomen as part of the procedure to enhance visualization of structures. Explain to her why her abdomen is distended and have her lie flat to decrease migration of CO<sub>2</sub>. If there is no record of CO<sub>2</sub> insufflation, something may indeed be wrong, and further assessment and reporting to the nurse or physician are indicated.
- Prepare to assist with cultures to send to the laboratory. Ask if she uses protection during intercourse. Tell her she may have to refrain from sexual activity until the source and communicability of her discharge are determined.
- Depending on how Mr. Brown shared this initial information, you probably have a good idea how comfortable he is sharing additional information. If not, you can ask if he would like to discuss the matter further. A good question to ask might be why he is no longer sexually active. If it is not by choice, he may be experiencing erectile dysfunction from complications of diabetes. If

physical problems are preventing sexual activity, inform him that there are many treatments available. If Mr. Brown wishes, talk with his physician about a consultation with a urologist or other specialist.

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

- (1)
- (2)
- (1)
- (4)
- (3)
- (3) is correct. A yearly mammogram and clinical breast examination are recommended. Optional breast self-examination can be done monthly.
- (4) is correct. Digital rectal examination (DRE) is done by a physician at a routine visit. (1, 2, 3) It is unreasonable to expect such frequent physician visits; testicular self-examination (TSE) can be done at home more often.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

- (2) is correct. A cystourethrogram involves a catheter, dye, and x-rays. (1, 3, 4) are not correct.
- (2) is correct. The patient should empty her bladder before the Papanicolaou (Pap) smear. (1, 3, 4) are not necessary for Pap smears.
- (1) is correct. A portion of the BSE is done while lying down. (2, 3, 4) are inappropriate.
- (4) is correct. A mammogram shows a lesion, but it cannot diagnose specifically what the lesion is. Additional tests are needed. (1, 2) are not true; (3) a mammogram is not the best test but is a good screening tool.
- (4) is correct. Wet mounts must be viewed immediately. (1) There is no time to sit at this time, (2) is not therapeutic, (3) the wet mount needs to be delivered before spending time and recommending her partner be tested is premature.

# Answers

## CHAPTER 42

### VOCABULARY

- |         |         |
|---------|---------|
| 1. (3)  | 6. (7)  |
| 2. (4)  | 7. (1)  |
| 3. (2)  | 8. (6)  |
| 4. (10) | 9. (8)  |
| 5. (5)  | 10. (9) |

### BREAST SURGERIES

- |        |        |
|--------|--------|
| 1. (5) | 4. (2) |
| 2. (1) | 5. (4) |
| 3. (3) |        |

### MENSTRUAL DISORDERS

- |        |        |
|--------|--------|
| 1. (5) | 4. (2) |
| 2. (3) | 5. (4) |
| 3. (1) |        |

### MASTECTOMY CARE

*Errors are in boldface.*

You are assigned to care for Mrs. Joseph, who is 1 day post-operative following a right radical mastectomy. **You know that she is not anxious** because she had a left mastectomy a year ago and **knows everything to expect**. You listen to her breath sounds and find them clear, so it is **not necessary to have her cough and deep breathe**. You encourage her to **lie on her right side** to prevent bleeding. You use her **right arm for blood pressures** because both arms are affected and the right one is more convenient. You also encourage her to **avoid use of her right arm** to prevent injury to the surgical site. You provide a balanced diet and plenty of fluids to aid in her recovery.

It is impossible to know if Mrs. Joseph is anxious without assessing her. Most likely she is anxious because a second mastectomy probably was done for a recurrence of cancer. She needs a lot of support. A referral to Reach to Recovery or another appropriate support group would be helpful. Also, never assume that because a patient has had a procedure before, she knows everything to expect. Assess her knowledge level and teach accordingly. The incision on her chest may hurt when she coughs and deep breathes, increasing her risk of pulmonary complications. She should receive analgesics and encouragement to cough and deep breathe every hour. Lying on her right side may make elevation of her right arm difficult. She should assume a position in which her arm can

be elevated on a pillow to decrease swelling. Neither arm should be used for blood pressures after mastectomies; consult with the physician about the advisability of using the left arm or possibly her legs. She should be taught to exercise her arm using exercises recommended by the institution.

### CRITICAL THINKING

- Some factors affecting her frequent yeast overgrowths may include poor nutrition, inadequate blood glucose control, overly restrictive clothing, overheating of the genital area from long periods of sitting, immune system deficiency, a strain of yeast that is resistant to her usual treatment, and antibiotic use (many young people take antibiotics regularly for acne control).
- Some suggestions to help her prevent this problem in the future might include wearing loose-fitting skirts and light cotton underwear for bus trips, changing positions frequently, and sitting with her legs apart under a skirt, getting out and walking (if this is practical) when the bus stops, mentioning any antibiotic use to the physician, emphasizing the recurrent nature of this problem to her physician, and assessment for immune system problems if other infections are also frequent. One main area to explore with her is her blood glucose control. Find out why she is not testing often enough, and help her to plan strategies to improve testing regularity. If she is financially unable to afford the test materials, find out if there are support options available to her. (The local American Diabetes Association chapter or hospital diabetes clinic may be able to help you find this information.) Emphasize the benefits of adequate blood glucose control for many body systems as well as this disorder.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

- (3) is correct. A douche may wash away signs of the pathogen. (1) Better visualization is nice, but it does not help identify the pathogen. (2, 4) are not true.
- (3) is correct. Multiple sexual partners increase the risk of cervical cancer. (1) There is no evidence that tight underwear increases cancer risk. (2) Papanicolaou smears detect cancer early. (4) Late onset of sexual activity may reduce risk of some diseases.
- (2) is correct. Women who eat a high-fat diet have higher rates of breast cancer. (1, 3, 4) are all associated with reduced risk of breast cancer.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in **boldface**.*

4. **(1, 2, 3, 5)** are correct. Restriction of alcohol, caffeine, nicotine, salt, and simple sugars; participation in regular exercise; and development of stress management skills may help to reduce premenstrual syndrome symptoms.
5. **(2)** is correct; it is not 100% effective. (1, 3, 4) are all true and do not indicate a need for more teaching.
6. **(3, 1, 4, 2)** Breathing pattern takes priority because ineffective respirations can be life threatening. Ineffective tissue perfusion can be health threatening and is second. Psychosocial problems, although important, are the last priority. Anxiety comes first because it is actual; coping is a risk in this case.
7. **(2)** is correct. Elevation of the arm reduces swelling. (1, 3, 4) may worsen swelling.
8. **(1)** is correct. Her reaction shows anger over her diagnosis, a normal grieving response. (2, 3, 4) may be true, but there is no evidence to support them in the question.
9. **(1)** is correct. This therapy affects hormone function. (2, 3, 4) do not work by affecting estrogen.
10. **(4)** is correct. These are signs of infection. Prompt reporting is necessary so a culture can be done and antibiotics ordered. (1, 3) Another day or two allows time for the infection to spread. (2) May cause unnecessary concern in the patient. In addition, if she is receiving home care, it may be difficult for her to get to her physician's office.

