# Answers

## CHAPTER 1 CRITICAL THINKING, CLINICAL JUDGMENT, AND THE NURSING PROCESS

### AUDIO CASE STUDY

### Jane Practices Clinical Judgment

1. Identify and analyze cues; prioritize hypotheses; generate solutions; take action; evaluate outcomes; repeat.
2. Jane was exhausted, failed a test, and was pulled in too many directions. She was also crying in her car and had poor study habits and not enough sleep.
3. Jane's resources included a good friend, sick time from work, and wasted time between classes that she could better utilize. Your resources will be different, but they exist!
4. Critical thinking—*the why*: Jane uses critical thinking to determine why her current plan isn't working. She thinks honestly about her poor study habits, her time-management problems, and the impact this is having on her and her family.
   Clinical judgment—the *do*: Jane uses her thinking to develop and carry out a plan that uses her resources and provides more productive study time and more quality time with her kids.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

**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.

**Clinical judgment**

Definition: The observed outcome of critical thinking and decision making. A process that uses nursing knowledge to collect appropriate data, identify a patient problem, and determine the best possible plan of action. Clinical judgment is based on good critical thinking.

**Cue**

Definition: Significant or relevant data. Not all data are cues (relevant), but all cues are data.

**Collaboration**

Definition: Working together with the health team to improve patient outcomes.

**Intervention**

Definition: Taking action to carry out a plan.

**Evaluation**

Definition: Comparing the outcomes you expected with actual outcomes. Did the plan work? Were expected outcomes met?

**Vigilance**

Definition: The act of being attentive, alert, and watchful.

### CRITICAL THINKING AND CLINICAL JUDGMENT

Critical thinking and clinical judgment both follow a similar format. Both follow steps from collecting data to determining problems and outcomes, developing and taking actions, and evaluating outcomes. However, critical thinking helps you think *about* the problem: What is it? Why is it happening? And clinical judgment leads you to *do* something to manage the problem.

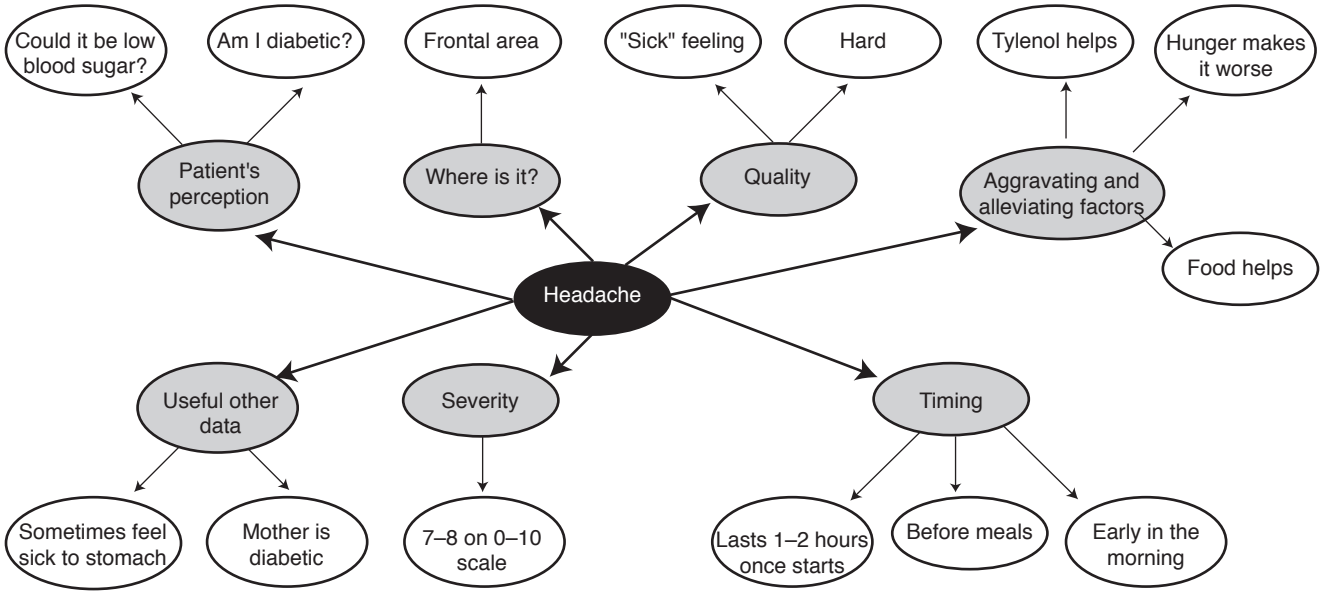
### CUE RECOGNITION

*You will do many things for each individual, but the FIRST thing is listed below.*

1. Sit the patient upright.
2. Call 911 while running across the street.
3. Elevate the feet off the bed by placing a pillow under the calves and allowing the feet to hang off the edge of the pillow.
4. Check blood glucose and have a glucose source ready.
5. Turn the patient to the side to prevent aspiration.

## CRITICAL THINKING

*This is just one possible way to complete a cognitive map.*




## REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. (**2**) Critical thinking can lead to better outcomes for the patient. (1, 3, 4) may be true but are not the best answer.
2. (**4**) is correct. The nurse who can admit to not knowing something is exhibiting intellectual humility. (1) shows expertise but not necessarily intellectual humility; (2) reporting an error shows intellectual integrity; (3) empathizing is positive but does is not evidence of humility.
3. (**3, 4, 5, 1, 2**) is the correct order.
4. (**1**) is the best definition. (2, 3, 4) do not define critical thinking but are examples of good thinking.
5. (**4**) is correct. 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.
6. (**1**) is correct. The licensed practical nurse/licensed vocational nurse (LPN/LVN) can collect data, which includes taking vital signs; data collection is the first step in the nursing process. (2, 3, 4) are all steps in the nursing process, for which the registered nurse is responsible; the LPN/LVN may assist the registered nurse with these. Nitroglycerin should not be administered without first knowing the patient's blood pressure.
7. (**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.
8. (**3, 1, 2, 4**) is the correct order according to Maslow.
9. (**5, 2, 1, 4, 6, 3**) is the correct order.
10. (**3**) shows the patient is actually taking action. (1, 2, 4) are all positive but do not show intent to take action.
11. (**4**) is the nurse's analysis of the situation. (1, 2) are data; (3) is a recommendation.
12. (**1, 2, 3, 4**) should be present. Since the data provides only hip replacement as the patient's problem, (5) the dietitian is not necessary.

# Answers

## CHAPTER 2
## EVIDENCE-BASED PRACTICE

### AUDIO CASE STUDY

#### Marie and Evidence-Based Practice

1. Thirdhand smoke is the dangerous toxins of smoke that linger on hair, clothing, furniture, and other surfaces in an area after a cigarette is put out. Marie learned that exposure to these toxins can be neurotoxic to children and can trigger asthma attacks in sensitive people.
2. Evidence-based practice is considered the gold standard of health care.
3. Step 1: Ask the burning question. Step 2: Search and collect the most relevant and best evidence available. Step 3: Think critically. Appraise the evidence for validity, relevance to the situation, and applicability. Step 4: Measure the outcomes before and after instituting the change. Step 5: Make it happen. Step 6: Evaluate the practice decision or change.
4. Combination therapy with a nicotine patch and nicotine lozenges worked best, although bupropion (Zyban) or varenicline (Chantix) and nicotine lozenges worked well, too. A Cochrane Review found that advice and support from nursing staff can increase patients' success in quitting smoking, especially in a hospital setting.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. Evidence-based practice: A systematic process that uses current evidence in making decisions about patient care.
2. Evidence-informed practice: Consideration of patient factors along with the use of evidence for shared decision making between the health-care provider and the patient.
3. Randomized controlled trials: True experimental studies in which as many factors as possible that could falsely change the results are controlled.
4. Research: Scientific study, investigation, or experimentation to establish facts and analyze their significance.
5. Systematic review: A review of relevant research using guidelines.

### EVIDENCE-BASED PRACTICE

1. proof
2. context
3. quality
4. care
5. randomized
6. outcomes
7. gold
8. nursing
9. patient's
10. information

### CLINICAL JUDGMENT

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, with the assistance of the medical librarian, in the area of their burning question regarding music reducing preoperative anxiety.
3. Cumulative Index to Nursing and Allied Health Literature (CINAHL) Database, Joanna Briggs Institute evidence-based resources, 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 valuable in terms of cost and time

### REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. **(3)** is correct. Providing an explanation of why something is done promotes the understanding for why it is important to be done and therefore will more likely be done. (1, 2, 4) only communicate the need to perform a task. They do not provide rationale for the task to promote understanding of the importance of the task.
2. (**3**) is correct. Evidence-based nursing care that has been evaluated as appropriate for an agency provides the best and safest patient care. (1) Opinions may not be based on

evidence. (2) Specific evidence-based nursing interventions will not be found in orientation policies that familiarize the orientee with the organization. (4) A nursing program's content has not been evaluated by the health-care agency for its feasibility for the agency's patients, which is a step in the evidence-based practice process.

3. (**2**) is correct. Joanna Briggs Institute evidence-based resource is dedicated to identifying valid nursing evidence. (1, 3, 4) do not reflect the highest levels of evidence, so they are not considered the best sources of evidence.
4. (**4**) is correct. The proposed change will need to go through the policy and procedure committee for evaluation for feasibility of using it at the agency. (1, 2, 3) do not follow appropriate protocols for the evidence-based practice process.
5. (**1**) Systematic reviews of randomized controlled trials are the best place to look for evidence. (2, 3, 4) are not Level I sources of evidence.
6. (**1, 3, 4, 5, 6**) are all independent nursing interventions because no health-care provider's order is required. (2) is a dependent function because it requires a health-care provider's order.
7. (**4, 6**) represent Level I research. (1, 2, 3, 5) are not systematic reviews or more than three randomized controlled trials of good quality with similar results.
8. (**1, 3, 5, 6**) are correct because the evidence-based practice process involves "ASKMME": ask, search, think, measure, make it happen, and evaluate. (2, 4) are not steps in the process.
9. (**1**, **2, 5, 6**) are correct. Research supports they are best practice for oral care. (3, 4) are not best practice for oral care. They do not remove plaque and only freshen the mouth.
10. (**4**) is correct. The search should be narrowed to include keywords of the focus of the question. (1, 2, 3) do not narrow the search in order to focus only on the question being asked.

# Answers

## CHAPTER 3
## ISSUES IN NURSING PRACTICE

### AUDIO CASE STUDY

#### Jim and the Health-Care System

1. The use of information technology in nursing practice
2. Ambulation, teaching leg exercises to prevent blood clots, and using sterile technique to prevent surgical site infections
3. To avoid violating the Health Insurance Portability and Accountability Act (HIPAA)

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**3**)
2. (**1**)
3. (**4**)
4. (**2**)
5. (**8**)
6. (**5**)
7. (**6**)
8. (**7**)
9. (**10**)
10. (**9**)

### NURSING PRACTICE AND ETHICAL AND LEGAL PRINCIPLES

1. abbreviations, confused, crushing, long-term, tall
2. state, protect, quality
3. Veracity
4. beneficence, fidelity, justice
5. knowledgeable, role, humor, respect

### VALUES CLARIFICATION

*There are no correct answers to this section. This is an exercise requiring personal responses.*

### CLINICAL JUDGMENT

*There are no correct answers to this section. This is an ethical exercise that has many choices to be considered for the best outcome for the patient.*

### REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. (**1, 3, 4, 5, 6**) are correct. Human-trafficking awareness requires vigilance by everyone. Robotic use, such as in surgery or to disinfect patient areas, is increasing. The older adult population is growing and will require more complex health care. Multidrug-resistant infectious organisms provide challenges and research opportunities. Telehealth use is increasing via smartphones, apps, tablets, remote patient monitoring, and online video conferencing. (2) The increase in cultural diversity requires care to meet all cultural needs.
2. (**1, 2, 3, 5, 6**) are correct. Assessment of conditions present on admission and all care and education to prevent complications, including patient refusal to participate, must be documented during hospitalization to ensure the agency is paid for care for a secondary diagnosis. (4) Encouragement to participate in preventive interventions should be done. It should not be presented as optional for the patients' safety.
3. (**4, 5, 6**) are correct. Ambulating a patient, administering medications, and obtaining vital signs are within the LPN/LVN's scope of practice. (1, 3) Assessing and developing the plan of care are within the RN's scope of practice. (2) Delegation does not occur up the supervision line to an RN; it occurs downward to assistive personnel.
4. (**3**) is correct. Upon presentation of an idea, an autocratic leader will make a decision using their own knowledge. (1, 2, 4) Autocratic leaders do not seek input to make decisions.
5. (**2**) is correct. LPNs/LVNs consult with RNs in caring for their patients. (1, 3, 4) Conducting interviews, evaluating other staff, and supervising professional staff are not within an LPN/LVN's job description.
6. (**2**) is correct. Because the patient is an adult, the nurse acts on fidelity and protects the patient's personal health information. (1) The only person who can inform the mother is the adult patient. (3, 4) The nurse does not provide false information to the mother and tells the mother to talk to her child, who can decide how to answer the mother's questions.
7. (**4**) is correct. When patients refuse treatment, it can be a dilemma related to life and death. However, if patients are given correct information and understand the

consequences of their actions, it is their choice to refuse treatment. (1) Does not convey the use of therapeutic communication and is not within the nurse's scope of practice to discuss the treatment regimen. (2) It is never okay to coerce patients with fear or make them feel bad about their decision. (3) The nurse cannot state with certainty when death will occur, so stating that it will occur is not appropriate.

8. (**4**) is correct. If the patient has a valid advance directive and the health-care provider uses a deontological perspective (i.e., do what's right) and supports autonomy (i.e., the patient's wishes), then a feeding tube will not be inserted. (1) This is not the patient's wishes, so it should not be done. (2) The advance directive conveys the patient's wishes for the patient's current status, so it is not necessary to perform an EEG to carry out these wishes. (3) This does not necessarily mean that the advance directive stated not to insert a feeding tube.
9. (**4**) is correct. Utilitarianism supports decisions based on the best outcome for the greatest number of people. (1, 2, 3) do not support the nurse's reply.
10. (**1**) is correct. A resident who is asking to die may be feeling depressed, especially when missing family. It is a good idea to try to understand more about how the resident is feeling. (2) It is never okay to medicate the resident to "numb" these feelings. (3) While getting such residents involved in activities may be helpful, it is not therapeutic to minimize their feelings. (4) The nurse is not in the same situation as the resident and cannot truly understand the resident's feelings.
11. (**2, 3, 5**) are correct. Institutional policies outline the proper manner for performing certain tasks and procedures for employees who must comply with them; local nursing standards of care identify the degree of prudence and caution required for proper nursing practice; state nurse practice laws outline the scope of practice in a given state that nurses must abide by when practicing under license in that state. (1, 4) National ethics and standards do not directly guide a nurses' performance of tasks within an institution or locality.
12. (**1, 3, 4, 5, 6**) are correct. All are ways to limit liability. (2) Breaching the duty of care increases liability.
13. (**3**) is correct. HIPAA requires protection to ensure the privacy of personal health information. (1, 2, 4) HIPAA does not relate to licensure requirements, work conditions, or insurance coverage.
14. (**1, 2, 3, 6**) are correct. See Box 3-2. (4) Victims are poor historians, if their controller even allows them to answer questions. (5) Victims often have no identification to provide.
15. (**3**) is correct. The nurse–patient relationship is based on trust that the nurse will maintain all patients' rights. (1) is a legal issue. (2) is a constitutional right, not an ethical issue. (4) is not an ethical principle.
16. (**3**) is correct. Paternalism occurs when a health-care provider tries to prevent patients from making autonomous decisions or decides what is best for patients without regard for their preferences. (1) The nurse might be nonresponsive about the purpose of the medication due to lack of knowledge, but there are no indications that this is true. (2) Advocacy supports providing the medication information so that the patient is informed to make autonomous decisions. (4) Telling the patient not to worry is not therapeutic communication, as it does not address the patient's concerns.
17. (**1**) is correct. Knowing the patient's wishes helps the nurse advocate for and act in the best interest of the patient. (2, 3, 4) are not the wishes of the patient.
18. (**1, 2, 5, 6**) are correct. These are all part of the five steps of delegation. (3) In delegation, it is the right person, not the right patient, that is to be considered. (4) The right route relates to medication administration.
19. (**1, 2, 3, 4**) are correct. The patient is likely a victim of human trafficking. After completing data collection (ideally but unlikely in private), suspicions should be reported to the health-care team and then local law enforcement should be called. (5) Confrontation should not occur for the safety of all. (6) The patient should not be alerted to impending assistance, as this might also alert the human trafficker.
20. (**1, 3, 4, 5, 6**) are correct. These techniques have been shown to reduce medication distractions and errors. (2) is a distraction that could result in a medication error.

# Answers

## CHAPTER 4
## CULTURAL INFLUENCES ON NURSING CARE

### AUDIO CASE STUDY

### Dan and Cultural Assessment

1. Mrs. Basiouny did not want a male caregiver to bathe her or provide her personal care. She wanted her husband to be present during the health history. She did not like touch but did respond to eye contact. She preferred her own traditional foods.
2. Patients can appear noncompliant when in reality they are not receiving culturally appropriate care.
3. Assess and learn from each patient and avoid stereotyping.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**2**)
2. (**10**)
3. (**3**)
4. (**11**)
5. (**4**)
6. (**1**)
7. (**8**)
8. (**5**)
9. (**7**)
10. (**6**)
11. (**12**)
12. (**9**)

### CULTURAL CHARACTERISTICS

1. Primary characteristics of culture include nationality, race, skin color, gender, age, spirituality, and religious affiliation.
2. Secondary characteristics of culture include socioeconomic status, education, occupation, military status, political beliefs, length of time away from one's country of origin, urban versus rural residence, marital status, parental status, physical characteristics, sexual orientation, and gender issues.
3. Traditional health-care providers are practitioners from a patient's native culture. They are typically native to another country, although they may practice in the United States.
4. Present-oriented people accept the day as it comes with little regard for the past and see the future as unpredictable. Past-oriented people may worship ancestors. Future-oriented people anticipate a 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 for these sections. These are exercises requiring personal responses.*

### CRITICAL THINKING: BATHING

1. In some cultures, 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 patient.
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 the best option.

### REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. (**4**) is correct. Tay-Sachs disease is an inherited disease most common among people of Eastern European Jewish (Ashkenazi) heritage. (1, 2, 3) are incorrect.
2. (**3**) is correct. Ethnocentrism is the tendency for human beings to think that their culture's ways of thinking, acting, and believing are the only right, proper, and natural ways. (1, 2, 4) are incorrect.
3. (**1**) is correct. Hispanic (Latinx) Americans and American Indians generally have a higher glucose level than whites. They also have a higher-than-average risk of diabetes. (2) is incorrect.
4. (**3**) is correct. Initially you must assess what the family's food practices are before an eating plan can be set up. (1) Giving a patient who has just moved to the United States an exchange list of foods does not ensure the patient will change dietary practices. (2) Being able to calculate

carbohydrates does not respect the family's cultural preferences. (4) Although this is certainly an option for the future, the initial step is to obtain a dietary assessment.

5. (**4**) is correct. Patients can have religious counselors visit as long as the counselor does not do anything to interfere with treatment or cause a safety problem. (1) It is not necessary to get the supervisor's permission. However, it is a good idea to let the supervisor know that a religious counselor is going to visit. (2) Religious counselors are allowed to visit. (3) The patient has the right to see a religious counselor.
6. (**4**) is correct. Extended family may be very important to members of some cultures, and it may help these patients to have them nearby. (1) Large numbers of family members in the cafeteria may cause further disruption in the cafeteria. (2) Large groups in the lobby may cause overcrowding for other families. (3) All family members should be allowed to visit. It may help to have them choose a spokesperson to control visiting for this patient.
7. (**2**) is correct. Reducing portion size decreases the overall calorie and fat consumption but will still allow the patient to cook and enjoy traditional foods in her culture. (1) Telling a patient to not purchase lard does not mean she will comply. (3) Rarely does a person bake two separate pies. The goal is to reduce overall fat and calorie consumption. (4) It is inconsistent with the goal of reducing fat and calories.
8. (**2**) is correct. The patient must make her own decision, but she should be fully aware of the consequences. (1) Scare tactics are not appropriate; she may live whether she receives radiation therapy or not. (3) It borders on harassment by the staff. (4) Radiation therapy may be the best choice for this type of cancer.
9. (**2**) is correct. Changing the schedule slightly is preferable to omitting the medication. (1) Blood levels can be maintained on a different schedule, as long as the doses are reasonably spread out. (3) Omitting the medication will alter blood levels. (4) It does not respect the patient's religious beliefs.
10. (**3**) is correct. This response seeks to discover the patient's past spiritual practices. (1) Questionnaires are not appropriate when assessing a patient's spirituality. (2) Although it is important to be self-aware of one's own spirituality and beliefs, it is not appropriate to share those beliefs with patients when they can cause distress, as in this case. (4) "Why" questions tend to feel critical and attribute blame.

# Answers

## CHAPTER 5 COMPLEMENTARY AND ALTERNATIVE MODALITIES

### AUDIO CASE STUDY

### Susan and Complementary Therapy

1. Complementary modalities are added on to traditional therapies. Alternative modalities are used instead of traditional therapies.
2. Susan used biofeedback, progressive muscle relaxation, and imagery.
3. Patients should learn everything they can about a therapy before trying it. They should find information from reliable sources—not dot-com websites that are selling products. Before trying something new, patients should check with their health-care providers to make sure there are no interactions or contraindications.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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 5-1 in textbook.

### CRITICAL THINKING

1. Feverfew is used for migraine headaches.
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. An excellent resource is www.nccih.nih.gov/health. A pharmacist knowledgeable in herbs and herb–drug interactions, as well as the health-care provider, should be consulted. Additionally, it is always wise to consult with your health-care practitioner before adding herbal therapies.
5. "Mrs. Lawless, I am concerned that these 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

*The correct answers are in **boldface**.*

1. (**4**) is correct. Progressive muscle relaxation is being added to a traditional therapy, making it complementary. (1) Inhalers and oral medications are both traditional therapies for asthma. (2) Cardiac rehabilitation is a traditional therapy. (3) would be considered an alternative modality because echinacea is being used in place of a traditional therapy.
2. (**1**) is correct. Warm and cold compresses would be considered an alternative modality because they are used in place of NSAIDs. (2) Because chemotherapy is still being used, the addition of the spiritual healer would be considered complementary. (3) Antibiotics and bronchodilators are both traditional medical therapies. (4) Aspirin is a 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 studies to be potentially effective against colds and viruses. (2) Feverfew is used for headaches and inflammation, among other things. (3) Chamomile is used for anxiety. (4) Ginger is used for nausea.
5. (**1, 2, 6**) are correct. Energetic modalities include biofeedback, magnet therapy, Reiki, spiritual healing, and therapeutic touch. (3, 5) Music therapy and yoga are mind–body therapies. (4) Heat/cold is considered a miscellaneous therapy and is not designed to alter energy fields.
6. (**4**) is correct. The patient should keep the 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 the patient that a chiropractor is not trained or qualified to do surgery.

8. (**2**) is correct. The health-care provider can help determine which alternative modalities are safe. (1) Any therapy can be potentially safe or unsafe. (3) Many alternative modalities are safe when used correctly. (4) Alternative and complementary modalities 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 modality.
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 the health-care provider. (1) Ginseng can lower glucose, but it should not be encouraged without health-care provider approval. (2) While the patient may check out a website before taking the ginseng, she must be educated while she is still in the hospital. (3) It might be safe to take some herbal agents with the prescribed medications; the patient needs to understand how to exercise caution.

# Answers

## CHAPTER 6
## NURSING CARE OF PATIENTS WITH FLUID, ELECTROLYTE, AND ACID–BASE IMBALANCES

### AUDIO CASE STUDY

#### Grandma Lois Is Dehydrated

1. Grandma Lois was lethargic and had altered mental status; low-grade temperature; concentrated urine; dry, sticky mucous membranes; tachycardia; and poor skin turgor.
2. Shortness of breath with elevated respiratory rate, crackles in lungs, and edema.
3. Older adults have a lower percentage of body water to begin with and so are more easily dehydrated than younger people. Their kidneys also do not work as efficiently as younger people's kidneys do.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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/LVN 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 the nurse 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 taking **daily weights** because this is the most accurate way to monitor fluid balance.

### 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 can 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/LVN can do the following: 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. Because Mr. James was admitted with bronchitis, it is probably unrealistic to expect his lungs to clear completely. 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 the ability to walk to the bathroom again without excessive shortness of breath.

### REVIEW QUESTIONS

*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. (**1**) is correct. Antidiuretic hormones retain water. (2, 3, 4) do not affect water balance.