# Answers

## CHAPTER 43

### VOCABULARY

1. retrograde
2. priapism
3. Phimosis
4. Smegma
5. circumcision
6. Cryptorchidism
7. orchitis
8. erectile dysfunction
9. varicocele
10. vasectomy

### DISORDERS OF THE MALE REPRODUCTIVE SYSTEM

- |         |         |
|---------|---------|
| 1. (3)  | 6. (7)  |
| 2. (5)  | 7. (4)  |
| 3. (1)  | 8. (6)  |
| 4. (2)  | 9. (8)  |
| 5. (10) | 10. (9) |

### ERECTILE DYSFUNCTION

1. Medication
2. Stress
3. Hypertension
4. TURP (transurethral resection of the prostate)
5. Heart failure
6. Multiple sclerosis

### CRITICAL THINKING

1. Use the **WHAT'S UP?** format to assess Mr. Washington's symptoms. The most important question is what he means by "can't pass water" and how long it has been since he last urinated. If he truly can pass no urine, the situation is an emergency. You can also observe for bladder distention, but palpation may be best done by the physician because of the risk for injury. Ask if he has ever been told he has prostate problems. If it has been a long time since he urinated last or the bladder appears distended, have the physician see the patient as soon as possible.
2. In an older man, prostate enlargement is a common cause of urinary problems and inability to urinate.

Benign prostatic hypertrophy and cancer of the prostate gland are two possibilities.

3. Be prepared to assist with Foley catheter insertion. It may be difficult to insert the catheter past an enlarged prostate, so the physician may need to be involved. The catheter can maintain urine flow until Mr. Washington is transferred to the hospital for further diagnostic tests and possible surgery. Find out how Mr. Washington got to the urgent care center and arrange a ride to the hospital if needed.
4. If urine flow continues to be blocked, hydronephrosis, infection, and rupture of the bladder can occur.
5. "A special scope will be inserted into your penis that will chip away the enlarged parts of your prostate gland. You will be anesthetized so you won't feel it. Afterward you can expect to have a catheter in your bladder for several days."
6. The catheter has several purposes. It allows urine to drain, places pressure on the resected gland to minimize bleeding, and provides a route to irrigate the bladder so blood clots can be removed. When totaling intake and output (I&O), irrigation solution should be included in the intake measurement because it is impossible to separate urine from solution in the output.
7. Bladder spasms are very painful, and the patient will inform you if they are occurring. Spasms may also cause leakage of urine around the catheter. Anesthetics and antispasmodic medications such as belladonna and opium (B&O) suppositories can help the discomfort. Irrigation of the catheter can flush out clots that can increase spasms. Relaxation exercises may also help.
8. Tell Mr. Washington that some episodes of incontinence may occur, but that they should subside in a few weeks. Teach him to do Kegel's exercises to increase sphincter tone. He should not restrict fluids because this can increase risk for urinary tract infection (UTI). A condom catheter or penile pad may help catch urine until incontinence improves. His panic could have been prevented by careful discharge teaching, letting Mr. Washington know what to expect and what to do about it.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in **boldface**.*

1. (3) is correct. Always replace the foreskin to prevent impairment of circulation and the possibility of not being able to replace it later. (1) Never leave the fore-

skin retracted. (2) The foreskin should be retracted if possible to wash the area. (4) Mild soap, not alcohol, should be used.

2. **(1)** is correct. Monthly TSE is one method to detect testicular cancer. (2) DRE is used to detect prostate enlargement. (3) An annual physical examination is advised, but it does not take the place of monthly checks for early detection. (4) Ultrasound is not done routinely to detect testicular cancer.

## REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

3. **(1, 3, 6)** are all correct. (2) Erectile dysfunction is not a symptom of BPH, and (4, 5) are signs of kidney disease or metastasized cancer.
4. **(3)** is correct. Sexual function is only occasionally affected. (1) does not answer his question, and (2, 4) imply that dysfunction is expected, which is not true.
5. **(2)** is correct. The B&O suppository will relieve bladder spasms. (1) Demerol relieves pain but not spasms, (3) warming the solution is not recommended, and (4) notifying the physician stat is not necessary—bladder spasms are an expected occurrence.
6. **(3)** is correct. The catheter needs to be kept free of clots so that it drains the bladder. (1) Irrigation does not stop bleeding, (2) antibiotics are not normally in the irrigating solution, and (4) irrigation does not affect urine production.
7. **(2)** is correct. Kegel exercises will help strengthen sphincter tone. (1) Restricting fluids increases risk of infection, (3) reinserting the catheter will only delay the problem, and (4) incontinence may last several weeks.
8. **(4)** is correct. Asking an open-ended question will help the patient share his concerns at his level of comfort. (1) The information provided does not support a diagnosis of impaired communication, (2) not all patients are helped by verbalizing concerns, and (3) this does not allow the patient to identify his own concerns.
9. **(2)** is correct. The scrotum will be painful and swollen. (1, 3, 4) are not symptoms of epididymitis.
10. **(2)** is correct. A respiratory rate of 36 indicates respiratory distress and is the first priority. (1, 3, 4) are all important and should be addressed once breathing has been stabilized.
11. **(1)** is correct. Male hormones continue to be produced after a vasectomy and levels do not need to be checked; this statement indicates need for further teaching. (2) The patient should be encouraged to continue using another birth control method for about 3 months after surgery to be sure there are no sperm left in the tract above the surgical site. (3) There should be no major change in the way the ejaculate looks or feels following the procedure. (4) A semen sample should be sent to be evaluated for the absence of sperm before the procedure is considered successful.



# Answers

## CHAPTER 44

### VOCABULARY

- |        |        |
|--------|--------|
| 1. (4) | 4. (5) |
| 2. (2) | 5. (1) |
| 3. (3) | 6. (2) |

### INFLAMMATORY DISORDERS

- |        |        |
|--------|--------|
| 1. (1) | 4. (5) |
| 2. (3) | 5. (4) |
| 3. (2) |        |

### BARRIER METHODS FOR SAFER SEX

1. Latex condoms are less likely to break during intercourse than other types. Lubrication decreases the chances of breakage during use, but only water-soluble lubricants should be used because substances such as petroleum jelly (Vaseline) may weaken the condom. Condoms should never be inflated to test them because this can weaken them. Condoms should be applied only when the penis is erect. Either condoms with a reservoir tip or regular condoms that have been applied while holding approximately 1/2 inch of the closed end flat between the fingertips allow room for expansion by the ejaculate without creating excessive pressure, which might break the condom. The penis should be withdrawn after ejaculation before the erection begins to subside while holding the top of the condom securely around the penis to avoid spillage. Condoms should never be reused and should be discarded properly after use so others will not come in contact with the contents.
2. Female condoms should be applied before any penetration occurs (even pre-ejaculation fluid can contain microorganisms). Lubrication decreases the chances of breakage during use, but only water-soluble lubricants should be used because substances such as petroleum jelly may weaken the condom. Female condoms should never be reused and should be discarded properly after use so others will not come in contact with the contents.
3. These may provide some protection for the cervix only. They are not effective barriers against sexually transmitted infections (STIs).
4. These may provide some barrier protection for manual and oral sexual activity. Although some groups suggest

that male condoms may be split down one side and opened or rubber dental dam material may be taped over areas that have lesions to avoid direct contact with blood and body fluid, especially during sadomasochistic sexual activity, this *very high-risk behavior* is not recommended.

5. Anal intercourse is a *very high-risk activity* for transmission of many types of STIs, as well as many intestinal organisms, and is not recommended. Homosexual networks advise wearing double condoms and using water-soluble lubricants, preferably containing nonoxynol-9, to decrease the risk somewhat if engaging in this type of sexual activity.

### CRITICAL THINKING

1. Misunderstandings may include the following:
  1. The mistaken idea that one blood test can diagnose all STIs
  2. Misunderstanding about the time that may be required to treat STIs (if the disease is treatable)
  3. Lack of understanding of the importance of interview information for diagnosing STIs
  4. Lack of understanding of the importance of physical examination for diagnosing STIs
2. The woman is an adult and has the right to make her own decisions. Unless James is her legal guardian, he has no legal right to information about her. He may be notified by a public health authority that he has been listed as a sexual contact by someone (anonymous) who has tested positive for a particular STI. However, if they have not yet become sexually intimate, he is not actually a contact. The only ethical and legal way that he can find out the information is by her choice (without coercion) to tell him.
3. Before any testing is done, both people should see the physician separately, be interviewed, be examined, and, if necessary, have samples taken for investigation. The physician should then order the tests that he or she deems necessary and counsel each patient about the test procedures, possible outcomes and treatments, and the expected time frame for return of results. A return visit may be arranged for a time after the physician should have received notification of results.
4. No, James is not going to get his answer about whether he has a contagious STI today. Even if he is a virgin, he may possibly have contracted an STI prenatally, so he must wait for test results. Recent exposure to some STI agents may not show positive results for a long period.

**REVIEW QUESTIONS—CONTENT REVIEW**

The correct answers are in **boldface**.

- (4)** is correct. Syphilis is associated with gummas.
- (3)** is correct. Human papillomavirus causes genital warts. (1, 2, 4) cause other viral disorders.

**REVIEW QUESTIONS—TEST PREPARATION**

The correct answers are in **boldface**.

- (1, 3, 4)** are correct. Standard precautions are always appropriate, especially with possible herpes infection. Cesarean delivery may protect the baby from exposure. The obstetrician or midwife must be informed so decisions can be made for a safe delivery. (2) is incorrect. Teaching is appropriate, but reprimanding is not. (5) An antibiotic will not treat a viral infection, and would need a physician's order. (6) would protect a patient who is immune compromised and is not appropriate in this case.
- (4)** is correct. A history and physical examination with diagnostic testing are the only way to diagnose an STI. (1) is untrue. (2, 3) Checking for lesions and using a condom are good ideas, but will not prevent all STI transmission.
- (4)** is correct. Questioning a partner is only one small part of STI prevention, so if the student believes this is adequate protection, more teaching is necessary. (1, 2, 3) are all correct statements and do not indicate a need for further teaching.

- (1)** is correct. The ulcer should be examined for diagnosis and treatment. (2, 3) may be upsetting to the patient because the ulcer may be from something other than an STI. (4) Gentle cleaning is important, but an STI can occur at any age.

- (2)** is correct. The girl is asking for information to maintain health. (1, 3, 4) may be true but are not supported by the data provided.
- (3)** is correct. Urethritis causes painful, frequent urination and discharge. (1, 2, 4) are not symptoms of urethritis.
- (1)** is correct. Her pain should be assessed before intervention takes place. (2, 3, 4) may also be appropriate after assessment has taken place.

10.

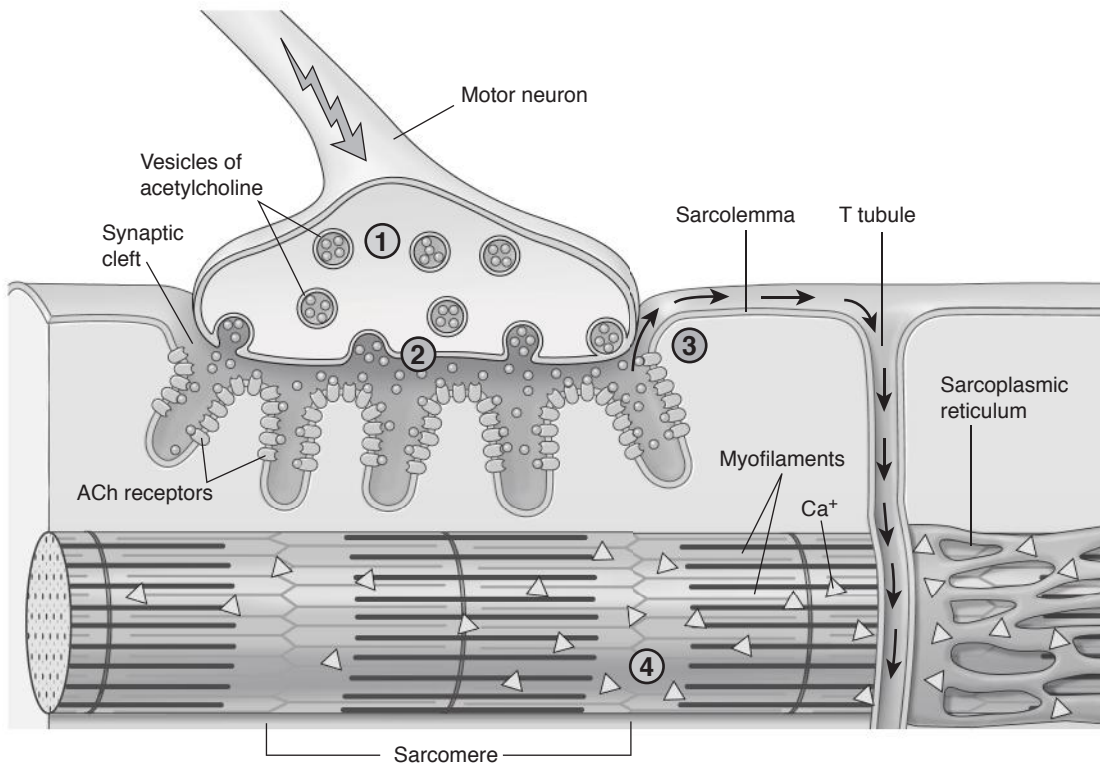
$$\frac{2,400,000 \text{ units}}{5,000,000 \text{ units}} \times 8 \text{ mL} = 3.8 \text{ mL}$$