3. (**2**) is correct. Deli meats are high in sodium. (1, 3, 4) are not high in sodium.
4. (**3**) is correct. Potatoes are high in potassium. (1, 2, 4) are not high in potassium.
5. (**2**) is correct. Fluid gains and losses are evidenced in weight gains and losses. (1, 3, 4) are all ways to monitor fluid balance, but they are not as reliable. Intake and output may be inaccurate, vital signs may be affected by other factors, and measurement of skin turgor is subjective.
6. (**2**) is correct. Vomiting, 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 and hematocrit levels. Temperature often increases in cases of dehydration but may not be apparent in older people who often have a lower normal body temperature than younger people. (1) Hypervolemia, or overhydration, is the opposite of dehydration. Excess fluid may result in (3) edema in the lower extremities and elevated blood pressure; increased rate of respiration; pale, cool skin; and diluted urine. (4) Hyponatremia, or low sodium level, may occur with dehydration but can be confirmed only by laboratory tests. In any case, the fluid imbalance must be assessed and treated first.
7. (**2**) is correct. Failing kidneys cannot effectively excrete water, making the patient at risk for overload. (1, 3, 4) 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, 3, 4) 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. (4) The patient needs calcium, not protein.
11. (**2**) is correct. The patient 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, 3, 4) all help increase oxygenation, which is not needed at this time.
12. (**2**) is correct. Hypoventilation related to lung disease leads to retention of carbon dioxide, which causes acidosis. (1) Hyperventilation causes alkalosis. (3) Loss of acid causes alkalosis. (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. (1, 2, 5) are incorrect.

# Answers

## CHAPTER 7
## NURSING CARE OF PATIENTS RECEIVING INTRAVENOUS THERAPY

### AUDIO CASE STUDY

### Mrs. Andrews's Complications of IV Therapy

1. Gloves, chlorhexidine pads, a tourniquet, various sizes of cannulas, tape, a transparent dressing, intravenous (IV) tubing, a pole, and IV solution bag
2. The indirect method is useful for small, rolling veins.
3. Mrs. Andrews has heart failure and cannot tolerate rapid fluid infusions.
4. Mrs. Andrews gained 6 pounds, is edematous, is short of breath, and has basilar crackles.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**1**)
2. (**6**)
3. (**7**)
4. (**2**)
5. (**5**)
6. (**8**)
7. (**4**)
8. (**3**)

### COMPLICATIONS OF IV THERAPY

1. phlebitis
2. local infection
3. extravasation
4. circulatory/fluid overload
5. infiltration
6. sepsis/septicemia
7. venous spasm
8. venous air embolism

### CLINICAL JUDGMENT

1. Begin by observing the infusion site. Look for redness and signs of infiltration (e.g., 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 IV is simply "positional." Check the tubing for kinks and the clamp to be sure it is open. You can correct kinks or positioning without consulting the RN. Don't open the clamp without checking with the RN—it could be closed for a reason. If the infusion is still not running, consult with the RN; the catheter may be occluded with a fibrin or blood clot. The catheter may need to be discontinued.
2. **S**: "Mr. Livesay's IV fluids were not running. His site looks edematous and is cool to the touch."
   **B**: "He needs his IV antibiotic in 30 minutes."
   **A**: "I think it is infiltrated."
   **R**: "Will you confirm my findings? I can place a new cannula if you agree."

### CALCULATION PRACTICE

1. $\frac{83\text{ mL}}{1\text{ hour}} \mid \frac{1\text{ hour}}{60\text{ minutes}} \mid \frac{15\text{ gtt}}{\text{mL}} = \frac{21\text{ gtt}}{\text{minute}}$

2. $\frac{50\text{ mL}}{20\text{ minutes}} \mid \frac{10\text{ gtt}}{\text{mL}} = \frac{25\text{ gtt}}{\text{minute}}$

3. $\frac{1\text{ L}}{12\text{ hours}} \mid \frac{1{,}000\text{ mL}}{1\text{ L}} = \frac{83\text{ mL}}{\text{hour}}$

4. $\frac{800\text{ units}}{1\text{ hour}} \mid \frac{500\text{ mL}}{50{,}000\text{ units}} = \frac{8\text{ mL}}{\text{hour}}$

5. $\frac{1{,}000\text{ mL}}{24\text{ hours}} \mid \frac{1\text{ hour}}{60\text{ minutes}} \mid \frac{60\text{ gtts}}{\text{mL}} = \frac{42\text{ gtt}}{\text{minute}}$

### REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**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) Speed shock is a result of injecting medication too quickly
2. (**3**) is correct. Leakage of intravenous fluid into tissues causes puffiness. (1, 2, 4) indicate infection or inflammation.
3. (**1**) is correct. Phlebitis, an inflammation of a vein, has signs and symptoms of redness, warmth, swelling, and pain at the infusion site. (2) Thrombosis is manifested

by a slowed-to-stopped infusion, fever, and malaise. (3) Hematoma is evidenced by swelling and bruising. (4) Signs of infiltration are swelling and a resistance or inability to advance or flush the catheter.

4. (**4**) is correct. A peripherally inserted central catheter (PICC) is inserted in the arm and terminates in the central circulation. (1, 2, 3) are incorrect.
5. (**1, 5**) are correct. A young patient with an infection likely can drink fluids. Fluid overload could be worsened in an 82-year-old with the use of continuous fluids. (2, 3, 4) are incorrect. All would benefit from continuous fluid administration.
6. (**2**) is correct. Intravenous medications act rapidly because they are instantly in the bloodstream. (1) Furosemide (Lasix) can be given orally. (3) Intravenous dosing is not necessarily more accurate. (4) Oral furosemide does not cause more side effects.
7. 125 mL/hour

$$\frac{1{,}000 \text{ mL}}{8 \text{ hours}} = \frac{125 \text{ mL}}{\text{hour}}$$

8. 50 drops per minute

$$\frac{50 \text{ mL}}{1 \text{ hour}} \left| \frac{1 \text{ hour}}{60 \text{ minutes}} \right| \frac{60 \text{ gtt}}{1 \text{ mL}} = \frac{50 \text{ gtt}}{\text{minute}}$$

9. (**2**) is correct. An occlusion may be caused by a kink or closed clamp. (1) There is no need to notify the health-care provider. (3) Flushing can dislodge a blood or fibrin clot into the patient's bloodstream. (4) This would require an order from the health-care provider.
10. (**4**) is correct. Placing the patient in the left-lying Trendelenburg position encourages the air bubble to enter the right atrium until it slowly absorbs. (1, 2, 3) are all correct but should not be done until the patient is positioned.
11. (**3**) is correct. The maximum rate for a subcutaneous infusion is 62 mL per hour. (1) Sodium chloride is appropriate. (2) The scapular area is appropriate. (4) an electronic infusion device is not essential.

# Answers

## CHAPTER 8
## NURSING CARE OF PATIENTS WITH INFECTIONS

### AUDIO CASE STUDY

### Tesha and Treating Patients With Infections

1. It is hard to treat, has a high mortality rate, and affects mainly older adults and the chronically ill.
2. The assumption that all patients and their body fluids and substances are infectious regardless of their diagnosis.
3. Direct or indirect contact.
4. Tesha washes her hands; when she gets home, she puts her uniform in the washing machine and steps into the shower. Afterward, she cleans her shoes and stores them in a container.
5. **S**: Patient, 78, has methicillin-resistant *Staphylococcus aureus* (MRSA).
   **B**: Patient has multiple comorbidities that increased susceptibility to MRSA.
   **A**: Standard and contact precautions are being used to protect other patients and the staff.
   **R**: Continue to utilize standard and contact precautions when caring for patients.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

**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.

***Clostridioides difficile (C. diff)***

Definition: A gram-positive bacteria normally found in the intestine that can multiply and release toxins that cause diarrhea after antibiotic therapy that disrupts the microbiota.

**Hand hygiene**

Definition: Cleansing of the hands with hand washing or 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: Life-threatening organ dysfunction caused by dysregulated host response to infection.

**Virulence**

Definition: The ability of the organism 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. (**4**)
2. (**4**)
3. (**3**)
4. (**4**)
5. (**2**)
6. (**2**)
7. (**3**)
8. (**2**)
9. (**3**)
10. (**1**)

### PATHOGENS AND INFECTIOUS DISEASES

1. staphylococci
2. fungi
3. *Candida albicans*
4. Epstein-Barr
5. pneumonia (histoplasmosis)
6. toxoplasmosis

7. protozoa
8. *Clostridioides difficile*
9. viruses
10. rickettsia

## CRITICAL THINKING AND CLINICAL JUDGMENT

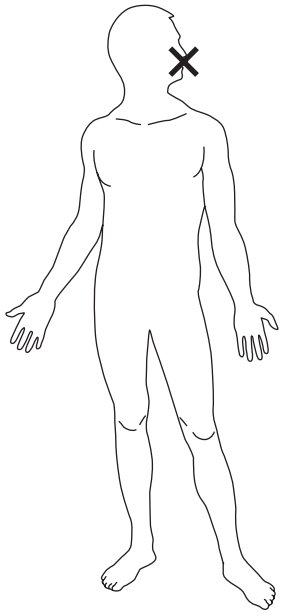
1. Mask, gown, gloves, a sign reading "Contact Precautions," soap and paper towels, special bags for linen and trash.
2. Disposable thermometer, blood pressure cuff, stethoscope, grooming items, bedpan, bathing equipment, and sharps container that all remain in the room. Nondisposable intravenous (IV) equipment such as a controller pump and any other equipment needed for the care of the patient must be able to be disinfected.
3. *C. diff*
4. Because visitors are limited, the patient has few social contacts and may lack a support system. Environmental stimuli are limited. Activities are limited. Patient is dependent on others for some needs due to confinement.
5. Bundle as many interventions together as possible to complete at the same time to conserve PPE. Ensure that all the necessary supplies are available prior to room entry to prevent having to leave the room to obtain them.
6. Always answer call light promptly. Allow visitors as appropriate and instruct them on how to implement isolation precautions and wear appropriate PPE. Encourage contact via telephone or technology 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 and things the patient likes to do, such as TV or reading books.

## REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. (**3**) is correct. Hand hygiene is essential to help prevent transmission of infectious organisms (1, 2, 4) are not the most important actions.
2. (**2, 4, 5**) are correct. Applying lotion to skin, the first line of defense, prevents dryness and cracking. Repositioning and keeping skin clean and dry prevents skin breakdown. (1, 3) do not apply to the health of the skin.
3. (**4**) is correct. Health care–associated infections result from care received from health care facilities. (1) the patient's infection occurred prior to hospitalization. (2) is due to a sexually transmitted infection that is not related to receiving health care. (3) is a chronic infection in a person who is at home, not in a health care agency.
4. (**4**) is correct. Vancomycin is the treatment of choice for methicillin-resistant *Staphylococcus aureus* (MRSA). (1, 2, 3) are incorrect. They are not used to treat MRSA.
5. (**3**) is correct. An elevated low-grade temperature when immunocompromised (neutropenia) can be very significant and is the priority to report. (1, 2, 4) are not the greatest priority to report.
6. (**2, 3, 5, 6**) are correct. Stethoscopes can be contaminated with harmful organisms and should be cleaned before and after each patient use. Hand hygiene before and after patient contact is considered the most important method of infection prevention. Patient hand hygiene is often overlooked as a key link in preventing health care–associated infection. It should be done after toileting, before meals, when handling own secretions, upon return to own room, and throughout the day as needed. (1) Hands cannot be sterilized. (4) Gloves are worn only during certain procedures when the caregiver is likely to come in contact with blood or body fluids. Even when gloves are worn, hand washing before and after wearing the gloves is essential for infection control.
7. (**1, 5**) are correct. All patient allergies must be checked before a medication is given to prevent an allergic reaction. The wound culture must be obtained before antibiotic therapy is started to accurately detect the pathogen to treat. (2, 3, 4) These items are not related to giving the antibiotic.
8. (**1, 5**) are correct. COVID-19 and tuberculosis are transmitted by airborne transmission, and anyone entering the room of a patient who has one of these diseases must wear a fit-tested high-efficiency particulate air (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. (2, 3, 4) are not transmitted by air.
9. (**5, 6**) are correct. The only way to obtain a sterile specimen is to catheterize the patient, and the specimen must be placed into a sterile specimen container. (1, 2, 3, 4) are incorrect because any voided specimen is contaminated and not sterile.
10. (**1**) is correct. Urinary catheters are a cause of health care–associated infections and should be avoided if possible. (2, 3, 4) do not prevent infection, and restricting fluids may promote dehydration and infection.
11. (**4**) is correct. A high fever indicates that the patient has likely 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**) is correct. A culture identifies pathogen presence. (2) A drug level or peak and trough would measure antibiotic levels. (3) A sensitivity report would indicate which pathogens are sensitive to certain antibiotics. (4) Dosage is not determined by a culture.
13. (**2, 4, 5**) are correct. Irritability, restlessness, and pacing behavior can be signs of infection in an older adult. (1, 3, 6) are not signs of infection.
14. (**2**) is correct. Sterile water should be used instead of tap water for an immunocompromised patient to prevent infection. (1, 3, 4) are appropriate actions, so they would not require further instruction.

15. (**3**) is correct. Maintaining a closed urinary drainage system is essential to prevent contamination. (1, 2, 4) are not the most important actions to take to prevent a urinary tract infection although they should be done.
16. (**1**) Take all of the medication as ordered to help prevent relapse and development of bacterial resistance. Do not stop it early unless instructed to do so. (2) Medication should only be used at the time it was prescribed, as it may not be exactly the same condition and the medication could expire. (3) To prevent resistance from developing, it is essential to take the full prescription as ordered. (4) Taking half the prescribed dose of medication may not cure the infection. If financial assistance it needed, a referral can be made.
17. The most essential personal protective equipment, a fit-tested disposable respirator is worn by the nurse prior to entering the room of a patient with tuberculosis.



# Answers

## CHAPTER 9
## NURSING CARE OF PATIENTS IN SHOCK

### AUDIO CASE STUDY

#### José and Anaphylactic Shock

1. Use the thumbnail or a credit card to brush the stinger away, being careful not to pinch it and push more venom into the body. Yes, José performed it properly.
2. There may be an allergy to bees now after sensitization from a prior sting.
3. A subsequent insect sting could cause more severe anaphylactic symptoms. If symptoms occur, José can give himself an auto-injection of epinephrine. Since its effects may work for only a short time, seeking medical care is urgent.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. acidosis
2. anaerobic
3. anaphylaxis
4. arrhythmia
5. cardiogenic
6. cyanosis
7. tachypnea
8. oliguria
9. tachycardia
10. hypoperfusion

### MATCHING

1. (**2**)
2. (**1**)
3. (**3**)
4. (**2**)
5. (**2**)

### SIGNS AND SYMPTOMS OF SHOCK STAGES

| Signs/Symptoms | Stages | | |
|---|---|---|---|
| | ***Compensated*** | ***Progressive*** | ***Irreversible*** |
| Heart rate | Tachycardia | Tachycardia over 150 beats/min | Slowing |
| Pulses | Bounding | Weak, thready | Absent |
| Systolic blood pressure | Normal | Below 90 mm Hg<br>In hypertensive patient, 25% below baseline | Below 60 mm Hg |
| Diastolic blood pressure | Normal | Decreased | Decreasing to 0 |
| Respirations | Increased rate, deep | Tachypnea, crackles, shallow | Slowing, irregular, shallow |
| Temperature | Varies | Decreased, can rise in septic shock | Decreasing |
| Level of consciousness | Anxious, restless, irritable, alert, oriented, sense of impending doom | Confused, lethargic | Unconscious, comatose |
| Skin and mucous membranes | Cool, clammy, pale | Moist, cold, clammy, pale | Cyanosis, mottled, cold, clammy |
| Urine output | Normal | Decreasing to less than 20 mL/hr | 15 mL/hr decreasing to anuria |
| Bowel sounds | Normal | Decreasing | Absent |

## PRIORITIZATION

1. (**4, 2, 5, 6, 1, 3**) is the correct order. Use the Maslow hierarchy of human needs as a guide. (4) Airway is considered first and (2) then oxygen; (5) determining vital signs will guide further treatment; (6) intravenous fluids are needed to replace lost fluid in hypovolemic shock, so ordered intravenous fluids need to be monitored and maintained; and (1) urine output monitoring will help guide treatment. (3) is not the priority at this time until the patient is stabilized.
2. (**4**) These vital signs indicate progressive shock and require immediate intervention.
3. Suggested CUS: I'm **c**oncerned about Miss Serino's vital signs. I am **u**ncomfortable with her status. I believe she is not **s**afe and that something serious is occurring to make her vital signs abnormal.

## CLINICAL JUDGMENT

1. Stage of shock: Irreversible
   Category of shock: Hypovolemic
   Initial action: Notify health-care provider (HCP) and aid volume restoration by monitoring IV infusion.
2. Stage of shock: Compensated
   Category of shock: Septic
   Initial action: Notify HCP, apply and monitor oxygen per parameters
3. Stage of shock: Progressive
   Category of shock: Cardiogenic
   Initial action: Stop IV infusion now, then notify HCP

## REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. (**2**) is correct. 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, 3, 4, 5**) are correct. When teaching the older patient, include family/caregivers to reinforce learning later, have reading materials available in large print, face the patient, and speak slowly in a lower tone to increase understanding of spoken words. (2) High-pitched tones are often the first to be lost, so lowering the tone aids understanding.
3. (**2**) is correct. Increasing blood pressure indicates the shock is improving. (1, 3, 4) are signs of ongoing shock.
4. (**1**) is correct. It is a 25% decrease in systolic blood pressure from baseline for this patient, who normally is hypertensive. (2, 3, 4) are not a 25% decrease in systolic blood pressure from baseline.
5. (**2**) is correct. The goal is to increase understanding when knowledge is deficient. (1, 3, 4) are not related to knowledge.
6. (**3**) is correct. Notify the HCP immediately because the patient is hypovolemic and could need intravenous fluids. (1) This weight loss after dialysis is to be expected. (2) Resting is not the priority at this time. (4) The patient requires intervention now with more frequent monitoring.
7. (**2**) is correct. Elevated creatinine indicates possible acute kidney injury. (1, 3, 4) are normal or near normal and not indicative of a problem.
8. (**2**) is correct. The pulse elevates to compensate for decreasing cardiac output in compensated shock and is therefore the earliest indication of shock from these options. (1, 3, 4) are found in progressive shock and would be seen later than tachycardia.
9. (**1**) is correct. It is of highest concern because it is a symptom of progressive shock. (2, 3, 4) are found in compensated shock.
10. (**3**) is correct. Inform the registered nurse so the intravenous rate can be increased while the HCP is being notified because the patient is hypovolemic. (1) The patient needs immediate treatment intervention which monitoring does not provide. (2, 4) can worsen the condition.
11. (**4**) is correct. It increases blood pressure. (1) increases heart rate. (2) decreases heart rate and strengthens cardiac contractions. (3) vasodilates which decreases blood pressure.
12. (**1, 2, 6**) are correct. Wheezing, urticaria, and bronchospasm are seen specifically in anaphylactic shock. (3) is not a sign of shock. (4) is a sign of progressive shock. (5) is a sign of compensated shock.
13. (**1, 2, 5, 6**) is correct. Symptoms of obstructive shock are similar to those of hypovolemic shock except that jugular veins are usually distended. Blood pressure is low, urine output is less than 20 mL per hour, and changes in level of consciousness, including confusion and lethargy, are seen. (3, 4) are incorrect because tachycardia and tachypnea would instead occur.
14. (**1, 3, 4**) are correct. Acute respiratory distress syndrome, disseminated intravascular coagulation, and multiple organ dysfunction syndrome are complications of prolonged shock. (2, 6) are genetic conditions. (5) is a bone marrow problem.
15. (**2, 3, 1**) is the correct order. Blood pressure decreases as shock progresses.
16. (**2**) is correct. Restlessness and confusion indicate a need for oxygen, which is started immediately per agency policy by the nurse while other prescribed treatment is prepared. (1, 3, 4) are treatments that may be prescribed but they are not as quickly implemented as oxygen can be.
17. (**4**) is correct. A blood pressure within normal range would indicate effective treatment for shock. (1, 2, 3) are all abnormal findings which indicate the shock has not been resolved.

# Answers

## CHAPTER 10
## NURSING CARE OF PATIENTS IN PAIN

### AUDIO CASE STUDY

#### Wilma Gets a Lesson in Pain Control

1. Acute pain lasts less than 3 months. Pain lasting more than 3 months would be considered chronic.
2. WHAT'S UP? Where is it? How does it feel? Aggravating and alleviating factors; Timing; Severity; Useful other data; Patient's perception.
3. With opioids, check vital signs first, especially respiratory rate. If opioids will be given for more than one or two doses, implement measures to prevent constipation. Tell the patient to expect some initial drowsiness and to avoid driving until the effects of the medication are known. Give NSAIDs with food or a snack, and report stomach pain or signs of gastrointestinal bleeding.
4. NSAIDs reduce inflammation; acetaminophen and opioids do not.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**4**)
2. (**3**)
3. (**6**)
4. (**1**)
5. (**9**)
6. (**8**)
7. (**10**)
8. (**5**)
9. (**2**)
10. (**7**)

### CULTURALLY RESPONSIVE CARE

1. (**1**) is correct. Spirituality is a key area to monitor in providing culturally responsive care. Traditional healing methods should be incorporated as much as possible.
2. Teach him how to identify if his mother is having pain and show him how to help make her more comfortable by talking and helping her to relax.
3. (**3**) is correct. Language is a cultural expression that includes both verbal and nonverbal cues. Some patients may not use the word *pain* to describe discomfort.

### CRITICAL THINKING AND CLINICAL JUDGMENT

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 registered nurse 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 a patient-controlled analgesia pump.
4. Common side effects of opioids include 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 #3 would be equal to about 2.5 mg of intravenous 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.
8. **S**: Ms. Murphy is painful since her emergency appendectomy yesterday. I gave her acetaminophen with codeine this morning, but it was not effective.
   **B:** She was on morphine yesterday, and it was effective, but the provider wants her to start using the acetaminophen with codeine. I want to get her pain under control, so I obtained a one-time order to give her the morphine. The RN gave it at 0900.
   **A:** I think we can start to wean her to acetaminophen with codeine when we get her pain controlled.
   **R:** I'd like to give her scheduled doses of acetaminophen with codeine for the rest of the day, to see if we can keep her pain controlled. Can you give her the next dose at 1300? I can also teach her some relaxation exercises when I get back from lunch.

## REVIEW QUESTIONS

*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. (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) is incorrect. 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. (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. (4) There is no evidence that laughing changes the duration of action of medications.
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. (4) The emotional and physical cause of pain is not the priority.
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. If the patient is drowsy, the nurse should evaluate vital signs to ensure safety and then contact the registered nurse or health-care provider if the patient continues to appear painful. (1, 2) If the patient is too drowsy to push the button, it is not safe for someone else to push it. (4) Increasing the dose requires a health-care provider order.
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 an alcohol user, so the nurse would be concerned by the patient's report of high alcohol use. (2, 3, 4) are incorrect.
13. (**4**) is correct. To prevent drug misuse and abuse, opioid analgesics should not be stored in common areas in the home.