- (4)** is correct. An initial outbreak following infection with the herpes virus occurs 2 days to 2 weeks after exposure and may produce a flu-like condition. Urethritis, cystitis, and mucopurulent cervicitis (MPC) with vaginal discharge may also be evident. (1, 2) Assessing the partner's history or symptoms is not as important as educating the client on symptoms she may develop that require medical evaluation. (3) Use of a diaphragm will protect the cervix but will not reduce the risk of contracting a sexually transmitted infection.

# Answers

## CHAPTER 45

### STRUCTURE OF NEUROMUSCULAR JUNCTION AND SARCOMERES



#### NEUROMUSCULAR JUNCTION

1. (3, 5)
2. (1, 6)
3. (2, 4)

#### SYNOVIAL JOINTS

1. (5)
2. (3)
3. (1)
4. (2)
5. (4)

#### VOCABULARY

- |        |         |
|--------|---------|
| 1. (3) | 6. (6)  |
| 2. (1) | 7. (8)  |
| 3. (4) | 8. (7)  |
| 4. (5) | 9. (10) |
| 5. (2) | 10. (9) |

#### DIAGNOSTIC TESTS

- |        |          |
|--------|----------|
| 1. (3) | 7. (6)   |
| 2. (1) | 8. (8)   |
| 3. (2) | 9. (10)  |
| 4. (5) | 10. (9)  |
| 5. (4) | 11. (11) |
| 6. (7) | 12. (12) |

**CRITICAL THINKING**

1. Allergies, past health, medications, surgeries, injury, cause and mechanism of injury (how injured will indicate other injuries to look for; mechanism of injury—twisting, crushing, stretching).
2. Inspection: injury, asymmetry, mobility and range of motion, swelling, deformity and limb length, ecchymosis. Palpation: skin temperature, crepitation, tenderness, sensation.
3. X-rays of his leg and any other areas of potential injury based on the history. Complete blood count (CBC) to identify loss of blood. Additional tests may be ordered based on findings.
4. Any procedures to be done, tests to be done, need to report symptoms, pain relief issues, answer any questions.

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(3)**
2. **(2)**
3. **(1)**
4. **(3)**
5. **(2)**
6. **(3)**

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

7. **(2)** *Crepitation* is the term used for a grating sound heard in a joint. (1) A friction rub is associated with either pleural or pericardial inflammation or fluid accumulation. (3) An effusion is a collection of fluid in a space. (4) Subcutaneous emphysema is leaking air that is felt under the skin.
8. **(3)** Joint movement should immediately be stopped to prevent further joint injury. (1, 2, 4) would move the joint, causing possible injury.
9. **(2)** Ability to prepare food is an instrumental activity of daily living (ADL), which is part of a functional assessment. (1, 3, 4) are not items assessed in a functional assessment.
10. **(4)** A hematoma may develop after a biopsy. (1) does not occur from a biopsy; (2) crackles are heard in the lungs; and (3) an infection would not develop immediately but would occur several days later.
11. **(1)** Bleeding into soft tissue is a complication of a biopsy. (2, 3, 4) relate to pain control.

# Answers

## CHAPTER 46

### VOCABULARY

- |                   |                       |
|-------------------|-----------------------|
| 1. Arthritis      | 7. Avascular necrosis |
| 2. Arthroplasty   | 8. Replantation       |
| 3. Synovitis      | 9. Hemipelvectomy     |
| 4. Arthrocentesis | 10. Fasciotomy        |
| 5. Hyperuricemia  | 11. Osteomyelitis     |
| 6. Vasculitis     | 12. Osteosarcoma      |

### FRACTURES

- |         |        |        |        |         |
|---------|--------|--------|--------|---------|
| 1. (10) | 3. (9) | 5. (7) | 7. (5) | 9. (3)  |
| 2. (1)  | 4. (8) | 6. (6) | 8. (4) | 10. (2) |

### CRITICAL THINKING

### PROSTHESIS CARE EDUCATION

- |                |                              |
|----------------|------------------------------|
| 1. False—same  | 4. True                      |
| 2. False—water | 5. False—grease, prosthetist |
| 3. True        |                              |

### HEALTH PROMOTION FOR PATIENTS WITH GOUT

- |                     |                     |
|---------------------|---------------------|
| 1. purine, sardines | 4. aspirin, aspirin |
| 2. Avoid            | 5. Avoid            |
| 3. fluids           | 6. stress           |

### NURSING DIAGNOSIS

*Impaired Physical Mobility* related to hip precautions and surgical pain

#### Interventions

Reinforce transfer and ambulation techniques.

Place overhead frame and trapeze on bed; teach patient how to use it.

Assess the patient for and take measures to prevent complications of immobility:

Turn patient every 2 hours and check skin.

Keep heels off of bed.

Teach patient to deep breathe and cough every 2 hours; also teach use of incentive spirometer.

Apply thigh-high elastic stockings.

Give anticoagulants as ordered.

Mobilize patient as soon as possible as ordered.

Remind patient to practice leg exercises.

#### Rationale

Activity is restricted due to hip precautions and weight-bearing limitations.

Patient mobility is increased and pain decreased with use of trapeze for movement.

Immobility complications can occur if preventive measures are not used.

#### Evaluation

Does patient transfer and ambulate as instructed by physical therapy?

Does patient use over-bed frame and trapeze for movement?

Is the patient free from complications of immobility?

**REVIEW QUESTIONS—CONTENT REVIEW**

*The correct answers are in boldface.*

1. **(2)** It should be wrapped in a cool moist cloth (sterile, if available) and sealed in a plastic bag. (1) It should be cool and moist. (3) It is not placed on dry ice, which is also not readily available. (4) is not readily available or moist.
2. **(3)** Diagnosis of gout is based on an elevated serum uric acid level, which is a waste product resulting from the breakdown of proteins. Urate crystals, formed because of excessive uric acid buildup, are deposited in joints and other connective tissues, causing severe inflammation.

**REVIEW QUESTIONS—TEST PREPARATION**

*The correct answers are in boldface.*

3. **(2)** Buck's traction is skin traction. (1, 3, 4) are examples of skeletal traction.
4. **(2)** Palming the cast to move it prevents indentations being made in the wet cast with fingertips. (1, 3, 4) are incorrect.
5. **(3, 5)** Giving a test dose of gold is important to assess for an allergic reaction, and the patient is monitored after the test dose for an allergic reaction. (1, 2, 4, 6) are incorrect.

6. **(4)** The morphine should be prepared now so it is ready promptly when 3 hours is up; 15 mg should be given because the pain level is at the maximum and is occurring before the minimum ordered time interval. (1) Applying ice to the cast may be helpful, but because the pain is at the maximum, it will not provide enough relief. (2) There are no abnormalities to report to the physician at this time. (3) Removing the pillow may increase pain if swelling increases.
7. **(4)** This is a sign of hip dislocation. (1, 2, 3) are incorrect.
8. **(4)** Liver is an organ meat that is high in purines. (1, 2, 3) are not high-purine foods.
9. **(1)** can cause an attack of gout. (2, 3, 4) are incorrect.
10. **(3)** The erythrocyte sedimentation rate is a general screening test for systemic inflammation. (1, 2, 4) are incorrect.
11. **(4)** A test dose is given to assess for an allergic reaction. (1, 2, 3) are incorrect.
12. **(2)** Stiff, sore joints are one of the early symptoms of rheumatoid arthritis. (1, 4) are not early symptoms. (3) is not a related symptom.

# Answers

## CHAPTER 47

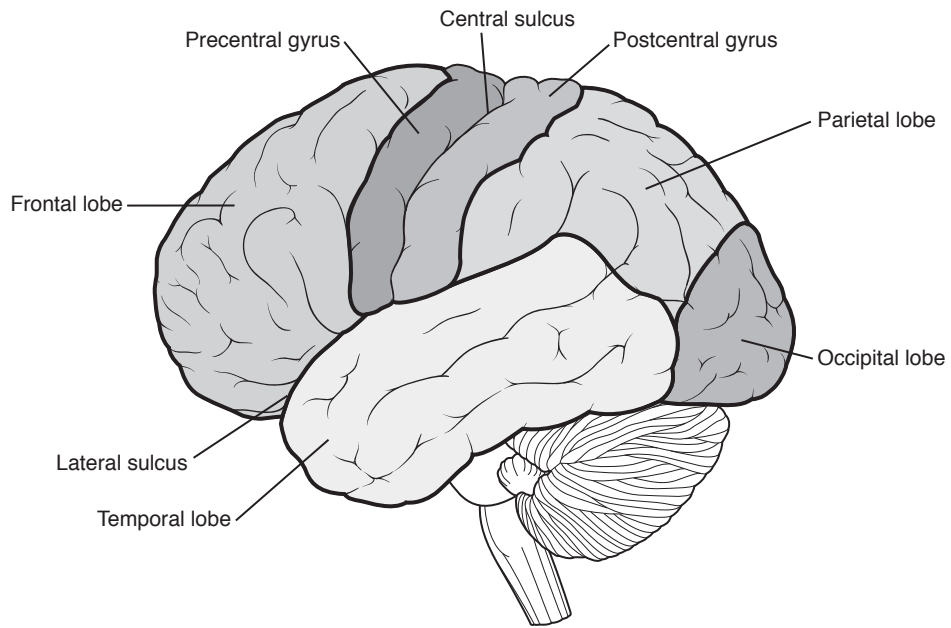
### VOCABULARY

1. dysphagia
2. electroencephalogram
3. paresthesia
4. decorticate
5. decerebrate
6. Anisocoria
7. nystagmus
8. contractures
9. dysarthria
10. aphasia