# Answers

## CHAPTER 11
## NURSING CARE OF PATIENTS WITH CANCER

### AUDIO CASE STUDY

#### Michael Manages Side Effects of Chemotherapy

1. Symptoms to be vigilant for include:
   - Thrombocytopenia: Watch for bleeding, bruising, hematuria, hematemesis, blood in stool.
   - Leukopenia: Watch for signs of infection, including fever, purulent drainage, cough, sore throat, dysuria, redness, swelling.
   - Anemia: Watch for fatigue, pallor, dyspnea.
2. Because red blood cells carry oxygen and fewer red blood cells are circulating in an anemic patient.
3. Mr. Woo is at risk for infection, and the apple must be washed or peeled first. Bacteria can reside on the skin.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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 health-care provider 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 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 Delmae locate a wig or other head covering if she wishes. Assure her that her hair will grow back.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct.
2. (**3**) is correct.
3. (**1, 5, 6**) are correct. Malignant tumors are invasive, lack contact inhibition, and have defective cell communication.
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.
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) Hot 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 in 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. Washing hands frequently is an excellent way to help prevent infection in the patient at risk. Colony-stimulating factors are provided to stimulate increased production of white blood cells and reduce the length or severity of leukopenia. 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) Avoiding injections will help prevent bleeding but will do little to prevent infection. Visitors with infections should be discouraged, but the patient needs the support of family at this time. Fresh fruits and vegetables can transmit infection.
9. (**3**) is correct. Patients with bone cancer are at risk for spinal cord compression, which can cause difficulty walking.
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 all aimed at curing the patient's cancer. If cure is the goal, 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
## NURSING CARE OF PATIENTS HAVING SURGERY

### AUDIO CASE STUDY

### Alan and the Surgical Patient

1. Put name bracelet on, remove underwear as necessary, remove nail polish, remove jewelry (or tape wedding ring in place if surgery is not on extremity), remove dentures, send hearing aid and glasses with patient, record vital signs, and verify that informed consent, diagnostic tests results, and history and physical are completed and in the medical record.
2. Places the bed in its lowest position, locks the wheels, and raises the side rails for safety.
3. Alan does the following:
   - Informs patient of call button location and advises her to call if she needs something.
   - Informs the patient her call will be answered promptly.
   - Reminds the patient not to try to get up alone, as she might be dizzy or weak and fall.
   - Informs the patient that he will be checking on her frequently.
   - Assists the patient to sit on the side of the bed to dangle her legs prior to standing.
   - Puts slippers on the patient for nonslip footing.
4. Early ambulation, coughing and deep-breathing exercises, and leg exercises.
5. **S:** Mrs. Spring returned to her room after an exploratory laparotomy today.
   **B:** Mrs. Spring had abdominal pain and was scheduled for an exploratory laparotomy.
   **A:** Sleeping but arousable. Alert. Stable vital signs. Analgesic ×2. Voided per commode. Performed coughing and deep-breathing and leg exercises.
   **R:** Monitor vital signs, incision, pain level, intake and output. Provide pain management. Ambulate. Continue other exercises to prevent complications.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. Surgeons
2. perioperative
3. preoperative
4. intraoperative
5. postoperative
6. Induction
7. adjunct
8. dehiscence
9. Anesthesiologists
10. Anesthesia
11. Atelectasis
12. Debridement
13. Hypothermia
14. Evisceration
15. anesthetist

### SURGERY URGENCY LEVELS

1. (**4**)
2. (**3**)
3. (**3**)
4. (**4**)
5. (**2**)
6. (**1**)
7. (**2**)
8. (**1**)
9. (**3**)
10. (**1**)

### COMPLICATION PREVENTION

1. True.
2. False. The surgeon determines if the anticoagulant therapy is to be stopped several days before surgery, which it often is.
3. True.
4. False. The surgeon and patient must mark the site before surgery begins.
5. False. Circulatory collapse can develop if steroids are stopped abruptly.
6. False. An indwelling urinary catheter can be a source of infection. Usually it should be removed by postoperative day 2, as ordered.
7. False. Intermittent pneumatic compression devices are used to prevent blood clots.
8. True.
9. True.
10. True.

## PERIOPERATIVE NURSING DIAGNOSES AND OUTCOMES

1. Will state reduced anxiety before surgery.
2. Will demonstrate understanding of surgical information and routines before surgery.
3. Will remain free from injury.
4. Will report pain is relieved to satisfactory level within 30 minutes of report of pain.
5. Will remain free from infection at all times.

## PRIORITIZATION

Prioritization and Rank: B, D, A, C

### Rationale

Patient B could be hemorrhaging from the tonsillectomy since intake was a clear liquid and not red to tinge the emesis. Prompt notification of the health-care provider (HCP) is a priority to identify hemorrhage, provide treatment, and prevent shock.

Patient D's urine should be inspected to ensure that the amount of bleeding is not greater than what is expected after a cystoscopy. If the bleeding is heavier than tinging the urine, the HCP should be informed, as the patient could be hemorrhaging.

Patient A requires coordination with an outside agency, which may take time to complete. The process should be started now so the patient can be discharged on time.

Patient C's ambulation can be delegated to the nursing assistant. Then later the discharge instructions can be reviewed.

## CRITICAL THINKING AND CLINICAL JUDGMENT

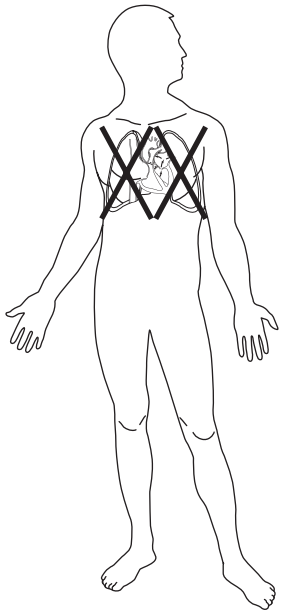
1. For nursing interview, diagnostic testing, anesthesia interview, and preoperative teaching to ensure the patient is in the best possible condition for surgery.
2. Laboratory tests, including blood glucose, creatinine, blood urea nitrogen (BUN), electrolytes, complete blood count (CBC), international normalized ratio (INR)/prothrombin time (PT), partial thromboplastin time (PTT), bleeding time, type and screen, and urinalysis; oxygen saturation, electrocardiogram (ECG), and chest x-ray.
3. Explain what is to be done in preadmission testing; 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 for care signed, preoperative checklist; intravenous (IV) line insertion, medications, surgery, perianesthesia care unit (PACU) and family waiting locations, surgery time frames; and postoperative care: pain control, deep breathing and coughing, leg exercises, activity, leg abduction.
4. Explain admission procedures to patient and families; verify informed consent has been signed and preoperative checklist is completed; insert IV; and administer ordered medications. Review postoperative expectations.
5. Greets the patient; verifies patient's name, age, and allergies; verifies the surgeon performing the surgery, that consent has been given, and the surgical procedure, especially right or left when applicable; confirms medical history; answers questions; and alleviates anxiety. Explains what to expect in surgery (e.g., "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").
6. Licensed practical nurses/licensed vocational nurses (LPN/LVNs) can scrub in for surgery to hand instruments to the surgeon. The LPN/LVN must know sterile technique, surgical instruments, and the medications placed in the sterile field for use during surgery.
7. Maintain the patient's airway and ensure patient safety to prevent injury while the patient emerges from anesthesia and becomes alert and oriented per their baseline.
8. 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 and incentive spirometer use prevent atelectasis and pneumonia. Leg exercises and ambulation prevent thrombophlebitis.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3**) is correct. The LPN/LVN can offer emotional support as needed to patients and families. (1) is the role of the registered nurse. (2, 4) are the roles of the health-care provider.
2. (**4**) is correct. The nurse witnesses the patient's signature to verify that it was the patient who signed the consent after informed consent was provided by the health-care provider. (1, 2, 3) are not the role of the nurse and are not indicated by the witnessing of the consent.
3. (**2**) is correct. Patient is kept free from all forms of accidental injuries. Sources of injury can include equipment, chemical, and electrical hazards; errors in patient and surgical site identification; and pressure injuries. (1, 3, 4) are preoperative outcomes.
4. (**2, 3, 4, 5**) are correct. To be discharged from the perianesthesia care unit, temperature must be in normal range, vital signs must be in normal range and stable, there can be no excessive bleeding, and patient must be awake. (1) Oxygen saturation must be above 90%.
5. (**3, 5, 6**) are correct. The patient and a responsible adult must understand discharge instructions before discharge, which include an order to rest for 24 to 48 hours. (1) Patients cannot drive home. (2) Patient does not need to have a landline phone at home but must be able to be contacted in some way for follow-up. (4) Intravenous opioids cannot have been given less than 30 minutes prior to discharge.
6. (**2**) is correct. The registered nurse and the surgeon must be notified. (1, 3, 4) are not appropriate interventions. If the patient is extremely scared, the surgeon must be told because surgery may need to be canceled.

7. (**1, 5**) are correct. Higher steroid levels are needed during stress to the body, which surgery produces, to prevent circulatory collapse. (2, 3, 4) are not complications of steroid withdrawal.
8. (**1, 2, 3**) are correct. The patient may require more time to reply or provide a return demonstration of teaching. Learning will not occur if the patient is not ready to learn. Allow the patient to learn one thing before moving to the next topic to prevent overwhelming the patient. (4) A low tone is best heard if any hearing impairment exists. (5) Red, orange, and yellow colors are seen best. (6) Use simple, understandable terms.
9. (**3, 5, 6**) are correct. Pneumonia can be prevented with lung expansion promoted by ambulation. Leg movement prevents venous stasis and blood clots. Ambulation helps promote bowel function. (1, 2, 4) are not prevented with ambulation.
10. (**2**) is correct. Use two people to assist the patient for the first time in case the patient is light-headed or dizzy. (1) One person may not be enough to support the patient if fainting occurs. (3) The patient should rise slowly to prevent dizziness and falls. (4) Analgesics should be given about 1 hour before ambulation so the patient is comfortable but hypotension is less likely.
11. (**3**) is correct. Presence of flatus occurs with normal bowel function. (1, 4) indicate the bowel is not functioning normally. (2) is not related to bowel function.
12. (**3**) is correct. First, have the patient lie down to reduce pressure on the incisional area to help prevent evisceration. (1) The goal is to prevent evisceration, so the surgeon would be notified either simultaneously as the nurse is assisting the patient to lie down or immediately after the patient is lying down and the abdomen is covered. (2) The focus is ensuring the patient's safety. As you move to assist the patient, ask the family to step out of the room briefly to provide more room to work and to limit contact with others until the abdomen is covered. Explain you will provide explanations to them after the other actions have been completed. (4) This would be done immediately after the patient is lying down to protect the incisional area.
13. (**4**) is correct. Exhaling to reach target is incorrect and would indicate the need for additional teaching. (1, 2, 3) are appropriate ways to use the spirometer.
14. (**2, 5**) are correct. New-onset fever occurring shortly after surgery is often due to atelectasis (a new infection related to surgery would take longer to develop). Encouraging deep breathing and coughing and ambulating to expand lungs can help prevent pneumonia. (1) An infection is not usually the cause of a fever in this time frame so antibiotics are not usually indicated. (3) Tylenol is not necessary for a low-grade fever, which is part of the body's defense system. It will not help atelectasis unless it is part of the pain management regimen to ensure the patient is not painful and willing to expand the lungs with deep breathing and coughing. (4) Fluid intake should be maintained to help thin lung secretions. (6) Output should be monitored routinely but will not help reduce the risk of a postoperative respiratory complication.
15. The incentive spirometer helps prevent atelectasis (complete or partial collapse of the lung or a lobe of the lung from deflation of or fluid in the alveoli due to hypoventilation or obstruction) postoperatively.



# Answers

## CHAPTER 13 NURSING CARE OF PATIENTS WITH EMERGENT CONDITIONS AND DISASTER/ BIOTERRORISM RESPONSE

### AUDIO CASE STUDY

#### Tabitha and the Emergency Department

1. To immobilize the spine until injury can be ruled out to prevent further damage that could result in paralysis.
2. Hypotension, tachycardia, and jugular vein distention, because the heart was being compressed and couldn't fill properly due to the pericardial sac fluid.
3. The patient's chest likely hit the steering wheel. He may have injuries to his heart or lungs and could develop cardiac tamponade.
4. Not wearing a seat belt.
5. **S**: A 33-year-old male chest trauma patient immobilized on a backboard. Facial lacerations. Alert and oriented but drowsy.
   **B**: Involved in a multivehicle accident. Not wearing a seat belt. Steering wheel damaged. Likely hit the steering wheel.
   **A**: Vital signs: BP 130/84, P 92, R 20. Airway patent. Oxygen at 2 liters. Clear breath sounds. No respiratory distress. Equal and reactive pupils. Movement x 4 with normal sensation. Middle chest tenderness rated 5. Redness and bruising beginning across the patient's chest.
   **R**: Maintain C-spine precautions. Monitor for development of secondary injury signs and symptoms. Manage pain. Prepare for diagnostic tests. Review diagnostic results.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**3**)
2. (**10**)
3. (**1**)
4. (**5**)
5. (**4**)
6. (**7**)
7. (**6**)
8. (**2**)
9. (**8**)
10. (**9**)

### PRINCIPLES FOR TREATING SHOCK

1. True.
2. True.
3. False. Direct pressure.
4. False. Apply blanket to warm patient.
5. True.
6. False. Take frequent vital signs as indicated by condition.
7. False. Do not give the patient oral fluids.
8. True.

### SIGNS AND SYMPTOMS OF INCREASED INTRACRANIAL PRESSURE

1. (**2**)
2. (**1**)
3. (**1**)
4. (**2**)
5. (**1**)
6. (**2**)
7. (**2**)
8. (**1**)
9. (**1**)
10. (**1**)
11. (**2**)
12. (**2**)

### ASSESSMENT OF MOTOR FUNCTION

| **If the patient is unable to:** | **The lesion is above the level of:** |
|---|---|
| Extend and flex arms | C5 to C7 |
| Extend and flex legs | L2 to L4 |
| Flex foot, extend toes | L4 to L5 |
| Tighten anus | S3 to S5 |

### ENVIRONMENTAL HYPERTHERMIA

1. (**2**)
2. (**1**)
3. (**2**)
4. (**2**)
5. (**1**)
6. (**1**)
7. (**1**)
8. (**2**)
9. (**1**)
10. (**2**)

## PRINCIPLES FOR DISASTER OR BIOTERRORISM RESPONSE

1. disaster
2. 96
3. notified, discharged
4. triage, stabilization
5. seriously, full
6. drills
7. familiar, role
8. internal
9. external
10. community-wide

## CLINICAL JUDGMENT

1. Call for emergency medical services; keep him calm to slow down the absorption and spread of venom, if present; immobilize the hand below the level of the heart; the ring and other tight-fitting jewelry such as a watch should be removed in case local swelling occurs, which would cause constriction; obtain information about the color and shape of the snake; and take a photo of the snake if it can be done from a safe distance for identification.
2. Initial symptoms of a poisonous snakebite include a pair of puncture marks at the wound, discoloration and swelling around bite, and pain at site of bite. Systemic effects may occur.
3. Assist with conduction of primary and secondary surveys. Report abnormalities to RN or health-care provider (HCP). Start two large-bore IVs and draw labs concurrently during IV start. Other tests to be considered include a baseline EKG, chest x-ray, and arterial blood gases (ABGs). Neurological checks should be done because of the neurotoxic effects of some types of venom. Provide supportive care per symptoms as they progress.
4. *Acute Pain*, *Anxiety*, *Impaired Skin Integrity*, *Risk for Infection and Deficient Knowledge*.
5. Keep the patient calm, keep affected body part below the heart level, gently wash the bite marks with mild soap and water, and cover with a loose, clean dressing. Do not irrigate or flush the wound. Ice should not be applied to the wound. Teach wound care and signs of infection to report.
6. HCP; poison control center and/or an experienced toxicologist to guide treatment with antivenin; pharmacist.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2, 3, 1, 4, 5**) Airway is the first priority, then breathing, circulation, disability, and exposure.
2. (**3**) Hemorrhaging is controlled by applying direct pressure at the site of bleeding. (1) Tourniquets are usually avoided to prevent tissue damage. (2) Direct pressure must be applied rather than a pressure dressing until the hemorrhaging is controlled. (4) Massage would not control bleeding.
3. (**1, 5, 6**) A hoarse voice as well as singed nasal hairs and soot around the mouth and nose indicate possible inhalation injury from a fire, so the nurse should be alert to possible respiratory complications. (2, 3, 4) relate to the circulatory system, not the respiratory system.
4. (**1**) is correct. Morbidity and mortality are usually from pulmonary aspiration secondary to loss of the gag reflex. (2, 3, 4) are neurological signs that would occur later with complications. The nurse's priority is monitoring the patient to prevent complications from occurring due to botulism exposure.
5. (**2**) is correct. Activated charcoal might be given in this severe case, as the patient is unconscious, to help absorb the medication. (1, 3, 4) would not be appropriate for an unconscious patient.
6. (**2**) is correct. (1, 3, 4) Core body temperature should be within normal range. Skin should be warm and dry.
7. (**3**) is correct. (1, 2, 4) are incorrect.

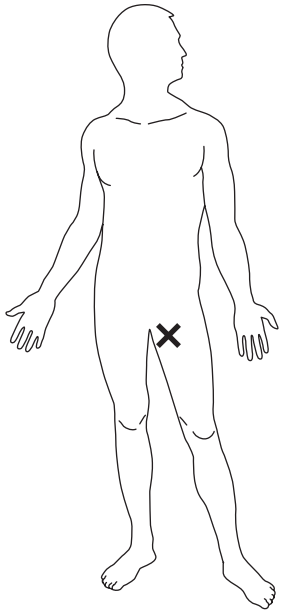
$$\frac{1\text{ mL} \mid 3\text{ mg}}{5\text{ mg} \mid} = 0.6\text{ mL}$$

8. (**1**) is correct. A rapid, thready pulse indicates compensation (rapid) and loss of blood volume (thready) requiring intervention by the nurse. (2, 3) 60 and 84 are normal pulse findings. Tachycardia would be expected with large amounts of blood loss. (4) A bounding pulse is not a concern and would not be noted with hemorrhage.
9. (**2, 5**) Shock is a condition of progressively decreasing blood pressure with a thready, weak pulse occurring in progressive shock. (1, 3, 4) are not reflective of progressive shock.
10. (**2**) is correct. The bleeding is the priority issue. The brachial artery is the proximal artery to the radial artery and requires direct application of pressure. (1) is not the most proximal artery to the radial artery. (3, 4) once the bleeding is controlled, emotional support to the family can be offered and clergy can assist with this.
11. (**2, 3**) are required per standard precautions when caring for a patient with anthrax in a wound. (1, 4, 5, 6) are not required.
12. (**2, 3, 5**) indicate an awake and alert patient from the naloxone's reversal of the opioid. (1, 4, 6) do not indicate that the opioid's effects were reversed.
13. (**1, 5, 6**) are normal findings. (2, 3, 4) are abnormal findings.
14. (**2**) The immediate need is to remove the patient from the hot environment to allow other interventions to be effective. (1, 3, 4) will be done after the patient is placed in a cooler environment.

15. (**1, 2, 5**) Inhaled chlorine is irritating to the respiratory tract, which can cause airway obstruction, dyspnea, and pulmonary edema. (3, 4, 6) are not respiratory signs and symptoms.
16. (**2, 3, 4, 5, 1**) Breathing, presence of bleeding, circulation, and exposure are checked first. Pupils are also checked, as a head injury may have occurred.
17. (**3**) The goal is to first treat the most critically injured person with the best potential for survival, which is patient 3; patient 4 is unlikely to survive, and patients 1 and 2 are not critical and will survive.
18. (**3**) Airway obstruction can occur in anaphylaxis. This is the top priority for the ABCs. (1, 2, 4) are incorrect.
19. (**1.25**)

$$\frac{500{,}000 \text{ units} \mid 1 \text{ mL}}{\mid 400{,}000 \text{ units}} = 1.25 \text{ mL}$$

20. The nurse will apply pressure-point control to the left femoral artery to stop the bleeding of a left leg laceration.



# Answers

## CHAPTER 14 DEVELOPMENTAL CONSIDERATIONS AND CHRONIC ILLNESS IN THE NURSING CARE OF ADULTS

### AUDIO CASE STUDY

#### Julie and Older Adult Developmental Stages

1. Integrity versus despair.
2. *Integrity* means accepting responsibility for one's life and reflecting on it in a positive way.
3. Despair. He seems sad, lonely, hopeless, goalless, and regretful. This shows there is unresolved work in earlier stages.
4. Reminiscence therapy, a memory book of significant events and photos of his life to share with his grandchildren, or an audiotape or videotape of his life story.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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 **sixties** 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 collect data on **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 is an important nursing action that can **increase** their self-esteem.

### CLINICAL JUDGMENT

1. 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*, and *Powerlessness*.
3. Interventions may include arranging for Mrs. Martin to use the meditation room for quiet reflection or prayer, visit with a chaplain, or attend worship services; assisting Mrs. Martin with transportation to the meditation room or worship services; and providing desired reading material such as the Bible or a prayer book.
4. If Mrs. Martin expresses a feeling of peace or hopefulness.

### REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**4**) is correct. (1, 2, 3) are developmental stages typically carried out in earlier years of life.
2. (**4**) is correct. A lack of respite care would increase stress. Stress decreases when the caregiver is given personal time away from the patient, which everyone needs. (1, 2) If respite care is not available, then personal time decreases and rest time decreases. (3) There is no cost for most volunteer respite services, so costs would not be increased.
3. (**4**) is correct. Allowing the patient to make informed decisions should foster health promotion. (1, 2, 3) Making the choices or setting goals for the patient and family may not result in implementation of those choices or accomplishment of the goals because input was not obtained from them.
4. (**1**) is correct. The caregiver is exhibiting behaviors indicating *Caregiver Role Strain.* (2, 3) are not the priority diagnosis for the caregiver's exhibited behaviors. (4) Because behaviors have been exhibited, the role strain is past the risk stage.
5. (**1**) is correct. 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.

6. (**1, 2, 5**) are correct. Demonstrating how to take home blood pressures, providing education about the diseases, and teaching about dietary restrictions are most essential for the patient to be able to understand and control the illness to achieve a higher level of wellness. (3) has no direct effect on these conditions. (4) Since this is a new diagnosis, no goals have been set to be evaluated.
7. (**1, 2, 5, 6**) are correct. The nurse encourages the patient to verbalize feelings of sorrow by encouraging hope, making time to listen, actively listening, and sharing relevant information to foster coping. (3, 4) Interaction with the patient at this time is important rather than providing quiet time or increased isolation in which there would be further time to dwell on the sorrow with no intervention.
8. (**4**) is correct. This empowers patients to control their own health care. (1, 2, 3) take control away from the patient.
9. (**2**) is correct. Home health 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 caregiver 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**) is correct. 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 are done for the patient, no opportunity for independence and success is allowed for the patient. (4) Assisting the patient at the first sign of difficulty with activities of daily living allows the patient no opportunity to succeed at a difficult task.
11. (**2**) is correct. Using humor can be helpful, and this is one method of using humor. (1) Avoiding humor is not beneficial because humor has been shown to enhance health. (3) A serious demeanor may not be helpful in improving a patient's mood. (4) Limiting conversation to a minimum further isolates the patient.
12. (**1**) is correct. Providing educational information empowers the patient to make informed choices. (2) Limiting visiting hours for family members isolates the patient and does not allow the patient free choice. (3) Asking family members to provide care makes the patient dependent even if some independence is possible. (4) Setting goals for patient and family takes the decision-making process away from the patient.
13. (**1**) is correct. Huntington disease is a genetic condition. (2, 3, 4) are incorrect.
14. (**3**) is correct. The statement "Maybe tomorrow will be a better day" indicates the patient is hopeful and looking to the future, which is a goal for resolving chronic sorrow. (1, 2, 4) do not project hope or possible positive changes.
15. (**2, 3, 5**) are correct. Nursing care for a patient who is chronically ill should involve the patient and family by encouraging family visits, including family in teaching, and seeking patient input for plan of care. (1) Education should be increased. (4) Socialization with friends should be encouraged to promote a sense of normalcy and prevent isolation and depression.

# Answers

## CHAPTER 15 NURSING CARE OF OLDER ADULT PATIENTS

### AUDIO CASE STUDY

### Elise and the Older Adult

1. Nocturia; muscle tone is weaker; bladder becomes funnel-shaped; the urge to void occurs later in the filling process.
2. Sleep disruption from having to get up during the night, often multiple times; incontinence increases from muscle weakness; urine presses directly on the sphincter from funnel shape; urination can't be postponed until a convenient time due to a later urge to void.
3. Plan to do the following:
   - Collect data on patient's elimination pattern.
   - Have toileting facilities readily available.
   - Use night-light for safety.
   - Offer toileting every 2 hours or sooner based on patient's needs.
   - Answer call lights promptly. Avoid saying, "Will assist you soon!" Consider patient's toileting needs a high priority for patient-centered care, as well as safety.
   - Reinforce teaching pelvic floor exercises to strengthen pelvic muscles.
   - Encourage patient to void before bedtime.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. activities of daily living (ADLs)
2. arrhythmia
3. delirium
4. attitude
5. aspiration
6. edema
7. dementia
8. expectoration
9. constipation
10. homeostasis
11. contracture
12. pressure injury
13. nocturia
14. sensory overload
15. intrinsic factors
16. osteoporosis
17. sensory deprivation
18. optimal functioning
19. reality orientation
20. extrinsic factors

### AGING CHANGES

1. (**2**)
2. (**3**)
3. (**5**)
4. (**6**)
5. (**1**)
6. (**8**)
7. (**4**)
8. (**7**)
9. (**11**)
10. (**14**)
11. (**13**)
12. (**10**)
13. (**9**)
14. (**12**)
15. (**16**)
16. (**24**)
17. (**18**)
18. (**17**)
19. (**20**)
20. (**21**)
21. (**19**)
22. (**25**)
23. (**22**)
24. (**15**)
25. (**23**)

### 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 for easy swallowing, 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 medication is for, when it is to be taken, and how it should be taken.

## VALUES CLARIFICATION

*This is a values clarification exercise, so the answers are your own individualized responses 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, patient-centered care, agency policy, and patient safety.
5. Consider professionalism and respect for others' values.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. Successfully managing a lifelong condition such as diabetes and preventing complications requires an understanding of the disease.
2. Diabetes increases the risk of infection, as high blood sugar levels weaken the immune system. Impaired white blood cells are less able to prevent infection.
3. Polypharmacy can cause adverse side effects. Duplication of medications with similar actions can occur.
4. Medication teaching includes medication name (generic/brand), purpose, dosage, route, when to take how/many times a day, whether to take with or without food, special considerations such as taking the entire prescription even if feeling better, and side effects to report. Have Mr. Taylor teach back what he is taught to evaluate his understanding and correct any misunderstanding. Provide instructions in writing for Mr. Taylor to take home.
5. A review of his blood glucose results and what it means. How to take metformin with a teach-back to evaluate understanding.
6. One of the first signs of infection in the older adult is confusion. Unlike in younger adults, an elevated temperature may not occur as an early sign of infection in older adults.
7. Suggest that Mr. Taylor keep a health journal, as maybe his sinus problem may be associated with his farm activities/allergies at the end of the season.
8. Explain why class attendance is so important and how it will put him in control of managing his disease effectively to prevent complications. Ensure he has accurate information about the class location and time. Confirm he can attend at that time. Ensure he has reliable transportation. Ensure his insurance coverage is reviewed in case a referral for financial assistance is needed.
9. **Suggested SBAR:**
   **S:** Mr. Taylor, age 65, facial sinus discomfort x2 days. No fever. Questions if this discomfort is related to his recent diabetes diagnosis.
   **B:** Recently diagnosed with type 2 diabetes and is taking prescribed metformin. Assisted brother 2 days ago as usual with annual farm harvest.
   **A:** Sinus infection for which amoxicillin/clavulanate was prescribed. Indicated may not know signs of infection in older adults. Recently diagnosed with type 2 diabetes with possible lack of knowledge of the disease. Weight of 123.37 kg (272 lbs) as a risk factor.
   **R:** Obtain full medication/drug use history. Discharge teaching: use of antibiotic; return for reevaluation in 2 weeks. Encourage attendance at prescribed diabetes education class. Encourage use of health journal to track sinus problem pattern or other health issues.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**4**) is correct. Shortening in height is caused by water loss in the intervertebral disks of the spinal column with aging. (1, 2, 3) are not causes of reduced height with aging.
2. (**3**) is correct. Psychological factors are the primary source of sexual dysfunction. (1, 2, 4) are not the primary source but data would also be collected about them.
3. (**1, 3, 4**) are correct. These responses indicate a lack of understanding by the patient of what does prevent osteoporosis. Calcium intake should be increased, not decreased. Salt and protein intake amounts do not prevent osteoporosis development. (2) Weight-bearing exercise does help fight the degeneration of bone in osteoporosis. (5) Eating more dairy increases calcium intake for bone strength. (6) Walking is a weight-bearing exercise.
4. (**5, 6**) are correct. There is a decreased taste sensitivity for salt and sweet flavors. (2, 3, 4) are not expected aging related changes and should be evaluated. (1) Dry mouth requires intervention to preserve oral health.
5. (**4**) is correct. To allow the circulatory system to stabilize from a lying to sitting position change before standing. This promotes safety by preventing dizziness and falls because gravity shifts body fluids with position changes. (1, 2, 3) do not influence circulatory stabilization for safety.
6. (**2, 3, 5**) are correct. The older adult circulatory system is extremely sensitive to fluid-overload, which the development of dyspnea, edema or jugular venous distention indicates may be occurring. Intravenous therapy increases the risk for fluid overload which can be life-threatening. (1) This would be monitored, but it is not the priority as it is not a life-threatening situation. (4) This might be monitored but it is not life threatening and would be an expected occurrence with administration of fluids.

7. (**4**) is correct. This action provides patient-centered care to meet the patient's sexuality needs. (1, 2, 3) do not show respect for the patient's sexuality needs.
8. (**2**) is correct. Older adults with a disability or with no or partial high school education tend to use inappropriate medications more than those who have a college education. (1, 3, 4) are incorrect, as they all have a college education.
9. (**1, 2, 5, 6**) are correct. Gentle bathing includes either the towel bath, glove bath or bag bath. Gentle bathing preserves skin integrity by reducing friction during drying. (3, 4) Gentle bathing methods avoid the skin drying effects of bathing. Warm water instead of drying hot water is used.
10. (**3, 5**) are correct. Whispering lowers the pitch of the sounds, making words easier to hear for someone who has lost only high-pitched frequencies. Wearing a transparent facial mask, when masks must be worn, aids the patient who lip reads. (1) can be helpful in any conversation but does not specifically improve hearing for high-pitched hearing loss. (2, 4) do not improve hearing for high-pitched hearing loss.
11. (**2, 3, 4, 6**) are correct. Reddened skin is fragile and should not be massaged to prevent damage. Reporting observed skin abnormalities allows identification of potential problems for prompt intervention. Gentle bathing preserves skin integrity by reducing friction during drying. To prevent injury, the patient should not be barefoot when out of bed. (1) Moisturizer should be applied to the skin except between the toes, which should be kept dry to prevent fungal growth. (5) Warm water, not hot, should be used, as it is not as drying to the skin.
12. (**3**) is correct. Offering explanations with rationales, using active participation with feedback to problem-solve obstacles, and providing aids for reminders are best teaching practices. This will encourage self-care and support independence for older patients in adhering to a prescribed medication routine. (1) No rationale is provided to promote understanding. (2) Self-care and independence are not being promoted, and an assumption about memory is made. (4) An assumption is presented that could be frightening to the patient. Instead of collaborating with the patient, responsibility for developing memory aids is placed entirely on the patient.
13. (**2, 3, 4, 5**) are correct. Patients with insomnia might be helped with warm milk, foot rubs, back rubs, or a warm towel bath. (1) Napping could make the patient less tired for sleeping at night and further contribute to insomnia. (6) An alarm clock may prematurely awaken the patient who is finally asleep.
14. (**1, 2, 5, 6**) are correct. Fiber and exercise, including participation in activities of daily living, promote bowel movements. Some medications can contribute to constipation. (3, 4) Fiber from fruit and water help prevent constipation and should not be decreased. Increasing their intake may actually be helpful.

# Answers

## CHAPTER 16
## PATIENT CARE SETTINGS

### AUDIO CASE STUDY

#### Shawn and Home Health Care

1. Consider each visit's purpose—including timing of needed task, complexity, and required length of time—and location to make the best use of the time and mileage; consider if the visit is with a new patient or prior patient, as new patients take longer to meet.
2. Vegetables that are high in vitamin K, such as dark green, leafy vegetables like spinach and broccoli, should be eaten in consistent amounts rather than alternating amounts to prevent affecting the established therapeutic INR level when on warfarin therapy. Since vitamin K is the antidote for warfarin, ingesting large amounts found in vegetables could lower the therapeutic levels of INR, making it difficult to establish a therapeutic warfarin dose.
3. Using the internet to map the addresses for the home visits, the nurse can identify dangerous areas and review and implement safety checks. These checks include parking on the street rather than in a shared driveway, keeping car and tires in good repair with a full tank of gas, being aware of surroundings, carrying a map and a whistle, having cell phone battery charged, calling into agency before leaving the car to let them know the location, checking location of the home's exit doors and windows, and having car keys out when walking to and from the car.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**6**)
2. (**4**)
3. (**5**)
4. (**3**)
5. (**7**)
6. (**2**)
7. (**8**)
8. (**10**)
9. (**1**)
10. (**9**)
11. (**14**)
12. (**13**)
13. (**15**)
14. (**11**)
15. (**12**)

### HOME HEALTH-CARE SERVICES

1. (**3**)
2. (**5**)
3. (**4**)
4. (**2**)
5. (**1**)
6. (**8**)
7. (**6**)
8. (**7**)

### PATIENT CARE SETTING LPN/LVN DUTIES

1. (**4**)
2. (**1**)
3. (**5**)
4. (**3**)
5. (**4**)
6. (**3**)
7. (**2**)
8. (**5**)
9. (**2**)
10. (**1**)
11. (**3**)
12. (**6**)
13. (**2**)
14. (**4**)
15. (**1**)

### PRIORITIZATION

1. This patient would be seen first, as insulin is needed prior to breakfast.
2. This patient would be seen second, as taking vital signs on an established patient does not require a great deal of time.
3. This patient should be seen last, as new patients take longer. Scheduling the patient last prevents being late for other visits.

### CRITICAL THINKING AND CLINICAL JUDGMENT

1. Four times per week every other day for 4 weeks for dressing changes. Note: the bathing assistance by a home health aide is not a skilled nursing service.

2. Data collection to ensure the patient's needs are being met, including social support network, dressing changes, reinforcement of medication teaching that includes relationship of medications to blood glucose monitoring and vital sign monitoring, and oxygen ($O_2$) therapy safety precautions.
3. "No smoking" signs need to be posted because Mrs. Thompson is receiving $O_2$ therapy. The home environment needs to be checked for potential safety hazards, including long $O_2$ tubing, throw rugs, cluttered walkways, and inadequate lighting. Mrs. Thompson's need for assistive devices should be identified based on her comment that it is difficult to "get around the house."
4. Meals on Wheels referral; occupational therapy and physical therapy for strength training and identification and instruction of assistive devices; a home health aide for assistance with activities of daily living (ADLs); and a referral for housekeeping assistance unless the family can assist.
5. **C:** I'm concerned that Mrs. Thompson is not oriented and is not acting like herself.
   **U:** I'm uncomfortable that she is behaving like this.
   **S:** I do not believe she is safe and cannot be alone; she may have something serious going on that needs to be identified.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3**) is correct. Infection control is an important function of the home health-care nurse and disinfecting the home health-care bag is important, as it is carried from home to home. (1) A red biohazard bag should be used for each patient rather than one per day for all patients to prevent cross contamination. (2) The kitchen sink is less sanitary, so the bathroom sink should be used for hand washing. (4) The home health-care bag should never rest on the floor. It should be set on a disposable plastic barrier pad on a clean hard surface, not a fabric surface.
2. (**4**) is correct. Patients are in control in their own homes. (1, 2, 3) Only the patient is in control.
3. (**1**) is correct because it shows caring, understanding, and insight into the patient's needs which builds trust. (2) is part of the process for making a visit. (3) should be done as needed as part of providing nursing care but does not influence trust. (4) reflects confidentiality requirements, although family members and other health-care team members may be included with the patient's permission.
4. (**4, 5, 6**) are correct and are general safety measures for any person who is ambulating. (1, 2) 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. Concerns with housekeeping can be discussed with the family and possibly addressed with other types of services.
5. (**2**) is correct. The nurse should clean any equipment, including a stethoscope used in the patient's home. (1, 3, 4) promote the risk of infection.
6. 0.8 mL is correct.
7. (**2, 3, 4, 5**) are correct to promote learning for older adults. (1) Information should be provided in brief, organized concepts to allow learning and retention.
8. (**1**) is correct so that the registered nurse can perform an assessment and determine an appropriate plan of action. (2, 4) It is inappropriate to tell the patient what to do in the patient's own home, and washing the dishes is not the nurse's function. (3) is an assumption that may not be true and requires verification by the registered nurse.
9. (**1, 3, 5, 6**) are correct. (2) is not usually possible, so a time range should be given. (4) is not done for safety so that the nurse's car is not blocked in.
10. (**1, 2, 3, 5**) are correct. The registered nurse should collect data related to safety, ability to perform ADLs, baseline vital signs and medication regimen for safety. (4) Collecting a urine sample requires an HCP order and there is no indication that one is needed.
11. (**2, 3, 5**) are correct. Preparation and organization are essential to providing timely, excellent care. Sharing feelings and asking questions of experienced home health care nurses can be helpful in gaining insight into home health care. (1) There are differences between home health care and hospital nursing. Patients are in control in their own homes; in home health care, the nurse has more autonomy and the same resources as in the hospital may not be as readily available. (4) Over time, the nurse will develop skills to adapt to variabilities found across homes.
12. (**4**) is correct, as the spouse is the patient's caregiver. (1, 2, 3) affect the patient.
13. (**2, 3, 4, 5, 6**) are correct for medical office duties. (1) The licensed practical nurse/licensed vocational nurse contributes rather than develops the plan of care; that is the role of the registered nurse.
14. (**1, 2, 4, 5**) are correct. These are things the nurse must learn that are related to the special setting and patient population as well as institutional polices. (3) Precertification, not postcertification, is a duty for the nurse. (6) is a skill that the nurse would typically obtain independently, not during orientation.
15. (**1, 2, 3, 5, 6**) are correct. Long-term care services can be provided in all these settings. Most occur in the patient's home. (4) This unit is found in hospitals that provide acute care which is not long-term care.
16. (**2**) is correct. Reducing noise in the environment to decrease stimuli is important for those with dementia. (1) Adequate lighting is required for safety. (3) would reduce sensory input, which can lead to delirium. (4) contributes to environmental noise level rather than reduces it.
17. (**1, 2, 3, 4**) are correct. They can all assist the resident to prevent falls. (5) Calcium should not be decreased to maintain strong bones and prevent falls. (6) Socks can be slippery and contribute to falling. Shoes or slippers with nonskid soles are the safest to wear.
18. (**2, 4, 5**) are correct. By federal law, the use of restraints must be included in the medical record with a plan

for use and length of time for use; use of restraints are allowed if the resident may harm oneself or others. (1) Restraints can never be used as a form of discipline or punishment. (3) Restraints cannot be used as a means to allow staff time to do other things.

19. (**4**) is correct. The performance of the skills related to the purpose of the visit must be documented for reimbursement. (1, 2, 3) are not directly related to the purpose of the visit, so they are not the priority for documentation to ensure reimbursement.
20. (**1, 2, 3, 4**) are correct. They are all tasks of the correctional nurse. (5) Empathy is provided, not sympathy. Therapeutic communication should be always used.
21. (**1, 2, 3, 5, 6**) are correct. They are all tasks of the medical office LPN/LVN. (4) The health-care provider (HCP) must obtain informed consent.
22. (**1, 3, 4, 5, 6**) are correct. The supervising registered nurse who is informed of the patient's status will inform the HCP. The HCP will provide referrals to the other disciplines that the nurse will collaborate with during the patient's care. Due to the fall risk, a physical therapist will evaluate the patient. Due to the weakness that likely affects ADLs, an occupational therapist will see the patient. The signs of swallowing difficulty require evaluation by a speech therapist. (2) The social worker is not needed for the patient's current signs.

# Answers

## CHAPTER 17
## NURSING CARE OF PATIENTS AT THE END OF LIFE

### AUDIO CASE STUDY

#### Mr. Sellers at the End of His Life

1. A durable medical power of attorney is a person appointed to make decisions for someone who is no longer able to make decisions. An advance directive details exactly what the patient would want when he is no longer able to make decisions.
2. These documents take effect only when the patient is no longer able to make her own decisions.
3. Progressive weakness, weight loss greater than 10% in 6 months, sleeping a lot, stating he was "ready to go."
4. This is one example of an SBAR report. Your report may be different.
   **S:** Mr. Sellers has appeared short of breath, and sublingual morphine has been helping. His last dose was at (state time).
   **B:** He has terminal lung cancer. His respiratory rate has been getting as high as 30/minute but drops to 10 to 12 when he has morphine. It also seems to calm him. He is unconscious much of the time.
   **A:** He appears to be in his final hours to days of life.
   **R:** Keep an eye on him in case he needs more morphine.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. compassion fatigue
2. durable power of attorney
3. hospice
4. postmortem
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. False. Cardiopulmonary resuscitation (CPR) must be started within 3 to 5 minutes.
7. True
8. True
9. False. Many patients are not aware of their prognosis or decisions that need to be made.

### CLINICAL JUDGMENT

1. Collect data regarding the fall, including pain level, orientation, and vital signs. If there is no sign of injury, help the family get her back to bed. If she is injured, call the registered nurse (RN) or health-care provider (HCP) before moving her. The priority is to keep her comfortable and provide teaching to the family about safety in the home. Consider whether Mrs. Brown needs a fall mat or another form of assistive device and order these. Report to the RN or HCP and complete an incident report per agency protocol.
2. Talk to your supervisor with an update. See if you have time or if another nurse is available to make a home visit to assess the patient. If possible, go see the patient to support the family and provide teaching about administering medication for her symptoms. Explain to the family that these are common symptoms patients have at the end of life. Assess to see if the patient needs oxygen or has been wearing oxygen. Teach calming techniques such as deep breathing, decrease stimuli, and encourage rest. If printed resources are available (e.g., a booklet called "Gone From My Sight"), provide these to the family. This type of resource will walk through common symptoms at the end of life. Handouts related to comfort medications should also be given to the family so they have a quick reference to use when they are in a crisis.

   If you are unable to go immediately, instruct the family how to handle the situation (as recommended above). They may need reminders of how to administer oral morphine or other medication, as anxiety can interfere with remembering what they have been taught. Provide reassurance and offer to have a nurse come for a visit as soon as possible.
3. Visit the patient and collect data to confirm whether the patient appears to be in her final days or hours. Report your findings to the RN and collaborate to determine a plan of care. If appropriate, explain to the family that while antibiotics may be appropriate for some situations such as infection, her symptoms are likely signs that death is near. Administer PRN medication as ordered to dry her secretions and position her with head elevated to reduce the gurgling and to open her airway for comfort. Administer rectal acetaminophen for the fever

and to keep her comfortable. Remind the family that if the patient cannot swallow, do not force fluids, as this can increase risk for aspiration and cause undue distress for Mrs. Brown. Family can use oral swabs to moisten mouth and apply lip balm if the patient's mouth is dry.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3**) is correct. It is not the nurse's role to explain the illness, but to reinforce the HCP's explanation. (1, 2, 4) do not address the question of understanding.
2. (**1**) is correct. The nurse's role is to listen and answer questions. (2, 3, 4) don't focus on the family's concerns and will likely be distressing to them.
3. (**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.
4. (**3**) is correct. (1) Redirecting a patient is appropriate only if the patient 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.
5. (**4**) is correct and validates the daughter'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.
6. (**2**) is correct. Cultural traditions should be supported if at all possible. (1, 3, 4) ignore the importance of the family's cultural tradition.
7. (**3**) is correct. Difficulty swallowing and weight loss are evidence that the patient is near death. (1, 2, 4) are signs of illness but are not signs that the end of life is near.
8. (**4**) is correct. A durable power of attorney (DPOA) is a person who can make decisions for a patient when the patient is no longer able to speak for him or herself. (1) An advance directive or living will outlines a patient's wishes. (2) may be part of the advance directive. (3) the DPOA takes effect only when the patient can no longer make decisions, not when the document is signed.
9. (**1**) A good death is possible if the patient's wishes are followed and the patient is comfortable. (2, 3, 4) do not describe a good death.
10. (**4**) There is no one "right" thing to say to a grieving person. Listening is important. (1, 2, 3) do not use therapeutic communication.
11. (**1, 2, 4**) Hyoscyamine, scopolamine, and morphine all have anticholinergic properties that will dry secretions. Morphine will ease breathing. (3, 5) will not help secretions or breathing.
12. (**5, 3, 1, 2, 4**) Checking for heartbeat and respirations confirms suspected death; then the provider will pronounce the patient dead. Remove the lines prior to cleaning the patient, since the lines may drip or soil the sheets. Allow the family time with the patient.
13. (**1**) A patient can change their mind at any time. (2, 3, 4) The patient can change their mind at any time.

# Answers

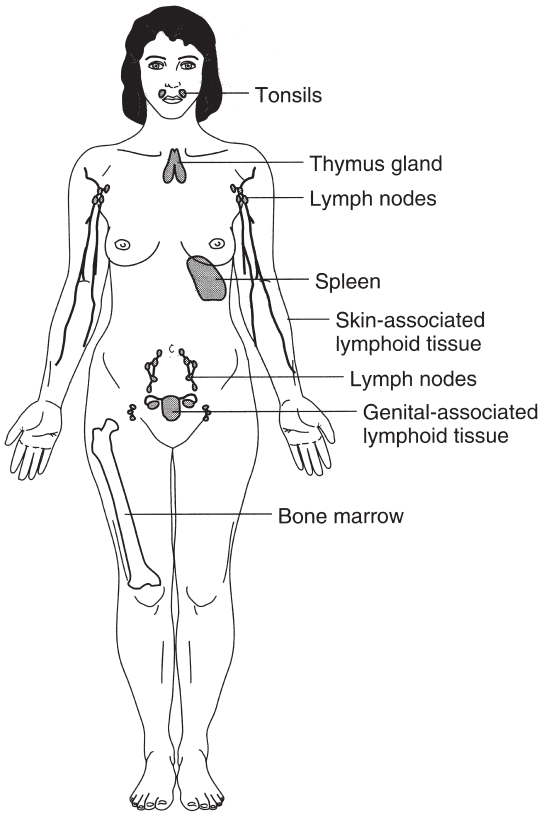
## CHAPTER 18
## IMMUNE SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

### Scott and Anaphylaxis

1. Exposure to an allergen can occur by cross contamination of equipment used to process foods, then eating, inhaling, or touching it. Unlabeled food makes it harder to avoid allergens.
2. Wear or carry medical identification and carry an epinephrine auto-injector at all times.
3. Tingly all over, fatigued, shortness of breath, labored breathing, hives, and swelling.
4. Scott did not carry his epinephrine auto-injector at all times. He ate food with unknown ingredients. He did not call 911 immediately when he began to feel ill, and he walked home alone feeling ill. His brother did not call 911, instead picking him up and driving him to the hospital himself.
5. **S:** Scott, who has an allergy to nuts, including peanuts, ate food at a party tonight. Did not have his epinephrine auto-injector with him. Felt ill. Brought to emergency department by brother.
   **B:** History of allergic reaction to nuts, including peanuts. Prescription for an epinephrine auto-injector.
   **A:** Experiencing an anaphylactic reaction with tingling, fatigue, shortness of breath, labored breathing, hives, and swelling. Stable.
   **R:** Monitor symptoms and provide supportive care.

### STRUCTURES OF THE IMMUNE SYSTEM



## VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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. Immunosenescence
9. inflammation
10. neutrophils

## IMMUNE SYSTEM CELLS

1. (**4**)
2. (**7**)
3. (**5**)
4. (**2**)
5. (**3**)
6. (**1**)
7. (**6**)

## ANTIBODIES

1. IgA
2. IgG
3. IgD
4. IgE
5. IgG
6. IgA
7. IgM

## IMMUNE SYSTEM

1. (**7**)
2. (**9**)
3. (**5**)
4. (**1**)
5. (**2**)
6. (**8**)
7. (**3**)
8. (**6**)
9. (**10**)
10. (**4**)

## DATA COLLECTION—HISTORY

*Corrections are in **boldface.***

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.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. Normal lymph nodes are not palpable. Nodes that are nontender, hard, fixed, and enlarged are frequently associated with cancer.
2. Demographic data (e.g., age, gender, race and ethnic background, place of birth, place of residence, occupation [past and present]), high-risk behaviors, patient history (e.g., allergies [drug, food, environmental]), surgeries, diagnosed medical conditions (past, present), and physical (e.g., general appearance, cardiovascular, skin, mucous membranes, respiratory, gastrointestinal, renal, musculoskeletal, nervous).
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

*The correct answers are in **boldface.***

1. (**3**) is correct. One form of naturally acquired passive immunity includes placental transmission of antibodies from mother to fetus and transmission of antibodies in breast milk. (1, 2, 4) are incorrect.
2. (**2**) is correct. Influenza or flu shots are needed annually. (1, 3, 4) are not given annually.
3. (**4, 5**) are correct. A splenectomy or thymectomy may reduce immune function. (1, 2, 3, 6) do not impact immunity.
4. (**3, 4**) are correct. Painful, enlarged lymph nodes are associated with inflammation and infection. (1, 2, 5) are incorrect.
5. (**4**) is correct. Artificially acquired active immunity is provided by a vaccine. (1, 2, 3) are incorrect.
6. (**2**) is correct. An autoimmune disorder occurs when the body is unable to identify self from nonself. (1, 3, 4) are incorrect.
7. (**4, 5**) are correct. C-reactive protein and erythrocyte sedimentation rate test for inflammation. (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**) is correct. This mother has a naturally acquired active immunity to chickenpox and can safely care for the children without a mask or a booster vaccine. (2, 3, 4) are incorrect.
9. (**1, 2, 4, 5, 6**) are correct. 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. (**3**) is correct. A biopsy requires that the patient sign an informed consent. (1) Contrast is not used in a biopsy (2, 4) are data to collect for a patient with known allergies.
11. (**3**) is correct. Systemic lupus erythematosus, an autoimmune disorder, tends to affect women more than men. In addition, Latina, American Indian, Asian, and Black women are afflicted with systemic lupus erythematosus more often than White women.
12. (**2**) is correct. An antigen/antibody combination immunoassay will be done first. (1, 3, 4) are incorrect.
13. (**8**)

$$\frac{200\ \cancel{\text{mg}} \mid 5\ \text{mL}}{\mid 125\ \cancel{\text{mg}}} = 8\ \text{mL}$$

# Answers

## CHAPTER 19
## NURSING CARE OF PATIENTS WITH IMMUNE DISORDERS

### AUDIO CASE STUDY

### Ayla and Systemic Lupus Erythematosus

1. Discoid lupus erythematosus (skin), drug-induced lupus erythematosus, and systemic lupus erythematosus.
2. Women between the ages of 15 and 44, Latina, Black, American Indian, and Asian.
3. Avoid triggers for flares, get 8 hours of sleep at night and nap during the day, stay active and get exercise, take warm baths for morning stiffness, use hot and cold compresses, avoid sun exposure to prevent butterfly-shaped rash on cheeks, maintain a healthy diet.