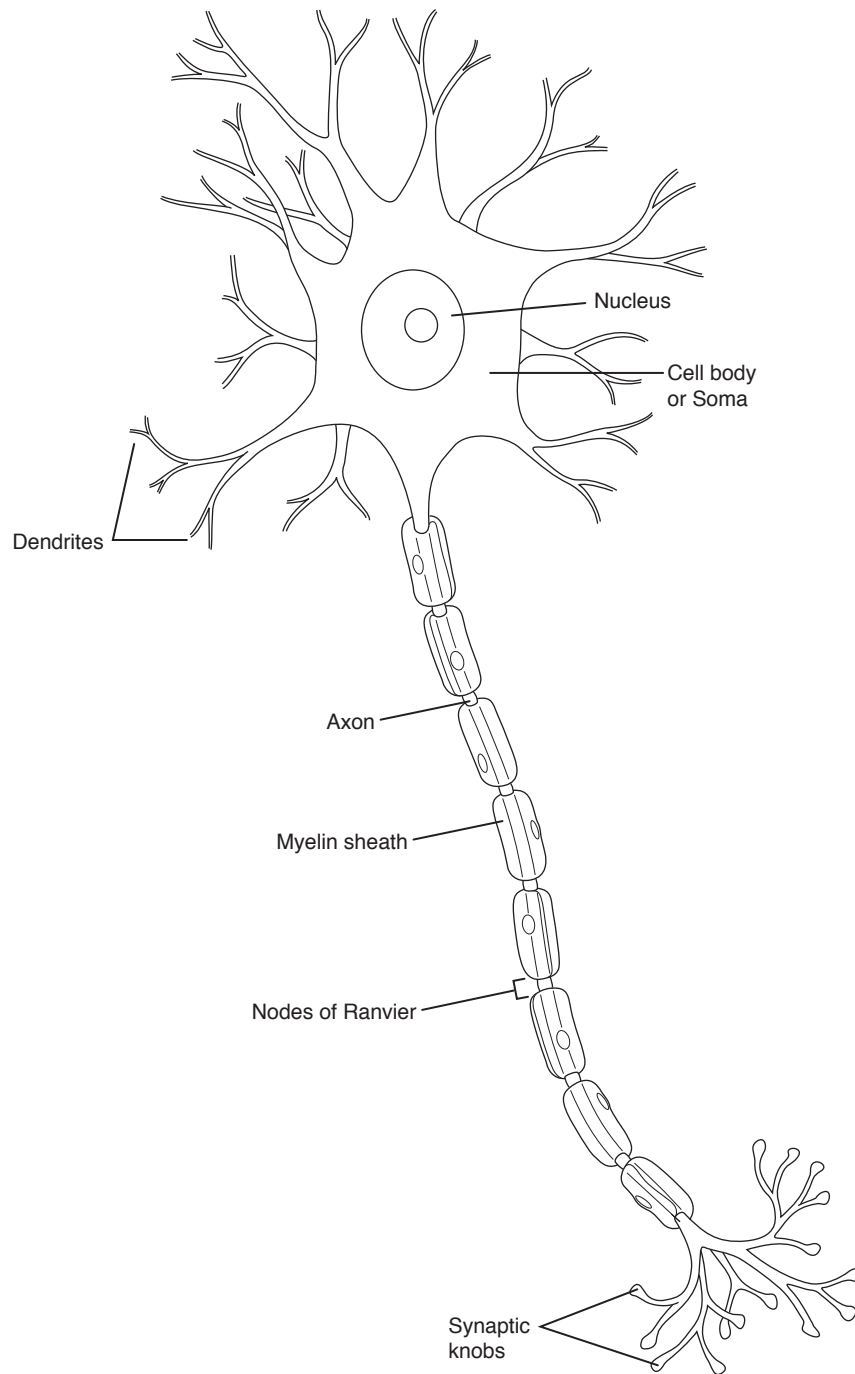
### DIAGNOSTIC TESTS

1. A myelogram is an x-ray (or computed tomographic or magnetic resonance imaging scan) examination of the spinal canal after injection of contrast material into the subarachnoid space. Before the procedure ask the patient about allergies to contrast media. Make sure that a consent form has been signed. Check institution policy for NPO (nothing by mouth) guidelines. Following the procedure the patient is maintained on bedrest, positioned with the head elevated or according to physician's orders (based on type of dye used). Fluids are encouraged to help the kidneys excrete the dye.
2. An electroencephalogram (EEG) uses electrodes attached to the scalp to monitor the electrical activity of the brain. Before the procedure, make sure the patient's hair is clean and dry. Check with the physician for any medications to hold. After the procedure, monitor for seizures, especially if seizure medications were held. Wash the adhesive from the hair as soon as possible before it becomes hard and difficult to remove.
3. A lumbar puncture involves a needle into the spinal fluid to collect cerebrospinal fluid (CSF) for analysis. Before the procedure you may ask the physician for an order for an analgesic or sedative if the patient is especially anxious. Make sure that a consent form has been signed. Assist the patient into a side-lying position with knees flexed and back arched. Some physicians prefer the patient sitting on the edge of the bed leaning over a bedside table. Stay with the patient to offer reassurance and assist the physician with specimens. Following the procedure check orders for bedrest, and encourage fluids. Monitor the puncture site for leakage of CSF. Notify the physician if a headache occurs.
4. Magnetic resonance imaging (MRI) uses magnetic energy to produce images of tissues. It is not an x-ray. Ask patients if they have any metal in their bodies (pacemakers, joint replacements, foreign bodies, tattoos)—if so they may not be able to have an MRI. Instruct the patient that he or she will be in a tunnel-like machine for 30 to 60 minutes, and that there will be banging noises. If the patient is claustrophobic, notify the physician and obtain a sedative or alternative orders. If the patient is in pain, request analgesic orders for use before the procedure. No special aftercare is necessary.
5. Computed tomography (CT) produces images of layers ("slices") of tissue. It usually requires that the body or body part be within the scanner, which may be difficult for claustrophobic people. The physician may order contrast material. Find out if this is planned, and ensure the patient has no allergies to contrast material. The physician should be notified if kidney function is compromised because kidneys excrete the dye. Check institution policy to determine whether the patient should be kept NPO before the procedure. If dye is used, the patient should be prepared to expect a feeling of warmth during the injection. Following any procedure using dye, fluids should be encouraged. If dye is not used, no special aftercare is necessary.

## ANATOMY







## ANATOMY REVIEW

- |        |        |
|--------|--------|
| 1. (5) | 4. (3) |
| 2. (4) | 5. (2) |
| 3. (1) |        |

## ASSESSMENT OF CRANIAL NERVES

- |        |        |
|--------|--------|
| 1. (3) | 4. (1) |
| 2. (4) | 5. (5) |
| 3. (2) |        |

## CRITICAL THINKING

- After checking her transfer records for previous activity level, check muscle strength in her legs and feet. Ask how she got up to go to the bathroom at the hospital. Then have a second nurse or aide help in dangling her at the bedside and slowly standing before attempting to ambulate. If she is unable to dangle or stand, use a bedpan or bedside commode until she can be evaluated by the physical therapy department. Document how she did and

how much assistance she needed in the plan of care.

Consider whether she needs an order for physical or occupational therapy.

2. Again, check her transfer records, and ask how she ate at the hospital, keeping in mind that her answers may not be reliable. Check for a gag reflex. Make sure she is sitting straight up to eat, preferably in a chair. Try small sips and bites first. Stay with her for the first meal to monitor her swallowing. Because she is weak on one side, check her mouth after each bite for pocketing of food.
3. Ask questions to determine her orientation, such as the month and year, where she is, and who familiar visitors are. Check recent and remote memory. (What did you have for lunch? What is your mother's name?) Clarify her question. She may have a perfectly legitimate reason to ask for the cookies.
4. Blood pressure is affected by muscle tone. A weak arm may have a lower pressure.

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. **(2)**
2. **(2)**
3. **(1)**
4. **(2)**
5. **(4)**
6. **(1)**
7. **(3)**

### REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in boldface.*

8. **(2, 4)** The cervical nerves supply the back of the head, the neck, shoulders and arms, and the diaphragm and

thus would be responsible for writing (arm movement) and nodding (head movement). Cranial nerves (facial nerve) are responsible for the contraction of facial muscles and (hypoglossal) the movement of the tongue.

The first and second thoracic nerves also contribute to peripheral nerves in the arms. Other thoracic nerves supply the trunk of the body. Lumbar and sacral nerves supply the hips, pelvic cavity, and legs.