### VOCABULARY

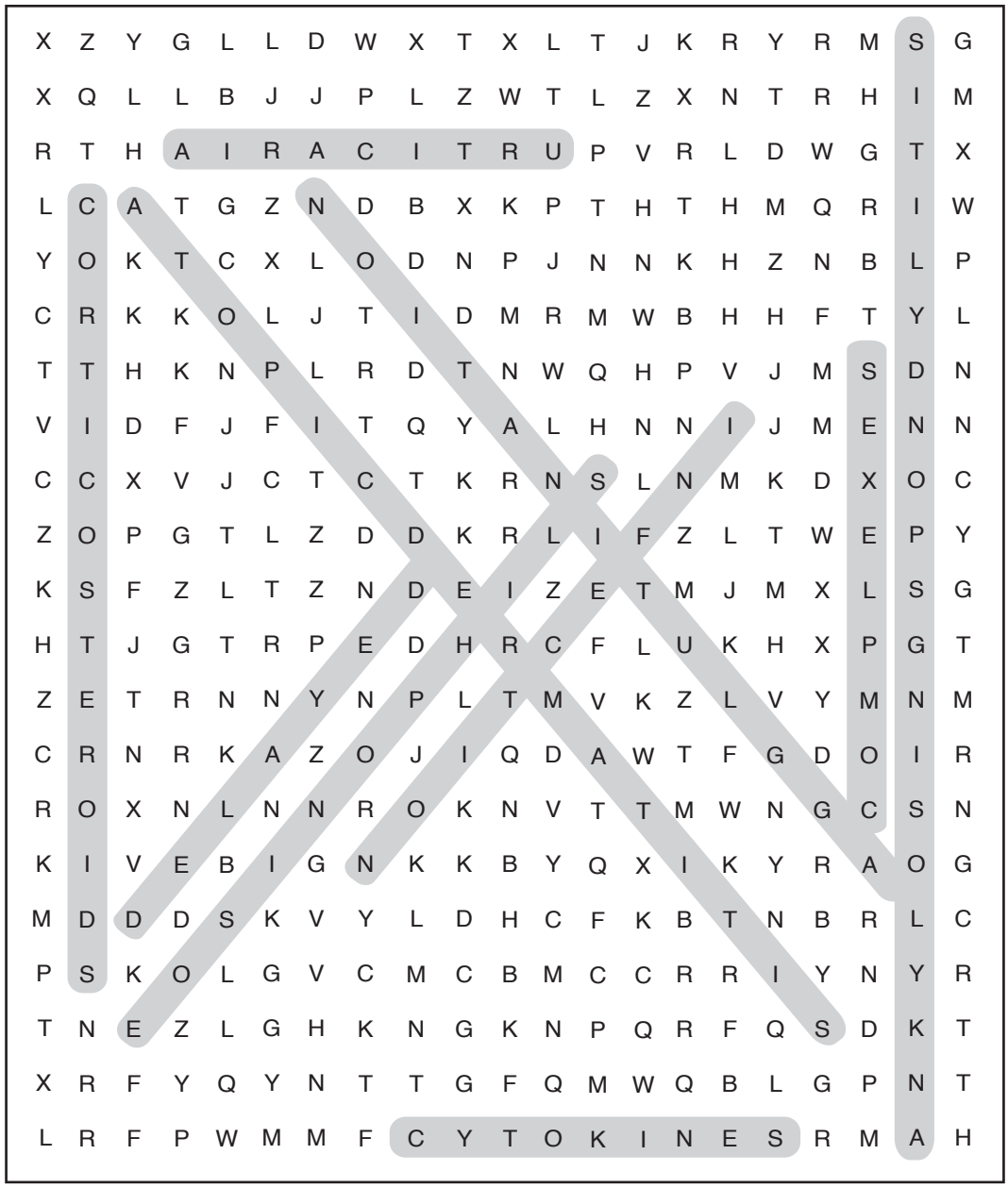
*Sample sentences will vary for the Vocabulary problems.*

1. (**10**)
2. (**11**)
3. (**8**)
4. (**13**)
5. (**3**)
6. (**9**)
7. (**1**)
8. (**14**)
9. (**2**)
10. (**4**)
11. (**6**)
12. (**7**)
13. (**15**)
14. (**12**)
15. (**5**)

### IMMUNE DISORDERS

1. type I, type II, type III, type IV
2. hay fever
3. sinusitis, nasal polyps, asthma, chronic bronchitis
4. Infection
5. epinephrine
6. hives
7. nonpruritic, longer
8. Coombs test
9. Shock, acute
10. antivenins, rabies vaccinations, immune modulating agents
11. Monosodium, bisulfites
12. Poison ivy (or oak)
13. vitamin $B_{12}$
14. Erythrocytapheresis
15. spine, sacroiliac, ribs, limb

## IMMUNE WORD SEARCH




## IMMUNE PUZZLE

**Across**

1. Pernicious
3. Fifteen
6. Anaphylaxis
8. Humoral
9. Medicines
13. Hypothyroidism
15. Nasal polyps
17. Angioedema
19. Intrinsic factor
20. Butterfly
21. Discoid

**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

## CLINICAL JUDGMENT

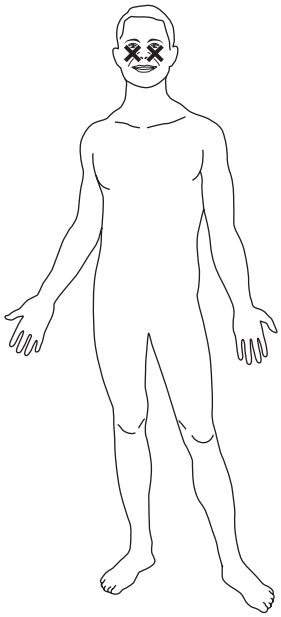
1. Airway and respiratory status as the facial swelling could cause the airway to become obstructed.
2. Registered nurse supervisor, health-care provider.
3. Use a latex-free care kit and latex-free urinary catheter.
4. Need to carry a prescribed epinephrine auto-injector at all times to use for allergic reaction symptoms. To seek medical care immediately for allergic reaction symptoms and after using the epinephrine auto-injector. Cross sensitivity with some foods can occur with a latex allergy: fruits and vegetables such as avocado, bananas, kiwi, and tomatoes.
5. **Suggested SBAR:**
   **S:** Male patient, age 59, who had an attempted urinary catheter insertion for urinary retention started. Developed anaphylactic symptoms during the procedure, which was stopped.
   **B**: No known allergies. Urinary retention for 12 hours.
   **A:** Epinephrine and diphenhydramine given. Airway patent. Vital signs stable with patient supine. Urinary retention relieved after insertion of latex-free urinary catheter.
   **R:** Continue to monitor patient for recurrence of symptoms (biphasic reaction up to about 28 hours postreaction). Monitor urine output from urinary catheter. Provide and reinforce education prior to discharge.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**4**) is correct. Respiratory distress with wheezing occurs in anaphylaxis. (1, 2, 3) are not life-threatening findings.
2. (**1**) is correct. Epinephrine is the initial treatment for anaphylaxis. (2, 3, 4) will not treat the respiratory symptoms seen in anaphylaxis.
3. (**1**) is correct. (2, 3, 4) are not characterized by this disease process.
4. (**2**) is correct. Viral illnesses and exposure to various chemicals and environmental substances can alter the immune system and its response to previously benign stimuli. (1, 3, 4) are incorrect.
5. (**4**) is correct. An infection can develop if treatment is not followed. (1, 2, 3) are incorrect.
6. (**3**) is correct. 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) the antibiotic should not be given until the HCP determines if it is safe to do so. (2, 4) are not within the nurse's scope of practice to do.
7. (**4**) is correct. The antibiotic, which is the cause of the reaction, should be stopped immediately so that no more medication enters the patient. (1, 2) would be done next, often simultaneously or as the antibiotic is stopped if assistance is available. (3) must be prescribed by the HCP before it can be given.
8. (**1**) is correct. Red blood cells are destroyed by this condition, so red cell fragments would be present. (2, 3, 4) are incorrect.
9. (**2**) is correct. When a portion of the stomach is removed, intrinsic factor, which is necessary for the absorption of vitamin $B_{12}$, is reduced. Patients must have lifelong vitamin $B_{12}$ to prevent pernicious anemia from developing. (1, 3, 4) are types of anemia not related to intrinsic factor deficiency.
10. (**2**) is correct. It is an autoimmune disorder in which autoantibodies destroy thyroid cells. (1, 3, 4) are incorrect.
11. (**3, 5, 6**) are correct. Respiratory distress with stridor and dyspnea occurs in anaphylaxis. Tachycardia occurs as a compensatory mechanism for the dyspnea to support oxygenation. (1, 2, 4) are incorrect.
12. (**2**) is correct. Opening windows will allow pollen to enter the car. (1, 3, 4) will control the allergy and indicate the patient's understanding of the condition.
13. (**4**) is correct. Allergic rhinitis is a type I hypersensitivity reaction in which the causative antigens are environmental and airborne, such as pollen and mold. (1, 2, 3) Medications or foods do not cause allergic rhinitis.
14. (**1**) is correct. Angioedema is a result of vascular permeability that increases in the submucosal and subcutaneous layers that causes edema especially around the lips, cheeks, and eyes. (1, 3, 4) Angioedema is usually nonpruritic, does not have fluid-filled vesicles, and lasts longer than urticaria. The lesions of urticaria are raised, pruritic, nontender, and erythematous wheals on the skin.
15. (**1**) is correct. Fatigue occurs commonly in patients with systemic lupus erythematosus. (2, 3, 4) are not common nursing diagnoses for systemic lupus erythematosus.
16. (**3**) It is a chronic progressive inflammatory disease of the spine and sacroiliac area and sometimes the large limb joints. (1) This is seen in serum sickness. (2) This occurs in idiopathic autoimmune hemolytic anemia. (4) This is seen in allergic rhinitis.
17. (**3, 5, 6**) are correct. Glossitis, pallor, and weakness occur with pernicious anemia. (1, 2, 4) are not seen in pernicious anemia.
18. (**1, 3, 5**) are correct. Sun exposure to the skin should be avoided and long sleeves, pants, a hat, and sunscreen worn due to photosensitivity. (2) This would be too much sun exposure for a person who is photosensitive. (4) Sun exposure is what would cause the rash, so sun exposure should be avoided to prevent rash development. (6) the afternoon sun provides the strongest exposure to the sun's rays.
19. (**2, 3, 4, 5, 6**) are correct. All can be used for allergic rhinitis. (1) Anticholinergics would not be effective for allergic rhinitis.
20. (**1**) is correct. It is important to document the appearance of any skin lesions to be able to track healing over time. (2, 3, 4) are not related to contact dermatitis.

21. (**3**) is correct. In an autoimmune disorder, immune cells cannot distinguish "self" from "not self." (1, 2, 4) are incorrect.
22. (**1, 3, 4, 6**) are correct. (2) An IV is needed for emergency medication administration. (5) is incorrect, as the patient may have throat swelling and be at risk of aspiration.
23. The nurse would look for the presence of allergic shiners under the eyes when collecting data on a patient who has allergic rhinitis.



# Answers

## CHAPTER 20
## NURSING CARE OF PATIENTS WITH HIV AND AIDS

### AUDIO CASE STUDY

### Mrs. Harris and HIV

1. Incidents of HIV are increasing for adults age 50 and older and for Black individuals.
2. Unprotected sex (e.g., no condom or no dental dam for oral sex), multiple partners.
3. No, HIV is transmitted only through infected blood, semen, vaginal secretions, or breast milk. AIDS can occur as the end stage of an HIV infection.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. AIDS
2. CD4 T lymphocyte
3. Genotyping
4. Opportunistic infections
5. AIDS wasting syndrome
6. Viral load

### DIAGNOSTIC TESTS

1. HIV antigen/antibody combination (fourth-generation) immunoassay detects both HIV-1 and HIV-2 antibodies and HIV-1 p24 antigen. If the test is positive, an antibody immunoassay test to differentiate between HIV-1 and HIV-2 antibodies should be done. If the combination immunoassay is positive but the antibody differentiation immunoassay is nonreactive or inconclusive, an HIV-1 nucleic acid test should be done for confirmation.
2. CD4 T lymphocyte count is essential for initial evaluation of the status of the immune system and need for antiretroviral therapy (ART). In healthy adults, levels average approximately 332 to 1,642 cells/microL. It is recommended that CD4 T lymphocyte counts be performed at 3- to 6-month intervals when ART is deferred. Those who begin ART should be tested at 3 months. For those who have consistent CD4 levels above 300 cells/microL, suppressed viral load testing is recommended every 3 to 6 months or when clinically needed for 2 years, and then annually.
3. Viral load testing measures the amount of HIV RNA in plasma and is extremely important for determining prognosis and risk of opportunistic infections and for monitoring response to ART. Viral load should be performed before starting ART, within 1 month afterward, then at 3 to 4 months for 2 years. After 2 years, monitoring for consistently suppressed viral load is done every 6 months or for detectable viremia every 3 months.
4. Genotyping measures resistance to currently available antiviral treatments. This information guides health-care providers in choosing treatment regimens that will be most effective against each individual's virus.

### HIV

1. blood, semen, vaginal secretions, breast milk
2. many
3. early
4. window

### HIV AND AIDS

1. False. The end stage of an HIV infection is AIDS.
2. True
3. False. Anyone may become infected with 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. Antibodies form usually within 3 weeks to 3 months. Early detection HIV tests detect HIV infection as soon as 1 week after potential exposure.
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 AND CLINICAL JUDGMENT

1. The patient is told that he is HIV positive because he has been infected with HIV but does not have AIDS at this time. With therapy, an HIV infection is now a chronic, sometimes progressive immune disorder. If AIDS develops, there is no cure, but it may be manageable.
2. AIDS occurs when the CD4 T lymphocyte cell count is less than 200 cells/microL and/or when there is the presence of an opportunistic infection or cancer.

3. To prevent pneumocystis pneumonia and toxoplasmosis opportunistic infections from developing.
4. (a) Sam is malnourished, which can be very challenging to overcome once it occurs. 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. Interventions to prevent malnutrition are essential to implement.
   (b) **C:** I am concerned about Sam Donner's nutritional status.
   **U:** I'm uncomfortable that he has no appetite and is fatigued while being 6 feet tall and weighing 135 pounds.
   **S:** I believe that his safety is at risk.
   (c) Medicated swish and swallows, topical anesthetic sprays, and flavor enhancers may promote increased food intake. Pain relief, activity, and sleep may also be helpful.
5. Dementia occurs from encephalopathy caused by direct infection of brain tissue by HIV.
6. Possible transmission to a nurse can occur from bodily secretions or blood of an infected person coming into contact with a nurse's blood through a break in the nurse's skin or needle stick, or through contact with mucous membranes.
7. The recommended disinfectant is household bleach in a 1:10 dilution mixture prepared daily. Use it to disinfect body fluid spill areas, to clean toilet seats and bathroom fixtures, and to clean inside the refrigerator to avoid growth of mold. Rinse clothing and wash separately from other clothes with 1 cup of bleach if soiled with blood, urine, feces, or semen. Dishes and silverware are washed in hot, soapy water and rinsed thoroughly or placed in dishwasher.

## CLINICAL JUDGMENT

1. Is he taking his medication with food? When does he take the medication? Is it around the same time each day?
2. PrEP, condoms, dental dams, and use of oral condoms during oral sex.
3. Atorvastatin, steroids, calcium channel blockers, and certain mental health medications.
4. Hypertension, hyperlipidemia, and tobacco use.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1, 5**) are correct. HIV is transmitted from human to human only through infected blood and sexual secretions, and from an infected mother to her unborn baby or to her infant via breast milk. (2, 3, 4, 6) are incorrect.
2. (**1, 3, 5, 6**) are correct. CD4 T lymphocyte testing is done before antiretroviral therapy is started and at 3 months after beginning antiretroviral therapy. Then, those who have consistent CD4 levels above 300 cells/microL and suppressed viral load are tested every 3 to 6 months for 2 years or as clinically needed, and then annually. (2, 4) are incorrect.
3. (**3, 4, 5**) are correct. The only fluids from a person infected with HIV that can transmit HIV include blood, semen, preseminal fluid, vaginal secretions, rectal fluids, and breast milk. (1, 2, 6) These fluids do not transmit HIV.
4. (**1, 2, 3, 4**) are correct. These diagnostic tests are used to identify an HIV infection. (5) A urinalysis does not identify the presence of HIV.
5. (**2**) is correct. Water-soluble fiber foods reduce diarrhea by solidifying loose, watery stools and holding water. (1, 3, 4) do not necessarily have an effect on diarrhea.
6. (**1**) is correct. (2, 3, 4) With antiretroviral therapy, these more severe opportunistic infections occur less commonly.
7. (**4**) is correct. Guidelines for HIV screening of pregnant women recommend that HIV counseling and then voluntary testing be offered during routine prenatal care for all pregnant women and again in the third trimester for women at high risk. (1, 2, 3) do not follow the guidelines.
8. (**2, 6**) are correct. Safe food items can include steaming-hot foods and self-peeled fruits. So, cooked vegetables are safer. (1, 3, 4, 5) Foods that contain uncooked eggs (Caesar dressing), soft cheese, or raw foods are riskier for infection.
9. (**2**) is correct. Standard precautions are used for all patients. (1, 3) Personal protective equipment is only needed when there will or could be contact with blood or body fluids. (4) HIV is not an airborne-transmitted virus that requires wearing a mask.
10. (**1, 3, 5, 6**) are correct. Viral load testing is done before antiretroviral therapy is started and within 1 month after beginning antiretroviral therapy. Then it is done for those who have consistently suppressed viral loads every 3 to 4 months or as clinically needed for 2 years, and then every 6 months thereafter. (2, 4) are incorrect.
11. (**1, 3, 4**) are correct. HIV risk reduction includes using condoms and dental dams (latex sheets) as a barrier for the mouth and genitals or anus every time. Latex is used because other materials have large pores that allow HIV to pass through. Condoms should be new for each sex act. Studies show that high-risk sexual behavior associated with contracting sexually transmitted infections puts people at increased risk for HIV exposure. (2, 5, 6) An estimated one in eight people are not aware of being infected, so precautions should be used every time. Petroleum- or oil-based lubricants such as petroleum jelly, cooking oil, shortening, or lotions can damage latex condoms. Adults over 50 tend to think of condoms only as a birth control measure, which is only one of their purposes.
12. (**4**) is correct. Flu-like symptoms indicate a reaction to abacavir sulfate (Ziagen) may be occurring. (1, 2, 3) are not symptoms of a reaction to abacavir sulfate.

13. (**2**) is correct. HIV is a chronically managed disease with treatment. (1) HIV is not an acute disease. (3) HIV with treatment is no longer a life-ending disease. (4) Remissions and exacerbations do not occur.
14. (**2, 4, 5**) are correct. The goal of highly active antiretroviral therapy is to improve survival rates, delay progression of HIV disease, and reduce HIV load to undetectable levels. (1, 3, 6) Since HIV causes decreased CD4 T lymphocytes, the goal of highly active antiretroviral therapy is to reduce the HIV load so that CD4 T lymphocytes will increase, which improves immune system function rather than suppresses it.
15. (**1, 2, 3, 4**) are correct. Ways to prevent HIV infection include abstinence, testing for HIV at the time of labor to begin treatment if needed, avoiding injection drug use, and autologous (self) blood transfusion. (5) Female condoms do help reduce the risk of HIV.
16. (**1, 3, 4**) Reducing infection risk can be done with good hygiene (hand washing, toothbrush washing), and promptly reporting infection signs. (2, 5, 6) Reusing dishes, eating deli foods that may harbor bacteria, and sharing a razor increase the risk of infection rather than decrease it.

# Answers

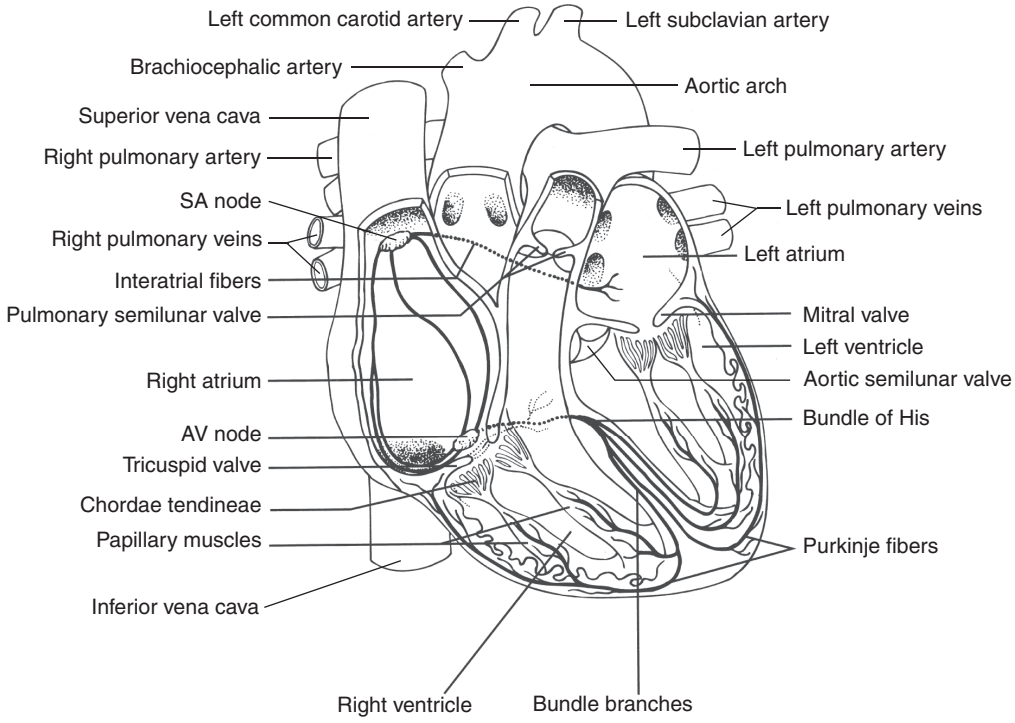
## CHAPTER 21 CARDIOVASCULAR SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

#### Mr. Flores Is Undergoing a Cardiac Catheterization

1. The nurse asks about allergies, reads the consent for the right-sided cardiac catheterization to Mr. Flores, asks the health-care provider (HCP) to answer any questions, has Mr. Flores sign the informed consent and then signs the consent as a witness of his signature, and explains preprocedure instructions.
2. Pressure in cardiac and pulmonary blood vessels, heart chambers, and cardiac output.
3. Nothing to eat or drink 8 hours before test; register in lobby; arrival time; procedure sensations and details (movable table and a warm, flushing sensation when the dye is injected); blood pressure, heart rate, respirations, and heart rhythm will be monitored constantly; procedure length is 2 to 3 hours.

### STRUCTURES OF THE CARDIOVASCULAR SYSTEM



## CARDIAC BLOOD FLOW

1. (**1**)
2. (**11**)
3. (**4**)
4. (**2**)
5. (**14**)
6. (**7**)
7. (**6**)
8. (**13**)
9. (**8**)
10. (**9**)
11. (**12**)
12. (**10**)
13. (**3**)
14. (**5**)

## 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. 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. Arrhythmias become more common in older adults as the cells of the conduction pathway become **less** efficient.

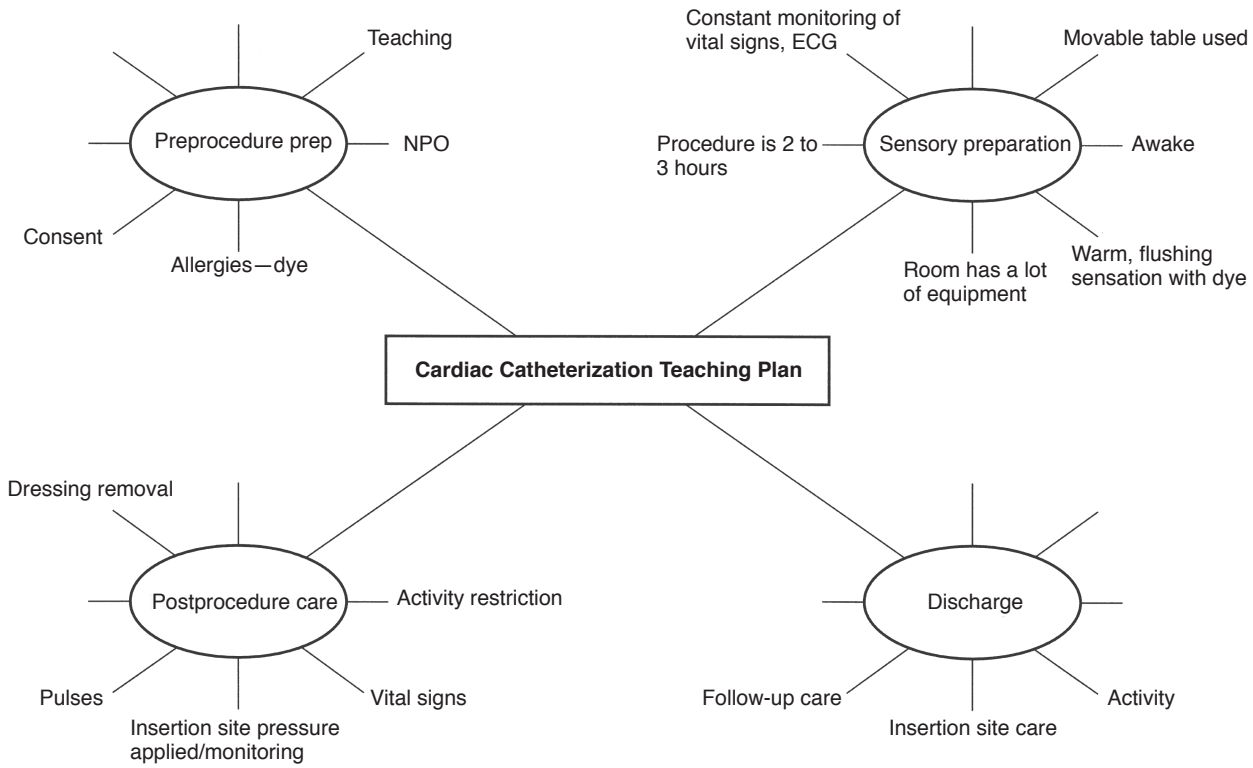
## CARDIOVASCULAR SYSTEM

1. cardiovascular
2. heart's
3. vascular, arteries
4. stiffen
5. *lub*, diastole
6. absent, normal
7. cardiac, catheterization
8. peripheral, pain, paresthesia, poikilothermia
9. vascular, venography
10. Homocysteine

## ACUTE CARDIOVASCULAR DATA COLLECTION

1. Allergies
2. Smoking
3. Pain
4. Weight gain
5. Crackles
6. Claudication
7. Fatigue
8. Pink-tinged sputum
9. Capillary refill
10. Clubbing

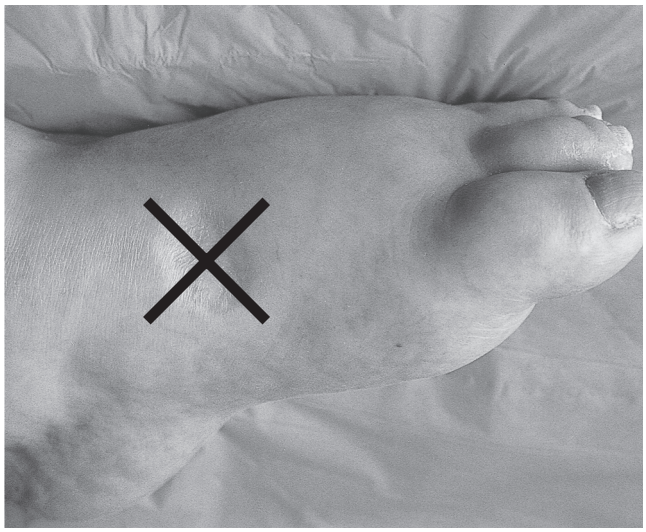
## CLINICAL JUDGMENT



## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct. Decreased arterial flow to the extremity is reflected in a slower capillary refill. (1, 3, 4) are not indicated by this finding.
2. (**1, 2, 3, 6**) are correct. The patient should not stand if dizzy. The patient can be at risk of falling, so a gait or walking belt should be used. To prevent a fall, nonslip footwear should be worn. The nurse should stand near the patient in case falling occurs. (4) is not related to blood pressure. (5) Rising quickly could cause dizziness and a fall.
3. (**3, 5, 6**) are correct. Weight control and exercise can reduce risk. Tobacco use can be modified through smoking-cessation programs to reduce risk. (1, 2, 4) are nonmodifiable risk factors.
4. (**3**, **4, 6**) are correct. On bedrest, edema will be found in dependent areas such as the sacrum. Turn patient, inspect sacrum for edema, and apply gentle pressure on it to determine the presence of pitting edema. (1) Exercise is not performed for an edema check. (2, 5) The sternum is not in a dependent position when a patient is supine on bedrest.
5. (**2, 4, 5, 6**) are correct. Types of allergies are verified because contrast media (dye) is used that causes a flushing sensation; firm pressure must be applied after the procedure to stop the bleeding, and therefore leg flexion is not allowed for several hours to ensure a clot forms at the insertion site. (1) A local anesthetic and sedation are used. (3) No equipment is used that would cause claustrophobia.
6. (**4**) is correct. Fiber helps prevent constipation and straining during bowel movements, which reduces cardiac workload. (1, 2, 3) are incorrect.
7. (**4**) Warfarin is correct. It prolongs the time for the blood to form a clot and is often stopped before surgery to prevent bleeding. (1, 2, 3) do not affect bleeding.
8. (**1**) is correct. An ankle blood pressure reading is expected to be 17 mm Hg higher than an arm blood pressure reading while the diastolic should be the same. (2, 3, 4) would not be normal findings for this patient's ankle blood pressure reading.
9. (**2**) is correct. The right arm is the arm with the higher reading, which is what should be used. (1) This is the arm with the lower reading. (3, 4) When the arms are available, the legs do not need to be used.
10. (**2**) is correct. Blood pressure can drop by up to 15 mm Hg when a patient sits or stands. (1, 3) are incorrect. (4) does not address patient's concerns or explain reason for the change.
11. (**3**) is correct. The pulse normally increases up to 20 beats per minute to compensate for a position change. (1) The patient does not need to return to bed. (2, 4) No symptoms are expected because the body is compensating normally, and orthostatic hypotension is not present.
12. (**2**) is correct. Reduced arterial blood supply results in a lack of oxygen and nutrients that contribute to the signs seen, so the legs should not be elevated because elevation reduces arterial blood flow. (1, 3, 4) may be performed.
13. (**3**) is correct. Medication is used instead of exercise when the patient cannot tolerate exercise to simulate how blood flow would increase with exercise in the coronary arteries. Diseased arteries do not vasodilate as greatly as healthy arteries so blood flow would be less through the diseased arteries. (1, 2, 4) are incorrect.
14. (**2, 3, 4, 6**) are data related to a possible cardiac event or arrhythmia, which could be causing the fatigue and dizziness. (1, 5) are not of importance for these symptoms.
15. (**1, 4, 5, 6**) occur during a cardiac catheterization. (2) The procedure takes 2 to 3 hours. (3) A moveable table is used.
16. (**1, 3, 4, 5**) are correct techniques to ensure accurate blood pressure measurements. (2) The cuff should be deflated slowly at rate of 2 mm Hg/second. (6) The patient should remain quiet, as talking and movement increase blood pressure.
17. Pitting peripheral edema supports the diagnosis of right-sided heart failure.



# Answers

## CHAPTER 22
## NURSING CARE OF PATIENTS WITH HYPERTENSION

### AUDIO CASE STUDY

#### Jenice and Hypertension

1. Jenice has the patient sit with both feet on the floor, rest arm on the table at heart level, and remain still and quiet, with no talking, for 5 minutes. She chooses a cuff of the right size—one that encircles 80% of the patient's arm.
2. A normal blood pressure (BP) reading.
3. Instructor confirms the BP, calls the patient's health-care provider (HCP), and informs the patient and spouse to go to the emergency room to have the BP assessed per the HCP.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**2**)
2. (**5**)
3. (**4**)
4. (**3**)
5. (**1**)
6. (**7**)
7. (**6**)
8. (**8**)

### DIURETICS

1. (**3**)
2. (**2**)
3. (**1**)
4. (**2**)
5. (**2**)
6. (**3**)
7. (**1**)
8. (**1**)

### HYPERTENSION RISK FACTORS

1. True
2. True
3. False
4. True
5. True

### BLOOD PRESSURE CATEGORIES

1. Elevated
2. Normal
3. Stage 2 hypertension
4. Elevated
5. Stage 1 hypertension

### CLINICAL JUDGMENT

1. Weight, smoking history, diet pattern and salt intake, alcohol use, exercise patterns, life roles, lack of insurance, and knowledge base.
2. Individualized teaching plan for Mrs. Martin's needs should be developed to improve her health literacy. It should include addressing weight management, diet and salt intake, exercise and sleep importance, and medications.
3. Diuretics remove excess salt and water to decrease blood volume and lower blood pressure. Hydrochlorothiazide (HydroDIURIL) is used for hypertension treatment if lifestyle modification does not lower blood pressure.
4. Provide information regarding the importance of controlling hypertension; gather financial data to ensure she has a funding source for possible lifelong medication.
5. BP readings on follow-up visits are within normal limits with medication.
6. **Suggested SBAR:**
   **S:** 42-year-old female patient on a return visit who is newly diagnosed with hypertension with BP readings today of 144/86 mm Hg and 142/86 mm.
   **B:** No known allergies. No prior history of medical problems. Several risk factors for hypertension: diet high in salt and fats, low activity, overweight. No prescription insurance.
   **A:** Teaching plan for newly diagnosed hypertension, lifestyle modifications, and new medication with no prior knowledge required. Has no insurance to obtain medication.
   **R:** Reinforce teaching plan. Referral to social worker regarding insurance. Monitor BP.

### REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1, 3, 5**) are correct. There is no known cause for primary hypertension as there is for secondary so testing will not identify a cause. An identified cause of hypertension is secondary hypertension. (2) Since there is no known cause, there are no tests to identify the cause, so this would indicate understanding. (4) The cause is unknown, so this would indicate understanding.

2. (**3**) is correct. Stage 2 hypertension is classified as a systolic blood pressure of 140 mm Hg or higher or a diastolic blood pressure of 90 mm Hg or higher. (1) Elevated blood pressure is a systolic blood pressure of 120 to 129 mm Hg and diastolic blood pressure of lower than 80 mm Hg. (2) Stage 1 hypertension is a systolic blood pressure of 130 to 139 mm Hg or a diastolic blood pressure of 80 to 89 mm Hg. 4. Hypertensive emergency is a systolic BP higher than 180 mm Hg or diastolic BP higher than 120 mm Hg.
3. (**1**) is correct. Enalapril maleate inhibits the conversion of angiotensin I to angiotensin II thereby decreasing the levels of angiotensin II. This decreases vasopressor activity. (2, 3, 4) The actions of enalapril maleate achieve antihypertensive effects by suppressing the renin-angiotensin-aldosterone system but not by adjusting the heart rate, dilating vessels, or decreasing cardiac output.
4. (**2**) is correct. Diltiazem prevents the movement of extracellular calcium into the cell that results in a therapeutic effect of vasodilation. (1, 3, 4) It does not increase heart rate, affect fluid volume, or increase cardiac contractility.
5. (**1, 3, 5, 6**) are modifiable risk factors for hypertension. (2, 4) Gender and race are nonmodifiable risk factors.
6. (**2**) is correct. Stage 2 hypertension is defined as a systolic blood pressure of 140 mm Hg or higher or a diastolic blood pressure of 90 mm Hg or higher. (1) Blood pressure measurement is the pressure that occurs during heart contraction, or systole, and during relaxation, or diastole. (3) Stress, activity, and emotions may temporarily raise blood pressure but do not cause hypertension. (4) is stage 1 hypertension.
7. (**1, 5**) are correct. Regular aerobic exercise and following the DASH dietary pattern are recommended to prevent and control hypertension. (2) Smoking, even low-tar cigarettes, is a risk factor for heart disease. (3) Alcohol intake is recommended to be limited to 1 oz/day. (4) A daily multivitamin supplement has not been shown to prevent or control hypertension.
8. (**4**) is correct. Headache is a side effect of hydralazine. (1, 2, 3) do not have headaches as a side effect.
9. (**3**) is correct. Medications for hypertension should be taken daily as directed. (1) The sun 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**) is correct. Thiazide and thiazide-like diuretics reduce reabsorption of potassium, so patients should be monitored for signs of hypokalemia and muscle weakness. (1, 3, 4) Numb hands, gastrointestinal distress, and nightmares are not common side effects of metolazone.
11. (**2**) is correct. Cough is a side effect of angiotensin-converting enzyme (ACE) inhibitors such as enalapril maleate. (1, 3, 4) Acne, diarrhea, and heartburn are not common side effects of enalapril maleate.
12. (**3**) is correct. Vital signs, especially blood pressure and heart rate, should be checked prior to administration of antihypertensive medications such as diltiazem. (1) Diltiazem does not affect total serum calcium levels. (2) Gastrointestinal side effects are not common. (4) Stopping diltiazem abruptly will not cause withdrawal syndrome like other medications, such as beta blockers, can.
13. (**4**) is correct. To manage hypertension, the patient must be willing to learn because knowledge is needed to control this chronic condition. (1) Hypertension is known as the "silent killer," as there are usually no signs or symptoms. Defining characteristics of decreased activity tolerance include abnormal electrocardiographic readings and vital signs as well as 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 with hypertension.
14. (**3, 5**) are correct. Although a patient may feel better after taking medication, the hypertension is well controlled but not cured. Medication is usually needed for life unless it can be controlled with lifestyle changes. (1, 2, 4) These are correct, so more teaching is not required. Hypertension can damage these target organs if it is not controlled.
15. (**2**) is correct. Normal blood pressure is lower than 120/80 mm Hg indicating that the medication was effective. The blood pressure would be too low below 90 systolic. (1, 3, 4) are not normal blood pressure readings so the medication was not effective.
16. (**1**) is correct. Reducing weight can help control blood pressure and is the most important lifestyle modification for this patient. (2, 3, 4) are important lifestyle modifications to control hypertension, but based on the data, they are not as important for this patient as weight control.
17. (**2**) is correct. Elevated blood pressure is often the only sign of hypertension which is why it is referred to as the silent killer. (1, 3, 4) are not signs of hypertension.
18. (**4, 5, 6**) are correct. A healthy diet can control blood pressure and includes eating fresh or frozen fruits and vegetables, reading food labels to make healthy choices, and being aware that some salt substitutes are higher in potassium. (1) Fresh or frozen foods are better. Some canned foods can be high in sodium. (2, 3) Sodium and fat should be restricted or avoided in the diet.
19. (**3**) is correct. Blood pressure within normal range indicates effective treatment. (1, 2,4) are all lifestyle modifications, but they are not evidence of controlled hypertension. A normal blood pressure reading is the evidence that BP treatment has been effective.
20. (**1**) is correct. The patient needs immediate treatment for a hypertensive emergency, so the nurse calls 911. (2) The nurse's scope of practice does not allow the prescribing of medication. (3) It would not be safe for the patient to return to work. This is an emergency condition that cannot wait to be evaluated. (4) Medical treatment in an ICU is required.

# Answers

## CHAPTER 23
## NURSING CARE OF PATIENTS WITH VALVULAR, INFLAMMATORY, AND INFECTIOUS CARDIAC OR VENOUS DISORDERS

### AUDIO CASE STUDY

#### Mrs. Bell: Mitral Regurgitation and Anticoagulants

1. Shortness of breath when exercising, fatigue, coughing, some swelling in the ankles, and palpitations.
2. Heart murmur, enlargement of left ventricle, atrial fibrillation, hypertrophy of the left atrium, and regurgitation of blood.
3. Mitral valve leaflets of the valve are not closing properly, which lets blood flow backward into the left atrium each time the heart contracts. This backflow creates extra volume that the heart must pump in addition to the new blood that comes with each heartbeat. Over time, this increased blood volume dilates and increases pressure in the left atrium and the left ventricle. Eventually, the ventricles may not be able to pump blood effectively, and they could fail from the increased strain.
4. Have blood coagulation level checked monthly, so your blood isn't "thinned" too much. Wear medical information jewelry and carry a card so medical personnel know you take warfarin and that you have a mechanical heart valve. Certain foods (e.g., broccoli, spinach, and other dark green leafy vegetables) contain vitamin K, which can reduce the effects of warfarin. Eat these higher vitamin K foods in consistent amounts; don't eat a large amount one time and a little bit another time. Keep the amount and frequency per week steady, so you can get established on a warfarin dosage and keep your blood level of it steady. Promptly seek medical attention if injured or bleeding, as it may be difficult to stop bleeding, which can become life-threatening.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. annuloplasty
2. commissurotomy
3. insufficiency
4. regurgitation
5. stenosed
6. valvuloplasty
7. chorea
8. pericarditis
9. myocarditis
10. petechiae
11. pericardiocentesis
12. cardiac tamponade
13. cardiomyopathy
14. cardiomegaly
15. myectomy
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, with the cause **unknown**. Infections that damage the mitral valve may be a contributing factor. It is the most common form of valvular heart disease. Most patients with MVP have **no** symptoms. Symptoms that may occur include chest pain, arrhythmias, 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 and aortic valves.
7. False. Enlarges.
8. False. Occur late.
9. True
10. True
11. True
12. True
13. True
14. True
15. False. Current guidelines consider antibiotics only for those at high risk before certain invasive procedures.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. Aging. After age 60, a person is at greater risk for calcification of the aortic valve.
2. The left ventricle contracts more forcefully and over time hypertrophies to increase contractility.
3. 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.
4. Life-threatening arrhythmias, sudden cardiac death, endocarditis, emboli, or heart failure (HF) can occur, so the valve is replaced.
5. Is there a history of a congenital heart defect or rheumatic fever.
6. Left ventricular failure.
7. "Hypertrophy or enlargement of the heart is a compensatory mechanism of your heart to maintain blood flow out of your heart to the rest of your body." Mrs. Murphy's heart, like any muscle in the body, has enlarged due to the increased workload of pumping blood through the narrowed aortic opening.
8. **Suggested SBAR:**
   **S:** I am caring for Mrs. Murphy, age 72, in room 536 who is admitted for an aortic valve replacement tomorrow.
   **B:** Mrs. Murphy experiences fatigue and dyspnea with exertion.
   **A:** Vital signs are stable. Anginal episode with ambulation that resolved with rest. Preoperative teaching reinforced.
   **R:** Continue to monitor activity and for signs and symptoms of reduced cardiac output and ischemia; reinforce preoperative teaching.

## INFLAMMATORY AND INFECTIOUS CARDIOVASCULAR DISORDERS

1. (**3**)
2. (**4**)
3. (**1**)
4. (**5**)
5. (**2**)

## RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

*Corrections are in **boldface.***

Rheumatic fever occurs **after** a streptococcal infection such as a sore throat. Rheumatic fever signs and symptoms include polyarthritis, subcutaneous nodules, **chorea** with rapid and **uncontrolled** movements, carditis, fever, arthralgia, and **pneumonitis**. A throat culture diagnoses **a beta-hemolytic streptococcal 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***

| Intervention | Rationale | Evaluation |
|---|---|---|
| Monitor pain using a rating scale, such as 0 to 10. | *Self-report is the most reliable indicator of pain.* | What is the patient's desired pain relief goal and pain level? |
| **Geriatric:** Use appropriate pain scale for patients unable to communication or with dementia. | *Pain scales are available for those who are unable to reliably communicate their pain for appropriate treatment.* | Are indicators of pain absent or resolved? |
| Provide analgesics and NSAIDs as ordered. | *Analgesics relieve pain. Pain is reduced when inflammation is decreased, which is the action of NSAIDs.* | Is patient's rating of pain lower after medication? |
| Apply warm, moist compresses as ordered. | *Moist heat penetrates deeply to relieve pain and increase circulation to aid comfort.* | Does patient report increased comfort with warm, moist compresses? |

## NURSING DIAGNOSIS
### *Impaired Skin Integrity Related to Venous Stasis*

| Intervention | Rationale | Evaluation |
|---|---|---|
| Observe skin for edema, skin color changes, and ulcers. Measure both extremities' circumference at the same site in each extremity daily or as ordered. | *Monitoring will detect signs of skin integrity impairment. Edematous skin breaks down more easily.* | Is there a change in edema or skin integrity? |
| Elevate feet above heart level. | *Elevation decreases swelling by increasing venous return to heart.* | Is swelling reduced as measured by a 0–4+ pitting depth scale: 0+ no pitting, 1+ 2 mm, 2+ 4 mm, 3+ 6 mm, 4+ 8 mm? |
| Fit and apply compression stockings after edema is reduced, as ordered. | *Compression stockings, fitted after edema is reduced to avoid constriction, increase venous return to heart to reduce swelling.* | Is swelling reduced by compression stockings? |
| Reinforce teaching to avoid crossing legs or wearing constrictive clothes. | *Crossing legs and constrictive clothes impair venous return.* | Does patient demonstrate understanding of teaching? |

## PRIORITIZATION

1. (**1**) is correct. Angina indicates cardiac ischemia and requires prompt intervention. (2, 3, 4) Constipation requires further data collection and then may require intervention, but it is not life threatening; peripheral edema is an expected sign of deep vein thrombosis; a decrease in weight that indicates a fluid loss is a positive finding with mitral valve prolapse.
2. (**1, 4, 5, 7**) are correct. These signs and symptoms can indicate a blood clot. (2, 3) are seen with heart failure. (6) This is in the left calf not the right. Redness may be one of the indicators of a blood clot when seen in the same leg in which other indicators of a blood clot are seen.

## CRITICAL THINKING

1. Enlargement of the heart muscle, especially along the septum without dilation of the ventricle, which does not relax or fill easily.
2. Smaller ventricular size due to wall thickening, reduced ventricular filling because of decreased relaxation and size.
3. Chest x-ray or echocardiogram.
4. Digoxin would increase contractility in a heart that already does not relax easily. Filling of the heart chambers with blood would be decreased even more as a result of even less relaxation occurring.
5. (a) Because cardiac output is already 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 have a useful role and feel 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.

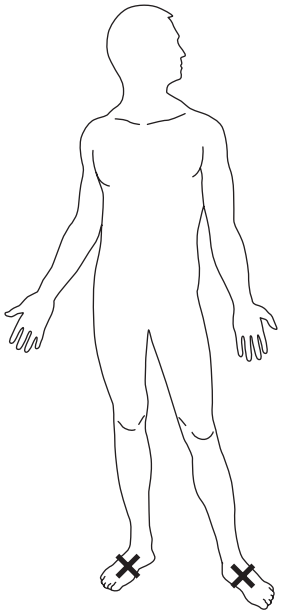
## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**4**) A streptococcal infection is a bacterial infection treated with the antibacterial agent penicillin. (1, 2, 3) are not antibacterial agents.
2. (**2**) is correct. Symptoms are often not present in mitral valve prolapse. (1, 3, 4) do not typically apply to mitral valve prolapse.
3. (**4**) In commissurotomy, the valve flaps that have adhered to each other and closed the opening between them, known as the *commissure*, are separated to enlarge the valve opening. (1, 2, 3) Valve replacement or repair does not occur during a commissurotomy.
4. (**3**) Mechanical valves require anticoagulation for the lifetime of the valve to prevent emboli, unlike biological valves, which are less likely to create emboli. (1, 2, 4) are incorrect timeframes.