9. **(3)** is correct. The patient is positioned on his or her side to expose the spinal column for puncture. (1, 2, 4) are not necessary for a lumbar puncture (LP).
10. **(1)** is correct. The patient lays flat for 6 to 8 hours to prevent headache following LP. (2) The patient should drink fluids, not be NPO. (3) Pedal pulses are not significant following LP. (4) Deep breathing and coughing are not a priority.
11. **(4)** is correct. Metal of any kind can be attracted to the powerful magnets in the MRI. (1) refers to a lumbar puncture, (2) refers to an EEG, and (3) is not necessary.
12. **(2, 3, 4, 5)** are correct. During the CT scan, the patient must lie still on a movable table. Noncontrast scans take approximately 10 minutes; contrast scans take between 20 and 30 minutes. Patients who are receiving dye should be warned that they may feel a sensation of warmth following the injection; warmth in the groin area may make them feel as though they have been incontinent of urine. Nausea, diaphoresis, itching, or difficulty breathing may indicate allergy to the dye and should be reported immediately to the physician or nurse practitioner. Sedation may be required for patients who are agitated or disoriented.

# Answers

## CHAPTER 48

### VOCABULARY

- |        |          |
|--------|----------|
| 1. (9) | 6. (4)   |
| 2. (6) | 7. (5)   |
| 3. (1) | 8. (3)   |
| 4. (7) | 9. (8)   |
| 5. (2) | 10. (10) |

### DRUGS USED FOR CENTRAL NERVOUS SYSTEM DISORDERS

- |        |        |
|--------|--------|
| 1. (2) | 4. (5) |
| 2. (3) | 5. (4) |
| 3. (1) |        |

### ALZHEIMER'S DISEASE

- |        |        |
|--------|--------|
| 1. (3) | 3. (4) |
| 2. (2) | 4. (1) |

### CENTRAL NERVOUS SYSTEM DISORDERS

- |        |         |
|--------|---------|
| 1. (9) | 6. (2)  |
| 2. (6) | 7. (8)  |
| 3. (1) | 8. (10) |
| 4. (5) | 9. (4)  |
| 5. (7) | 10. (3) |

### SPINAL DISORDERS

- L
- C
- C
- L
- L

### CRITICAL THINKING: SPINAL CORD INJURY

- These are the hallmark signs of spinal cord injury or spinal shock. Loss of vasomotor control results in vasodilation. This causes hypotension. Dilated blood vessels allow more exposure of blood to the skin surface, thereby cooling the blood and causing hypothermia. Bradycardia results from disruption of the autonomic nervous system.
- Mr. Granger no longer has full use of his respiratory muscles. Therefore, he is not able to take deep breaths.

- (1) Cervical traction will keep his cervical spine immobile and prevent further damage to the spinal cord.  
(2) Administration of vasopressors may be necessary to maintain blood pressure at a level that is adequate for tissue perfusion. Intravenous (IV) fluids may be inadequate to maintain blood pressure and may result in fluid overload. (3) Loss of innervation to the bladder may result in urine retention. An indwelling catheter is used to prevent bladder rupture or urinary reflux.
- Edema of the spinal cord, fatigue of respiratory muscles, or both are reducing Mr. Granger's already compromised respiratory function. As he feels more short of breath, he becomes more anxious, fearing that his condition is worsening. Explain to him that this is a common short-term complication of spinal cord injury. Reassure him that if mechanical ventilation is required, it will not necessarily be a permanent situation.
- Expect that Mr. Granger will be intubated or have a tracheostomy placed to allow for mechanical ventilation. Expect the ventilation to be necessary until the spinal cord edema has subsided.
- Ineffective Breathing Pattern*: The goal is that Mr. Granger will not experience hypoxia or respiratory arrest. Monitor his pulse oximetry and respiratory pattern frequently. At the first sign of restlessness, anxiety, or shortness of breath, inform the physician.  
*Impaired Physical Mobility*: The goal is for all of Mr. Granger's care needs to be met. He will be unable to care for himself independently. Protect him from skin breakdown and other hazards of immobility. Whenever possible, give Mr. Granger choices as to how and when care will be performed. Include his significant others as much as he and they wish.
- Mr. Granger needs simple explanations of what has happened to him and what his prognosis is. He also needs to begin to learn to direct his care. This will improve his ability to function outside of the hospital. After he is stable, he will likely be transferred to a rehabilitation facility to continue to learn self-care.

### REVIEW QUESTIONS—CONTENT REVIEW

The correct answers are in **boldface**.

- (2) A structured environment provides a quiet setting with minimal distractions. (1, 3, 4) could all potentiate the patient's agitation.
- (1) is correct. Decreasing level of consciousness (LOC) is a symptom of increasing ICP. (2, 3) Sympathetic and

parasympathetic responses and (d) increased cerebral blood flow do not cause decreased LOC.

3. **(3)** Widening pulse pressure warns of increasing ICP. (1, 2, 4) do not occur in increasing ICP.
4. **(2)** is correct. Elevation of the head of the bed reduces ICP. (1, 3, 4) all can potentially increase ICP.

## REVIEW QUESTIONS—TEST PREPARATION

*The correct answers are in **boldface**.*

5. **(3)** This addresses the patient's feelings and is most likely to calm her. (1, 4) try to reason with a patient who is unable to reason and may be threatening. (2) is misleading—the patient is not going to find her mother.
6. **(3)** Drowsiness is a common side effect. (1, 2, 4) are not common side effects.
7. **(4)** Ambulation is the best evidence that the patient with lumbar disk disease is mobile. (1, 3) are good outcomes but are not related to mobility. (2) relates to cervical disease, not lumbar.
8. **(3)** Inability to move the affected leg would not be expected and should immediately be reported to the physician. (1) Incisional pain and (4) muscle spasm are common temporary results of microdiscectomy. (2) Bleeding should be monitored, but a small amount does not require immediate reporting unless it is rapidly increasing.
9. **(1)** The patient with a brain tumor is at risk for seizures. (2, 3) are important interventions once the patient's safety is assured. (4) There is no reason to place the patient in isolation.
10. **(1, 3, 4, 6)** can all help avoid falls. (2) Restraints are not recommended, and may increase agitation and risk of falls. (5) Assisting the patient who is at risk of falls is appropriate. Encouraging independence may be appropriate for some patients but may not be appropriate if the patient is at risk for falling.
11. **(1, 4)** are correct. (2) Oral contraceptives are contraindicated because of the increased risk for DVT. (3) A diaphragm may be too difficult for the woman to insert. (5) Patients may not feel an IUD move out of position or be aware of signs or symptoms of uterine perforation. (6) Fertility is not compromised by spinal cord injury, so birth control is recommended.