5. (**4**) is correct. Cardiac catheterization measures chamber pressures. (1) An electrocardiogram is a tracing of the cardiac rhythm. (2) An exercise stress test reveals cardiac tolerance to activity. (3) An echocardiogram shows blood flow through the heart chambers and may estimate chamber pressures but not actually measure them.
6. (**4**) is correct. A beta-hemolytic streptococcal infection can precede rheumatic fever. (1, 2, 3) are not causes of rheumatic fever.
7. (**3**) is correct. Chest pain is the most common symptom, especially with deep inspiration. (1, 2, 4) are not the most common symptoms of pericarditis.
8. (**3**) is correct. The patient's outcome would be to verbalize knowledge of the disorder. (1) is an outcome for *Decreased Cardiac Output*. (2) is an outcome for *Decreased Activity Tolerance*. (4) is an outcome for *Fear*.
9. (**1, 6**) are correct. Furosemide (Lasix), a potassium-wasting diuretic, helps prevent pulmonary edema, a complication of decreased cardiac output and heart failure. A potassium supplement is often needed with furosemide. (2, 3, 4, 5) do not help prevent complications that are related to decreased cardiac output.
10. (**1**) is correct. Determining the patient's and family'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) should be part of the teaching plan, but it is not the most essential intervention to promote learning.
11. (**1, 3, 5, 6**) are correct. Wearing medical identification is essential in case of a bleeding problem or loss of consciousness; blood test appointments are monthly to ensure warfarin level is therapeutic; to establish a therapeutic level of warfarin, consistency in the amount and frequency of green leafy vegetables as part of a healthy diet is required to prevent ingesting inconsistent levels of the vitamin K that is contained in the vegetables; signs and symptoms to report to the HCP are important to know to prevent life-threatening complications. (2) Citrus fruits do not have to be avoided. (4) An electric razor is to be used when shaving to prevent cuts and bleeding from the desired increased clotting times.
12. (**1, 2, 3, 5**) are correct. Compression stockings, early ambulation, sequential compression devices, and leg exercises help prevent deep vein thrombosis. (4) is not preventive and could contribute to development of deep vein thrombosis, so pain should be managed to promote early ambulation.
13. (**4**) is correct. Heart failure can occur because of fluid congestion in the lungs, so lung sounds are auscultated to see if crackles, indicating fluid congestion, are present. (1, 2, 3) are not the current priority.
14. (**2**) is correct. The first action to take for administration of warfarin is checking international normalized ratio values for therapeutic range to determine if it is safe to give the warfarin. (1, 3, 4) are actions during medication administration but not the first action.
15. (**4**) is correct. A 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 for this patient at this time, although the pain will need to be addressed.
16. (**3**) is correct. Partial thromboplastin time is monitored for heparin therapy. (1) It is not monitored for heparin therapy. (2, 4) are monitored for warfarin therapy.
17. (**2**) is correct. Vitamin K is the antidote for warfarin, as it provides clotting factors (prothrombin). (1, 3) are incorrect. (4) is the antidote for heparin.
18. (**2**) is correct. The desired outcome for pain is that it is satisfactorily relieved according to the patient. (1) This is the outcome for anxiety. (3, 4) would not be appropriate for a patient with acute deep vein thrombosis because activity may be restricted, and warm therapy should be used to increase blood flow and healing.
19. (**2**) is correct. A throat culture must be done to rule out a streptococcal infection, which can lead to cardiac complications. (1, 3, 4) are not essential to prevent cardiac complications with these reported symptoms.
20. (**2**) is correct. The health-care provider should be informed now because the international normalized ratio (INR) monitors warfarin, and it is above the therapeutic range. (1) It is not within the nurse's scope of practice to prescribe medications. An unscheduled dose of warfarin is not needed since the international normalized ratio is elevated and bleeding could occur. (3, 4) The health-care provider must provide orders for warfarin administration based on the INR value.
21. (**1, 4, 6**) are correct. Leg elevation to reduce swelling may be ordered. Apply compression stocking(s) as ordered, usually to only the unaffected leg until the acute condition resolves. Heat provides pain relief and increases circulation to resolve the condition. (2, 3, 5) Activity level must be prescribed during an acute thrombophlebitis episode; leg exercises and massage could encourage emboli development, so they are avoided.
22. (**2**) is correct. It is above therapeutic range. (1) Bleeding time does not measure warfarin effects. (3) Partial thromboplastin time measures heparin effects. (4) Prothrombin time is within therapeutic range.
23. (**4**) is correct. The patient is experiencing paroxysmal nocturnal dyspnea, which occurs from increased fluid returning to the heart from the release of gravity on the legs when in a reclining position; the returning fluid then builds up in the lungs. (1, 2, 3) are not related to paroxysmal nocturnal dyspnea.
24. (**2, 3**) are correct. Dyspnea and fatigue can indicate heart failure, which are complications of cardiomyopathy. (1, 4, 5) are not priority symptoms of cardiomyopathy.

25. The nurse palpates pedal pulses, on the top of the feet in the first intermetatarsal space lateral to the extensor tendon of the great toe, for a patient who has peripheral arterial disease.



# Answers

## CHAPTER 24
## NURSING CARE OF PATIENTS WITH OCCLUSIVE CARDIOVASCULAR DISORDERS

### AUDIO CASE STUDY

### Kathy: Angina and Myocardial Infarction

1. Nitrates dilate the arteries lowering peripheral vascular resistance (afterload) and volume of blood returning to the right heart (preload). This includes the coronary arteries so that more blood and oxygen reach the heart muscle. This reduces pain.

   If pain is easing but not completely gone, use one nitroglycerin (NTG) sublingual tablet or spray every 5 minutes; use up to a total of three sublingual tablets or sprays. If pain is unrelieved after one NTG dose and other symptoms of a myocardial infarction (MI) are present, call 911. Do not drive to the hospital; paramedics can start treatment immediately upon their arrival.
2. Shortness of breath, pain in lower jaw, indigestion, tired, feeling of heaviness, feeling scared as though something very bad is happening.
3. Emergency percutaneous coronary intervention for stent placement in the cardiac catheterization lab.
4. Concept map suggestions:
   Pathophysiology: Blockage of coronary arteries by thrombus or spasm. Modifiable risk factors: Smoking, hypertension, obesity, diabetes mellitus, lack of physical activity, stress, high cholesterol. Signs and symptoms: Chest pain with radiation to arms, shoulders, hands, back, lower jaw; dyspnea; indigestion; nausea, vomiting. Diagnosis: History and physical, EKG—ST elevation, troponin T, myoglobin, CK-MB, cardiac catheterization. Treatments: Medications: nitroglycerin, beta blocker; continuous cardiac monitoring; angioplasty with stenting; thrombolytics. Complications: Arrhythmias, heart failure, cardiogenic shock, pulmonary edema, pericarditis, sudden death.
5. **Suggested SBAR:**
   **S:** Mrs. Gallegos came to the emergency department with angina that was not relieved with NTG in the presence of possible symptoms of an MI.
   **B:** She has a history of angina and uses NTG.
   **A:** An MI was confirmed with patient history and symptoms, ECG, elevated troponin T, myoglobin, and CK-MB.
   **R:** Maintain comfort and emotional support and monitor for complications to report.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**4**)
2. (**9**)
3. (**13**)
4. (**10**)
5. (**18**)
6. (**16**)
7. (**12**)
8. (**2**)
9. (**5**)
10. (**7**)
11. (**3**)
12. (**1**)
13. (**8**)
14. (**11**)
15. (**14**)
16. (**19**)
17. (**15**)
18. (**17**)
19. (**20**)
20. (**6**)

### ATHEROSCLEROSIS

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 (e.g., chocolate, cocoa, and caffeinated carbonated drinks) because metabolism rates slow after quitting causing caffeine levels to rise. This can cause caffeine toxicity with anxiety, impatience, insomnia, or difficulty concentrating. Avoid stimulants. Increase fluid intake, especially during first 3 days of quitting smoking; this will help wash nicotine out of the system. (Answers will vary based on modifiable risk factor selected.)

## MYOCARDIAL INFARCTION

*Corrections are in **boldface.***

Myocardial infarction (MI) is the death of a portion of the **heart muscle** usually caused by a blockage or spasm of a coronary artery. 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.

Pain is often the **most** common symptom. The pain **may radiate to one or both arms and shoulders, the neck, and the lower 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.

Three strong indicators of an MI are patient history, abnormal electrocardiographic readings, and **troponin T** levels.

Nitroglycerin **sublingual**, topical, or by intravenous (IV) drip is administered. Percutaneous coronary intervention is a frequent treatment option for an occluded coronary **artery**. The nursing care plan should include factors that contribute to **increased** cardiac workload.

## PHARMACOLOGICAL TREATMENT

1. (**8**)
2. (**3**)
3. (**1**)
4. (**7**)
5. (**2**)
6. (**5**)
7. (**10**)
8. (**6**)
9. (**4**)
10. (**9**)

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. Intermittent claudication is associated with arterial occlusive disease. This is pain in the calves of the lower extremities that occurs with activity or exercise. When there is poor blood supply to the muscles, they are unable to receive increased oxygen when needed to meet the demand of increased activity. Ischemia results. 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.
2. Smoking contributes to loss of high-density lipoproteins, which is the best type of cholesterol to decrease the risk of cardiovascular disorders. The rate of progressive damage to vessels increases with smoking. Smoking also contributes to vasoconstriction, which reduces blood delivery to muscles and can also lead to angina and cardiac arrhythmias.
3. (**2**) is correct. Patient Outcome: Patient will exhibit signs of increased arterial blood flow and tissue perfusion.
4. Medications, exercise program, hypertension control, nutrition, and tobacco cessation.
5. HCP, dietitian, director of tobacco-cessation program.

## PRIORITIZATION

1. (**3**) is correct. Providing supplemental oxygen is the first action to take to help relieve symptoms of acute heart failure. (1) If the patient is unable to notify their family after they are stabilized, then the nurse can do so as directed by the patient. The priority is to stabilize the patient first. (2) After oxygen is administered, then assisting the patient into a position that aids breathing ability is important. This is usually an upright position. (4) The HCP is notified for treatment orders, after addressing immediate oxygenation needs or simultaneously by someone assisting the nurse who remains with the patient.
2. (**1, 3, 4**) are all symptomatic of atherosclerosis and decreased arterial circulation, which is a priority to report to ensure adequate circulation is provided to the extremities.

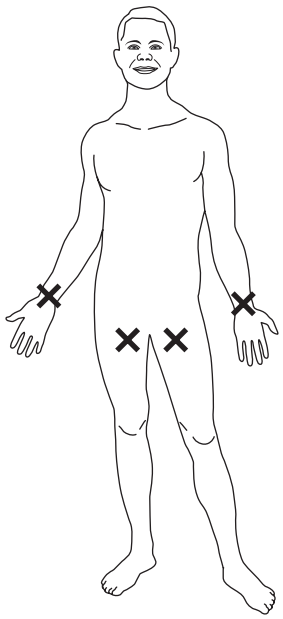
## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1, 3, 4, 2, 6, 5**) is the correct order.
2. (**1, 2, 3, 5**) are correct. Activity restriction, use of a commode instead of a bedpan, rest periods for sleep and stress reduction, and a stool softener to reduce straining in the early post-MI recovery phase reduces cardiac workload. (4) Cardiac rehabilitation will begin ambulation slowly, not four times a day 2 days after the MI. (6) A clear liquid diet advanced to a soft diet over the first few days reduces cardiac workload.
3. (**2, 3, 4, 5**) are correct. Fatigue, nausea, pain between shoulder blades, and shortness of breath are symptoms seen in women in the absence of chest pain. (1, 6) are not atypical symptoms of an MI.
4. (**1, 2, 5, 6**) are recommended to reduce cholesterol. (3, 4) do not help reduce cholesterol.
5. (**3**) is correct. Lack of sufficient oxygen to the myocardium is the cause of chest pain. (1) causes wasting of heart muscle. (2) causes arrhythmias. (4) can increase the demand for oxygen but insufficient oxygen is the cause of the pain.
6. (**4**) is correct. An exercise stress electrocardiogram 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 rhythms, or significantly elevated blood pressure, the diagnostic testing is stopped. (1, 2, 3) are incorrect.

7. (**4**) is correct. 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.
8. (**1**) is correct. If nitroglycerin tablets are fresh, the patient should feel tingling or fizzing under the tongue. Tablets usually need to be replaced every 3 months. (2, 4) Nitroglycerin tablets do not disintegrate or change color when old. (3) Aspirin smells like vinegar when it becomes old, not nitroglycerin tablets.
9. (**2**) is correct. Fresh vegetables without added salt are low sodium foods. (1, 3, 4) are high in sodium.
10. (**4**) is correct. Coronary artery bypass grafting is done to bypass an obstruction in a coronary artery to increase blood flow to the myocardium to prevent ischemia. (1) It does not cure coronary artery disease. (2, 3) do not decrease blood flow to or prevent spasms of the coronary arteries.
11. (**3, 5, 6**) are correct. Saturated fats come primarily from animal and dairy products and some plants, including the "tropical oils" (e.g., palm oil and coconut oil). (1, 2, 4) Avocado, tuna, and olive oil have polyunsaturated fats and should be included in the diet.
12. (**2**) is correct. Cool and cyanotic skin indicates an acute circulation problem that requires prompt treatment. (1, 4) are not acute problems. (3) Hyperemia is an intense reddening, often of the hands, that occurs with warming after exposure to cold in those with arterial spasm/Raynaud disease.
13. (**1, 2, 3, 6**) are correct. Pain is the primary symptom; cramping is also a feature to a lesser extent; numbness, intermittent claudication and other symptoms of occlusive disease are common. (4, 5) Swelling and bounding pulses are not characteristic of Buerger disease.
14. (**2**) is correct. (1, 3, 4) are not descriptive of Raynaud disease.
15. (**1**) is correct. Vasoconstriction must be avoided with Buerger disease. (2, 3, 4) are not related to Buerger disease.
16. (**2, 3, 4, 5**) Always remain with patient during an episode of chest pain, offer reassurance that heart is being monitored; explain procedures; advocate for a calm, quiet, stress-free environment during acute periods of pain; show the family where to wait; and tell them you will keep them informed about the patient's status. Allow family to return, one at a time per patient request, after the acute pain episode is resolved. (1) Do not leave the patient isolated or alone during an acute pain episode. Provide emotional support by remaining with the patient. (6) The noise of a television may be irritating and increase anxiety. A quiet, calm environment can be more restful.
17. (**2**) is correct. Intermittent claudication (calf pain with exertion) occurs with peripheral arterial occlusive disease (PAD). (1) is a symptom of cardiac ischemia. (3) is bruising and not related to PAD. (4) Stasis ulcers occur due to peripheral venous disease.
18. (**3**) is correct. The patient should keep legs dependent (down) to promote arterial blood flow to distal extremities. (1, 2, 4) all impede arterial blood flow downward through the extremity and should be avoided.
19. (**1, 3, 4**) are correct. The antiplatelet agents aspirin and clopidogrel are used to prevent blood clots; cilostazol is a vasodilator that is effective in relieving claudication to improve walking ability. (2) is an antiarrhythmic. (5) is an antianginal medication.
20. Radial and femoral sites are most commonly used for a cardiac catheterization. Jugular and brachial sites can also be considered by the HCP but are not common.



# Answers

## CHAPTER 25 NURSING CARE OF PATIENTS WITH CARDIAC ARRHYTHMIAS

### AUDIO CASE STUDY

#### Sandy and Identification and Care of Arrythmias

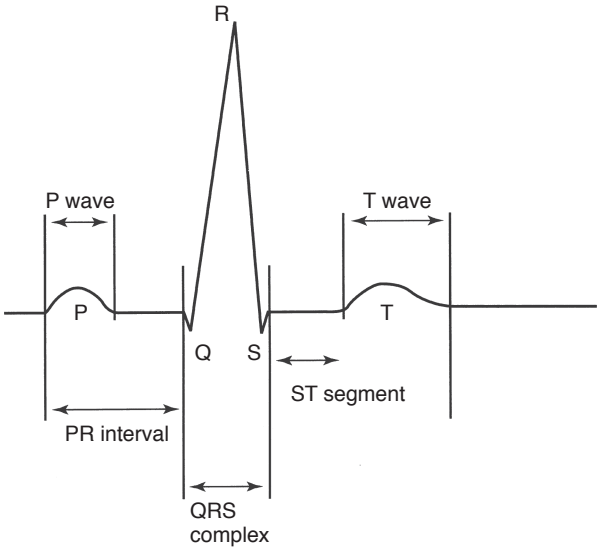
1. (1) Regularity of rhythm, (2) heart rate, (3) P waves, (4) PR interval, (5) QRS interval, and (6) QT interval.
2. An arrhythmia with a block.
3. PR interval is .12 to .20 seconds. QRS interval is equal to or less than 10 seconds.
4. Transcutaneous pacemaker: Provides temporary emergency external pacing for a sudden life-threatening arrhythmia, as it is easy to initiate with pads on the skin. Temporary transvenous pacemaker: Provides internal pacing after bedside placement by the HCP until a permanent pacemaker can be implanted. Permanent pacemaker: Provides permanent pacing for the life of the pacemaker battery for the life-threatening third-degree heart block rhythm after placement by the HCP in surgery.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**19**)
2. (**9**)
3. (**5**)
4. (**15**)
5. (**8**)
6. (**4**)
7. (**12**)
8. (**11**)
9. (**21**)
10. (**2**)
11. (**13**)
12. (**10**)
13. (**16**)
14. (**3**)
15. (**7**)
16. (**14**)
17. (**1**)
18. (**17**)
19. (**20**)
20. (**18**)
21. (**6**)

### COMPONENTS OF A CARDIAC CYCLE




### HEART RATE

1. 100
2. 110
3. 80

### CARDIAC CONDUCTION

1. (**5**)
2. (**9**)
3. (**12**)
4. (**18**)
5. (**24**)
6. (**21**)
7. (**17**)
8. (**1**)
9. (**23**)
10. (**13**)
11. (**8**)
12. (**15**)
13. (**22**)
14. (**20**)
15. (**14**)
16. (**3**)
17. (**19**)
18. (**16**)

19. (**4**)
20. (**7**)
21. (**10**)
22. (**11**)
23. (**6**)
24. (**2**)

## ELECTROCARDIOGRAM INTERPRETATION

A.
1. Rhythm: Regular
2. Heart rate: 38 beats per minute (bpm)
3. P waves: Rounded and upright in lead II, precede each QRS complex, alike
4. PR interval: 0.16 seconds
5. QRS interval: 0.10 seconds
6. QT interval: 0.40 seconds
7. Electrocardiogram (ECG) interpretation: Sinus bradycardia

B.
1. Rhythm: Regular
2. Heart rate: 100 bpm
3. P waves: Smoothly rounded and upright in lead II, precede each QRS complex, alike
4. PR interval: 0.14 seconds
5. QRS interval: 0.06 seconds
6. QT interval: 0.34 seconds
7. ECG interpretation: Normal sinus rhythm

## CRITICAL THINKING AND CLINCIAL JUDGMENT

1. Collect patient data (vital signs with apical rate), note symptoms, and place patient on cardiac monitor and oxygen per agency protocol. Remain with patient and provide reassurance.
2. Light-headedness, feeling of heart skipping, chest pain, fatigue.
3. 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, and continue to remain with patient to help alleviate anxiety.
4. **I:** State your name, title, and where you are calling from.
   **S:** I am calling about Mrs. Samuels in room 426.
   **B:** She was admitted with chest pain and is a full resuscitation. Her potassium level is 2.8 mEq/L.
   **A:** I have just collected data on Mrs. Samuels, and I am concerned about her ECG, which shows sinus rhythm with bigeminal PVCs that are occurring at more than 6 per minute that are close to the T wave. She states she is short of breath with exertion. Her blood pressure is 104/56 mm Hg, apical pulse is 78 bpm and irregular, and respirations are 16 breaths per minute.
   **R:** I am asking that you order a 12-lead ECG, pulse oximeter to monitor her oxygen saturation, a repeat potassium level, and prescribe oxygen, medication for the low potassium level, and an antiarrhythmic medication if indicated.
   **R:** I am repeating back the orders you gave to confirm them.
5. ECG, oxygen, pulse oximeter, administration of potassium, electrolyte level monitoring; possible antiarrhythmic agent for symptoms.

## PRIORITIZATION

(**2**) is correct. The pacemaker should ensure a heart rate that is within normal limits, which 50 is not. The pacemaker requires assessment. (1) 58 is an acceptable rate in atrial fibrillation when it is treated with a beta blocker to slow the heart rate. (3) The heart rate is within normal limits. (4) The patient's rhythm and heart rate are within normal limits.

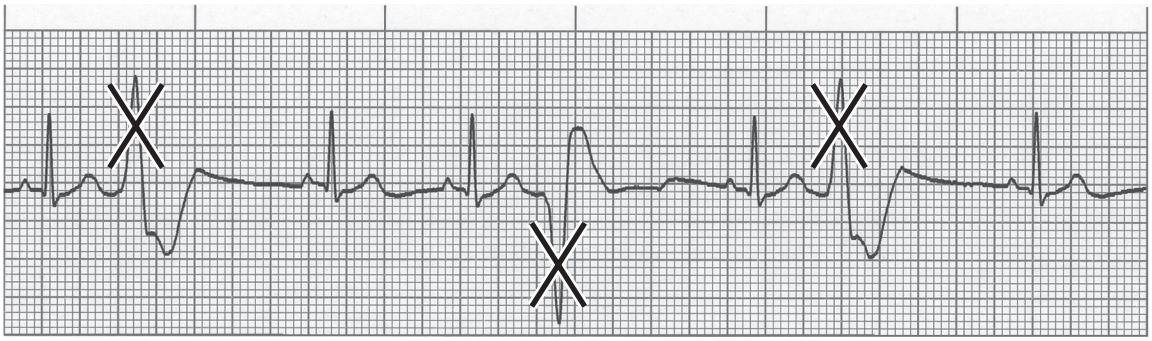
## REVIEW QUESTIONS

*The correct answers are in **boldface.***

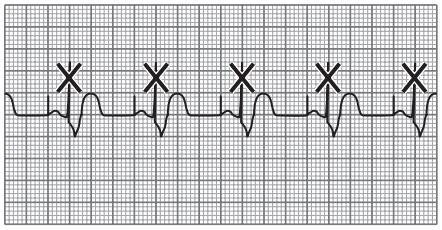
1. (**3**) is correct. Defibrillation is used for initial treatment of pulseless ventricular tachycardia to reset the heart's rhythm. (1, 2, 4) are not treatments for pulseless ventricular tachycardia.
2. (**2**) is correct. With a systematic method, it is more difficult to miss abnormalities. (1, 3, 4) are not the primary reason for a systematic method, although they may be beneficial.
3. (**2, 5, 6**) are correct. Teaching for pacemaker care includes avoiding strong electromagnetic wave devices and keeping MP3 headphones both clip on and earbud which contain magnetic components that could interfere with the pacemaker settings safely away from the pacemaker (6 inches is recommended). For MP3 headphones, do not carry them in a chest pocket, have them rest on your chest or allow anyone wearing them to rest their head near the pacemaker. Bluetooth headsets for cell phones are acceptable to use. To detect abnormal functioning of the pacemaker, report the daily pulse rate if it is 5 beats over or under the set rate to the HCP. One of the things it could signify is that the battery requires changing. (1) Microwaves do not interfere with today's pacemakers. (3) Only certain pacemakers are compatible with magnetic resonance imaging. (4) Bedrest is not required for 48 hours.
4. (**1**) is correct. The patient should be assisted onto a gurney (stretcher), which reduces cardiac workload and promotes safety; it also allows treatment to begin quickly. (2, 4) The patient should not be ambulating with signs of cardiac ischemia. (3) Transferring from a wheelchair to bed upon return to the patient's room would increase cardiac workload.
5. (**2**) tablets should be given for each dose.
6. (**3**) is correct. Examine the patient and check the monitoring equipment to ensure it is attached and functioning appropriately. Monitored rhythms can sometimes be deceptive. Artifact may be present and distort the rhythm. Always "treat the patient, not the monitor." (1, 2, 4) may be appropriate actions after the patient and monitoring equipment is examined, if indicated.

7. (**3, 4**) are correct. Digoxin increases the force of heart contractions and slows the heart rate. (1) Digoxin is not an antiarrhythmic agent. To decrease ectopic beats, an antiarrhythmic agent would be given. (2) Heart rate does not increase with digoxin. (5) To raise blood pressure, a vasopressor such as dopamine would be given.
8. (**1**) is correct. Atrial fibrillation can cause interruptions in the movement of blood through the heart and the formation of a thrombus, with serious consequences such as a stroke from an emboli. Anticoagulants such as warfarin will be used to prevent thrombus formation. It could be life threatening to stop it without the knowledge of the health-care provider even though it does require the patient to have regular lab monitoring of the INR. The patient would require further teaching about the importance of this medication and lab monitoring if this statement had been made. (2) Swelling of feet, often an early sign of heart failure, could be a less serious result of atrial fibrillation to be addressed. (3) Exercise is not contraindicated, although an exercise routine should be carefully constructed for a patient with a cardiac history. (4) Sleep is a psychosocial concern and not the highest priority related to atrial fibrillation. However, this should be addressed at an appropriate time.
9. (**1, 3, 4, 5**) are correct. These are treatments used for atrial fibrillation. (2) Nitroglycerine treats angina. (6) Epinephrine is not a treatment for atrial fibrillation. It is used for cardiac arrest or allergic reactions.
10. (**1**) is correct. Three or more premature ventricular contractions in a row constitute ventricular tachycardia. (2) Bigeminy is a premature ventricular contraction every second beat. (3) Trigeminy is a premature ventricular contraction every three beats. (4) Premature ventricular contractions are not seen in ventricular fibrillation which is a quivering of the ventricles that produces an inadequate heart rhythm.
11. (**4**) is correct. 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 a treatment method for this. (3) Defibrillation is not an appropriate treatment for stable ventricular tachycardia.
12. (**1**) is correct. Asystole is seen as a flat line in the absence of electrical activity. (2) Rapid P waves appear as *flutter* waves on electrocardiogram. (3) Atrial rate is extremely rapid and irregular on electrocardiogram. (4) Ventricular fibrillation is seen as a chaotic ventricular waveform.
13. (**2**, **3, 5**) are correct. 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. Have the health-care provider contacted as these actions are being done. (1) This cannot be done until HCP orders are given to do so. (4) is not an appropriate action with a patient who is anxious or experiencing a cardiac. Remain with the patient to provide emotional support. (6) is not an appropriate position for a patient who is short of breath, as it would restrict respiratory movements or a patient having a cardiac event as it can return excess blood flow from the legs to the heart which the heart is unable to handle.
14. (**4, 5**) are correct. Third-degree atrioventricular block requires a permanent pacemaker, and symptomatic bradycardia may require it, depending on the cause. (1, 2, 3, 6) are not treated with a permanent pacemaker.