# Answers

## CHAPTER 49

### VOCABULARY

- |        |         |
|--------|---------|
| 1. (7) | 6. (6)  |
| 2. (3) | 7. (9)  |
| 3. (1) | 8. (10) |
| 4. (4) | 9. (8)  |
| 5. (5) | 10. (2) |

### DRUGS USED FOR CEREBROVASCULAR DISORDERS

- |        |        |
|--------|--------|
| 1. (1) | 3. (4) |
| 2. (3) | 4. (2) |

### CRITICAL THINKING: STROKE

1. A stroke is the infarction of brain tissue due to the disruption of blood flow to the brain. Considering Mrs. Saunders' history, the cause of her attack was most likely ischemic, the result of atherosclerosis.
2. Hemiplegia.
3. Left, because her right side is paralyzed.
4. She was a smoker, she has a history of atherosclerosis and hypertension, and she is overweight.
5. Expressive aphasia.
6. Her score on the Glasgow Coma Scale is 11.
7. Early symptoms of rising intracranial pressure include restlessness, irritability, and decreased level of consciousness. Later signs include dilated pupils, increasing systolic blood pressure and respiratory rate, and increasing and then decreasing pulse rate.
8. A thrombolytic medication may have been used in the emergency department if Mrs. Saunders arrived within 3 hours of onset of her symptoms. The nurse would continue to monitor for side effects. Heparin may be ordered as an anticoagulant; antiplatelet drugs may be ordered for long-term prevention of recurrent stroke; antihypertensives may be ordered to control blood pressure; statins may be ordered to lower cholesterol if needed.
9. Many diagnoses fit Mrs. Saunders's situation. An example is *Impaired Physical Mobility* related to flaccid right side. Measures to prevent complications related to immobility include repositioning every 1 to 2 hours, maintaining good body alignment with pillows, consulting physical therapy for exercise recommendations, range-of-motion exercises, constraint therapy,

and possibly a sling to prevent harm to her weakened shoulder muscles.

10. Reposition every 1 to 2 hours, maintain good nutrition and fluid intake, apply a pressure-reduction mattress to the bed, use a lift sheet, keep skin clean and dry, and check frequently for incontinence.
11. Because Mrs. Saunders understands spoken words, ask her if she has to go to the bathroom. Usually if a patient is attempting to get out of bed, there is a reason for it. See if she can nod yes or no in response. She may be able to point to the bedside commode or bathroom. A picture board might also be helpful.
12. Check swallowing. Ask for a consultation with the speech therapy department or other swallowing expert for recommendations specific to Mrs. Saunders.
13. Many patients do better with pureed foods and thickened liquids. Be sure she is sitting straight up, preferably in a chair, to eat. Have her tilt her head forward while swallowing. Have her swallow each bite twice. After each bite, remind her to check the right side of her mouth for food that is not noticed. Avoid straws. Check swallowing study recommendations for specific instructions for each patient.
14. Involve her family in her care. Give them small tasks to do for her. Encourage them to attend physical and other therapies with her. Explain what will happen at the rehabilitation facility. Assist the family to identify resources that can help when she is discharged to home. Consult with the social worker or discharge planner to provide them with additional information.
15. Antiplatelet drugs such as aspirin or clopidogrel (Plavix).

### REVIEW QUESTIONS—CONTENT REVIEW

*The correct answers are in boldface.*

1. (1) is correct. A temporary impairment of cerebral circulation that causes symptoms lasting minutes to hours is a transient ischemic attack (TIA). (2, 3, 4) A cerebrovascular accident (CVA), stroke, or subarachnoid hemorrhage (SAH) cause permanent deficits.
2. (2) is correct. In atrial fibrillation, the blood is not ejected normally and small clots may develop in the atria. If these clots are ejected into the circulation as emboli and travel to the brain, an embolic stroke occurs. (1) A hemorrhagic stroke is caused by a rupture of a blood vessel that, in turn, deprives the brain tissue beyond that vessel of needed oxygen and nutrients. (3) A thrombotic stroke is

caused by a blood clot occluding an artery, causing decreased perfusion to brain tissue; the bifurcation of the carotid artery is the most common site of this type of stroke. (4) A cerebral aneurysm places patients at risk for hemorrhagic stroke.

## REVIEW QUESTIONS—TEST PREPARATION

The correct answers are in **boldface**.

3. (1) is correct. The patient may be exhibiting unilateral neglect or homonymous hemianopsia. (2) is incorrect—there is no evidence that the patient is hard of hearing. (3) Waving fingers is rude and unnecessary in this case. (4) Using a picture board will not help if the patient cannot perceive his left side.
4. (2) is correct. A stroke can reduce inhibitions. (1) Punishment is inappropriate—his actions are not on purpose. (3, 4) may be true but do not address the problem.
5. (4, 5, 6) are correct. These can help prevent aspiration. (1) is incorrect—sitting upright is recommended. (2) Straws should be avoided. (3) Thin liquids are more easily aspirated.
6. (3) is correct. Allowing the patient to defecate on his usual schedule can help prevent incontinence. (1) If the patient is unable to detect the need to have a bowel movement, asking him will not be helpful. (2, 4) Incontinence pads may be useful, and avoiding embarrassing the patient is essential, but neither will help reduce incontinence.

7.

$$\frac{62 \text{ mg}}{60 \text{ mg}} \left| \frac{1 \text{ grain}}{60 \text{ mg}} \right| \left| \frac{1 \text{ tablet}}{1 \text{ grain}} \right| = 1 \text{ tablet}$$

8. (2) is correct—the stroke may be extending. (1, 3, 4) all delay treatment if the stroke is extending.
9. (2) is correct. Patients with stroke are prone to aspiration and reducing the risk of aspiration is the highest priority; patients should be turned to the side to reduce this risk with vomiting. (1, 3) Setting up suction and giving medication will take too long—they are not priorities. (4) Performing a test for blood is not indicated with the information provided.
10. (2, 4, 6) are correct. All increase risk of bleeding. (1, 3, 5) do not increase risk of bleeding.
11. (2, 4) are correct. Before giving a patient with a suspected stroke anything to eat or drink, including medications, the patient should pass a swallow, or dysphagia screen. If there is any apparent facial weakness or asymmetry, do not give the patient anything by mouth (NPO). If everything appears normal, have the patient swallow about 30 oz of water. If the patient coughs, has difficulty swallowing or has a wet/gurgly voice afterwards, the patient should remain NPO. (1) Grip and (5) blood pressure are not related to ability to swallow. (3) A positive gag reflex would indicate that swallowing may be intact. (6) Aspirin and clopidogrel are not related.