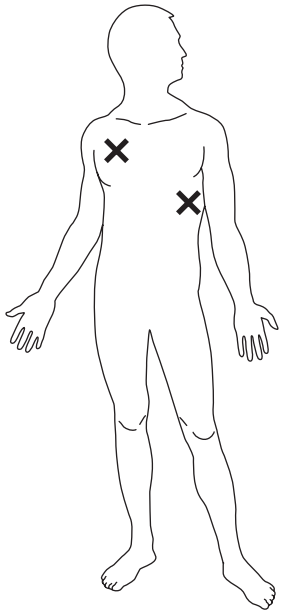
15. Premature ventricular contractions on the ECG strip.



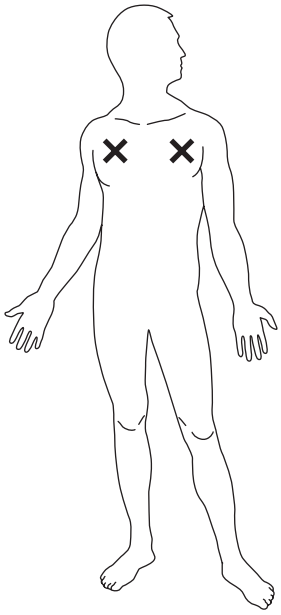
16. Ventricular pacemaker spikes precede a paced QRS on the ECG strip.



17. The two areas on the person where the nurse should attach the automatic external defibrillator pads.



18. The two areas where a permanent pacemaker's incisions could be found.



# Answers

## CHAPTER 26
## NURSING CARE OF PATIENTS WITH HEART FAILURE

### AUDIO CASE STUDY

#### Mrs. Sims and Heart Failure

1. Mrs. Sims gained 3 pounds in 2 weeks. Her ankles are swollen, and her shoes are tight. She is short of breath, has neck (jugular) vein distention, tires easily, and gets up to go to the bathroom as soon as she falls asleep. She awakened feeling as if she were suffocating.
2. Oxygen on at 2 L by cannula, intravenous (IV) diuretic.
3. Acute heart failure (HF) known as *pulmonary edema*.
4. Mrs. Sims was placed into the Fowler position so her lungs could expand more easily. Her oxygen was changed to a mask to provide higher oxygen amounts. Endotracheal intubation and mechanical ventilation were ordered on standby in case they were needed. Morphine was given via IV to quickly reduce anxiety, relax airways, and decrease preload. A diuretic was also given at an increased dose to reduce fluid congestion. A vasodilator was given to reduce hypertension and afterload, thus easing the heart's workload. A urinary catheter was inserted.
5. **Suggested SBAR:**
   **S:** Mrs. Sims, age 70, in emergency department due to paroxysmal nocturnal dyspnea episode from chronic heart failure and hypertension.
   **B:** Attended wedding events and did not maintain low-sodium diet or get enough sleep. Gained 3 pounds in 2 weeks and has bilateral ankle edema with report of tight shoes. Reported increased dyspnea, fatigue, and poor sleep pattern.
   **A:** Fluid retention due to increased dietary sodium intake led to development of acute heart failure, which has been treated with a diuretic and vasodilator.
   **R:** Continue to maintain cardiac monitor and oxygen as prescribed, reassure Mrs. Sims, allow family presence, and monitor I & O.

### VOCABULARY

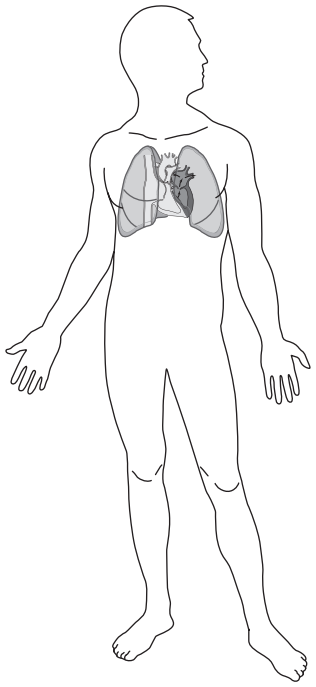
*Sample sentences will vary for the Vocabulary problems.*

1. Pulmonary edema
2. Cor pulmonale
3. splenomegaly, hepatomegaly
4. peripheral vascular resistance
5. Paroxysmal nocturnal dyspnea
6. preload
7. afterload
8. Orthopnea

### FLUID ACCUMULATION PATTERNS

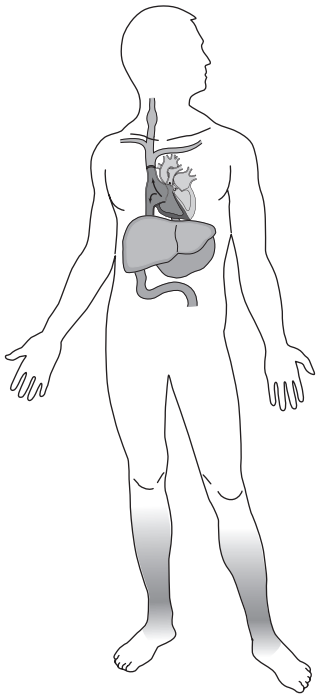
#### Left-Sided HF

Left ventricle → left atrium → pulmonary veins → lungs



## Right-Sided HF

Right ventricle → right atrium → vena cava → jugular vein distention → hepatomegaly → splenomegaly → peripheral edema



## SIGNS AND SYMPTOMS OF HEART FAILURE

1. (**1**)
2. (**2**)
3. (**1**)
4. (**2**)
5. (**2**)
6. (**1**)
7. (**2**)
8. (**1**)

## PRIORITIZATION

**2.** Complete initial shift patient data collection.
**6.** Review patients' medication administration record to plan administration schedule.
**3.** Evaluate PRN pain medication need for patient 2.
**1.** SBAR handoff communication from prior nurse.
**4.** Inform HCP of patients' routine lab results.
**7.** Perform dressing change on patient 2.
**5.** Review patient lab results for safe medication administration.

## CRITICAL THINKING

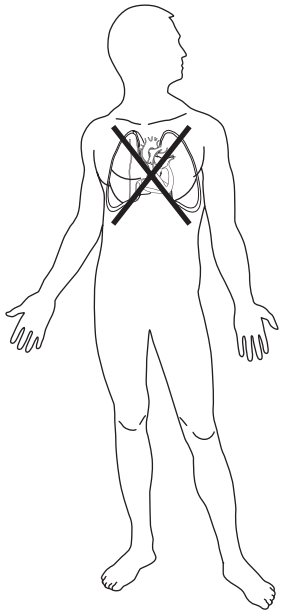
1. Left-sided HF leading to backward fluid accumulation in lung tissues and decreased cardiac output.
2. Left: dyspnea, cough, crackles, orthopnea. Right: jugular vein distention, peripheral edema.
3. (1) Furosemide is a potent diuretic to reduce fluid congestion and the fluid returning to the heart (preload) in order to improve cardiac output. (2) Lisinopril decreases afterload to reduce cardiac workload and cardiac hypertrophy. (3) Restricting sodium may reduce fluid volume and aid in reducing edema. (4) Oxygen administration provides greater availability of oxygen to the tissues by increasing the percentage of oxygen in inhaled air.
4. Mr. Hera is experiencing acute HF (pulmonary edema). Fluid accumulation in his lungs is severe and requires immediate treatment.
5. (1) Decreases fluid returning to the heart (preload) to ease the heart's workload and improve cardiac output. (2) Provides greater availability of oxygen in inhaled air. (3) Potent diuretic that, when given via an intravenous push (IVP), has a quicker onset of action to reduce the amount of fluid congestion and fluid returning to the heart to improve cardiac output. (4) Decreases preload, which reduces cardiac workload.
6. Possible priority nursing diagnoses include *Excess Fluid Volume* related to pump failure; clear breath sounds and free of edema. *Impaired Gas Exchange* related to pump failure; maintains clear lung fields. *Decreased Activity Tolerance* related to fatigue; tolerates activity with appropriate increases in heart rate, blood pressure, and respirations. *Disturbed Sleep Pattern* related to nocturnal dyspnea; awakens refreshed and is less fatigued during day.
7. Signs and symptoms of HF; medications: purpose, monitoring (heart rate, potassium), side effects; diet; energy conservation; daily weights.

## REVIEW QUESTIONS

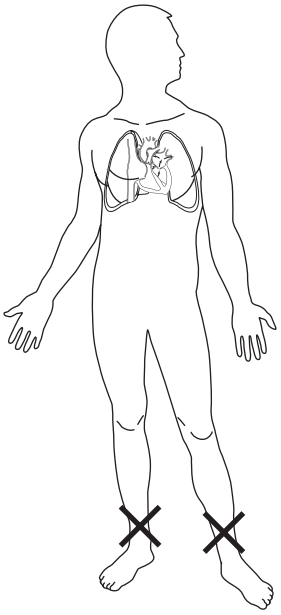
*The correct answers are in **boldface.***

1. (**2**) is correct. The heart is failing as a pump to move blood forward. (1) This occurs in cardiac arrest. (3) This is the opposite of what occurs with heart failure. (4) This occurs in a myocardial infarction.
2. (**4**) is correct. This value reflects hypokalemia which may predispose the patient to digoxin toxicity. (1, 2, 3) are normal potassium values that do not reflect hypokalemia and so do not predispose the patient to digoxin toxicity.
3. (**3, 4, 5**) are correct. Further education is required if the patient increases fluids, as the patient may be on a fluid restriction since the purpose of the diuretic is to remove excess fluids; the diuretic does not need to be taken with a meal, and the patient does not need to count the radial pulse with furosemide. (1) The patient correctly understands that bananas contain potassium, and furosemide wastes potassium. (2) The patient correctly understands that furosemide should be taken upon rising from sleep, which for most patients is in the morning (those who sleep during the day would take the diuretic at night) to prevent interference with sleep.

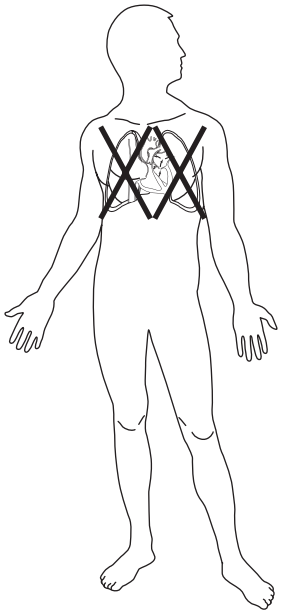
4. (**2**) is correct. Daily weights reflect fluid volume changes allowing weight gains or losses to be detected and treated. (1) This is too frequent. (3, 4) are not frequent enough to allow prompt detection and treatment of fluid changes.
5. (**3, 4**) are correct. 0.125 mg by mouth (older adult) and 0.25 mg are within the normal adult daily dosage range for digoxin. (1, 2) are less than the usual daily dose of digoxin. (5, 6) are greater than the usual daily dose of digoxin.
6. (**1**) is correct. Fluid in the lungs is heard as crackles. (2, 3, 4) are not related to the lungs.
7. (**4**) is correct. If fluid retention occurs from heart failure, weight will increase, so daily weights are the best indicator of fluid fluctuation and heart failure status. (1) This is monitored for ascites development, but it is not the priority in heart failure. (2) Appetite could be impaired with fluid retention, but it is not the priority in heart failure. (3) Monitoring for edema is important in right-sided heart failure but it is not the priority.
8. (**2**) is correct. Diuretics increase urine output. (1) If urine output decreases, the diuretic has not been effective. (3, 4) A diuretic's primary action should not affect the heart rate.
9. (**1, 5, 6**) are correct. Poor appetite, lights appearing yellow, and bradycardia are common signs of digoxin toxicity. (2) Diarrhea is a side effect, not toxicity, of digoxin. (3) Yellow lights, not halos around lights, are a sign of toxicity. (4) Apnea is not a sign of digoxin toxicity.
10. (**4**) is correct. Furosemide is a loop diuretic that may deplete electrolytes, especially potassium, so ongoing monitoring of potassium is necessary. (1, 2, 3) are not monitored for this diuretic therapy.
11. (**1, 3, 5**) are correct. Daily weights are essential to monitor the need for treatment if weight gain occurs. Edema indicates the need for treatment. Fresh vegetables do not contain salt, which helps to reduce salt intake in the diet. (2) A low-sodium diet should be used, which would not include cooking with salt. (4) Diuretics are given to prevent edema, so they should be taken daily as prescribed, not just when edema occurs.
12. (**3**) is a common sign of acute heart failure. (1, 2) are associated with right-sided heart failure, not acute heart failure. (4) Tachycardia, not bradycardia, occurs in acute heart failure as a compensatory mechanism.
13. (**4**) is correct. Bumetanide is a potassium-wasting diuretic, and the potassium level of 3 mEq/dL is low. Do not administer the bumetanide until you consult with the HCP for orders. (1) This is not monitored for bumetanide. It is monitored for anticoagulants such as heparin. (2) The sodium level is within normal range. (3) INR is within normal range and is not monitored for bumetanide.
14. (**1**) is correct. Furosemide is a potent diuretic that works quickly when given intravenously to increase urine output and subsequently pull fluid from extravascular spaces. It thereby reduces fluid in the lungs, so bilateral crackles will diminish. (2, 3, 4) A diuretic is not given to produce these effects, so they are not evidence of its effectiveness.
15. (**2**) is correct. An anxious patient is comforted by the presence of the nurse and does not want to be left alone. (1) This would increase oxygen needs and increase dyspnea and anxiety. (3, 4) These could make the dyspneic patient feel more confined, increasing dyspnea and anxiety.
16. 454.5 mg per dose. First, convert pounds into kilograms: $\frac{160\ \cancel{\text{lb}} \times 1\ \text{kg}}{2.2\ \cancel{\text{lb}}} = 72.7\ \text{kg}$;
    12.5 mg × 72.7 kg = 908.75 mg/2 doses = 454.5 mg/dose
17. (**1**) is correct. The bumetanide should be given as scheduled. It is working effectively to produce the desired effect of controlling excess fluid as evidenced by reduced edema and jugular vein distention. (2, 3, 4) The bumetanide is working effectively, so no actions are needed other than to give the next dose as scheduled.
18. The area where congestion occurs from blood backup caused by left-sided heart failure.



19. The area where the nurse would monitor for peripheral edema that occurs in right-sided heart failure.



20. The area where the nurse would auscultate for congestion occurring in acute heart failure.



# Answers

## CHAPTER 27 HEMATOLOGIC AND LYMPHATIC SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

#### Mrs. Casey Receives Blood

1. 15 minutes
2. Febrile
3. Acetaminophen (Tylenol)
4. 4 hours

### VOCABULARY

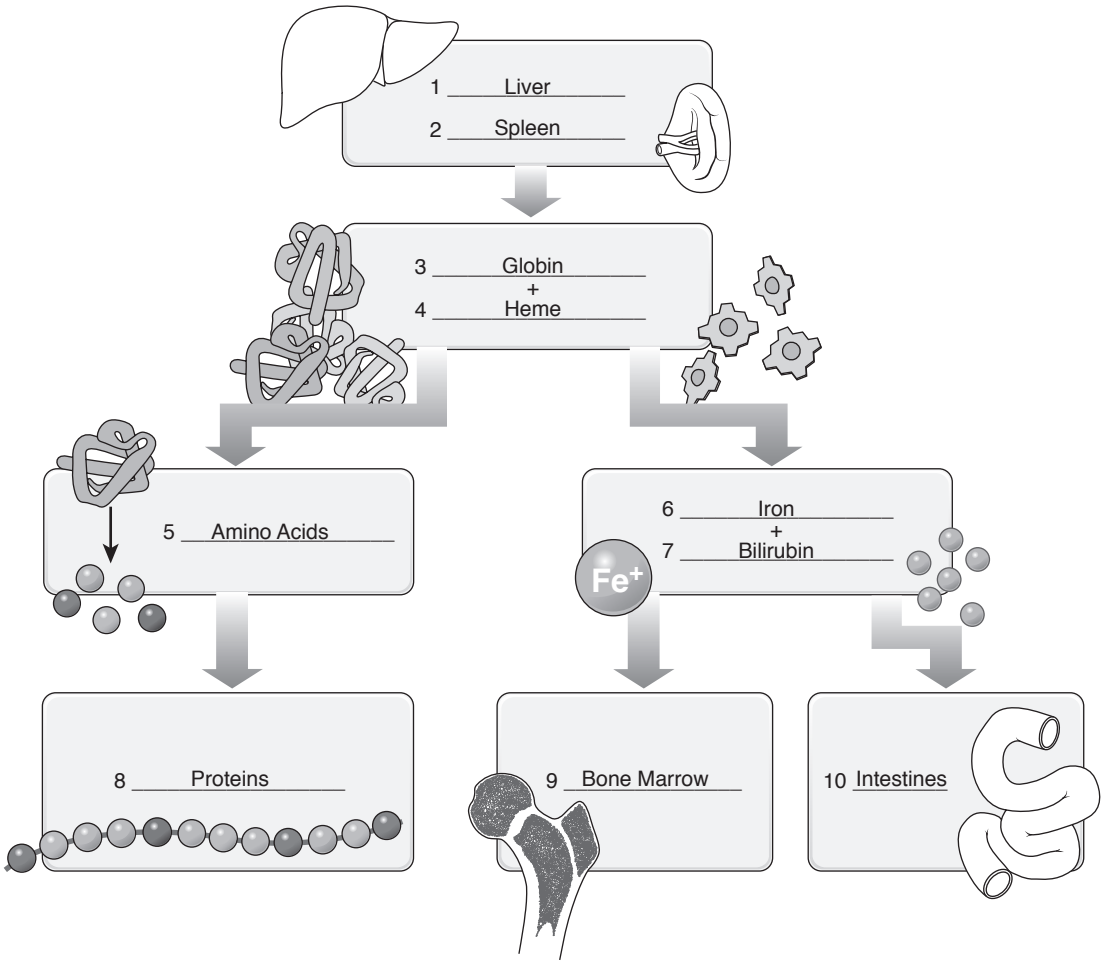
*Sample sentences will vary for the Vocabulary problems.*

1. Ecchymoses
2. Lymphedema
3. petechiae
4. Purpura
5. thrombocytopenia

### LYMPHATIC SYSTEM REVIEW

1. (**2**)
2. (**4**)
3. (**5**)
4. (**1**)
5. (**3**)

### STRUCTURES OF THE LYMPHATIC SYSTEM



## HEMATOLOGIC SYSTEM REVIEW

1. (**10**)
2. (**6**)
3. (**2**)
4. (**7**)
5. (**9**)
6. (**3**)
7. (**4**)
8. (**1**)
9. (**8**)
10. (**5**)

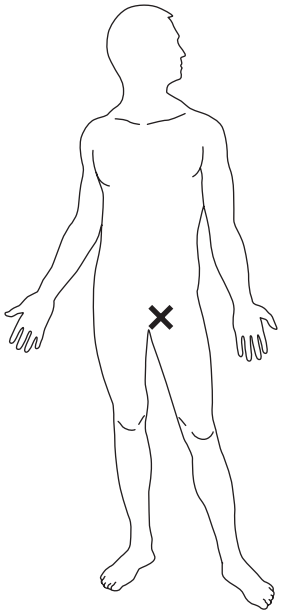
## CLINICAL JUDGMENT

1. Place Mr. Foster in a right side-lying position with knees flexed so that the left iliac crest is accessible to the provider doing the procedure.
2. You MUST alert the provider that the contamination has occurred, to prevent a serious infection. Do not assume the provider is aware. You could say something like, "I see the site got contaminated; here is a new pair of gloves." (Or instrument, or whatever is needed.)
3. Infection of skin, bone, or blood—all potentially serious.
4. If the supplies are not in the room, and you are the only assistant, do not leave. Turn on the call light, yell for help, or use a phone to obtain the supplies.
5. Immediately place pressure over the dressing, or if a dressing is not yet in place, use a sterile dressing or towel to apply pressure. Notify the RN and provider immediately. Once help has arrived, check vital signs and report results, comparing with earlier values.
6. **Suggested SBAR:**
   **S:** Dr. White performed a bone marrow biopsy on Mr. Foster. Mr. Foster bled profusely following the procedure.
   **B:** The biopsy was done on the left iliac crest. Blood loss estimated at approximately 100 mL. We applied pressure for 30 minutes, and bleeding stopped. Include current vital signs.
   **A:** Mr. Foster is now stable. The dressing is clean and dry. Vital signs are stable.
   **R:** Monitor for bleeding, pain, and infection.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct. The international normalized ratio should be between 2 and 3; 2.6 is therapeutic (1) The patient is unlikely to bleed with a normal international normalized ratio. (3) The INR is therapeutic; no dosage change is indicated. (4) Vitamin K would be given if the international normalized ratio is prolonged.
2. (**4, 5**) are correct. The RN would have been the primary caregiver to hang the blood. Current vital signs and the patient's general comfort level will alert the RN to any possible transfusion reaction. (1, 2, 3, 6) provide more detailed information that the RN likely already is aware of and are not useful for a current status update.
3. (**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.
4. (**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 white blood cell count. (2) is a low platelet count, which increases the risk for bleeding, not for infection. (3) is a normal hematocrit level and does not correlate with infection risk.
5. The area the nurse should assess for left inguinal swelling.



6. (**3**) is correct. Blood should ONLY be hung with normal saline to prevent hemolysis of cells. (1) Blood should be piggybacked into normal saline. (2, 4) are correct but are not as urgent as (3).
7. (**2**) is correct. This is a low platelet count; platelets are essential to the clotting process. (1) would increase the risk for bleeding. (3) fluids will not help. (4) The patient should be protected from injury to reduce the risk of bleeding.
8. (**1**) is correct. New-onset petechiae are associated with bleeding or clotting disorders. (2) is not the priority. (3, 4) will not help petechiae.
9. (**2**) Indicates more teaching is needed. The space between the fingers or toes, not the groin, is used for lymphangiography. (1, 3, 4) are correct statements.
10. (1, 2, 4) Matching the blood to the order and the patient is essential. Baseline vital signs help identify reactions. (3) Room numbers are not reliable identifiers. (5, 6) are not necessary.
11. (4) Fever and chills could signify a febrile or a hemolytic reaction. For either, the unit should be stopped immediately and the physician contacted. (1, 2, 3) can take place after the transfusion is stopped.

# Answers

## CHAPTER 28
## NURSING CARE OF PATIENTS WITH HEMATOLOGIC AND LYMPHATIC DISORDERS

### AUDIO CASE STUDY

### Lloyd and Chronic Myelogenous Leukemia

1. Lloyd had a cold that led to pneumonia. This would be unlikely with a healthy immune system. Blood work in the hospital revealed abnormal white blood cells.
2. Ask the health-care provider about an analgesic prior to the procedure because bone marrow biopsy is painful. Assist with positioning the patient.
3. Both leukemia and treatment for it can impair white blood cell function. Lloyd is at risk for infection. A variety of potentially infectious organisms are found in garden soil. He should wear gloves for gardening and wash his hands well when he is finished.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. False. Anemia is reduced red blood cells.
2. True
3. True
4. True
5. False. Phlebotomy removes blood to reduce blood volume.
6. True
7. False. *Penia* means "reduced." Thrombocytopenia is reduced platelets.
8. False. *Arth* refers to joints. Hemarthrosis is bleeding into joints.
9. True
10. False. Cancer of the lymph system is called *lymphoma*.
11. True
12. True

### CLINICAL JUDGMENT: LEUKEMIA

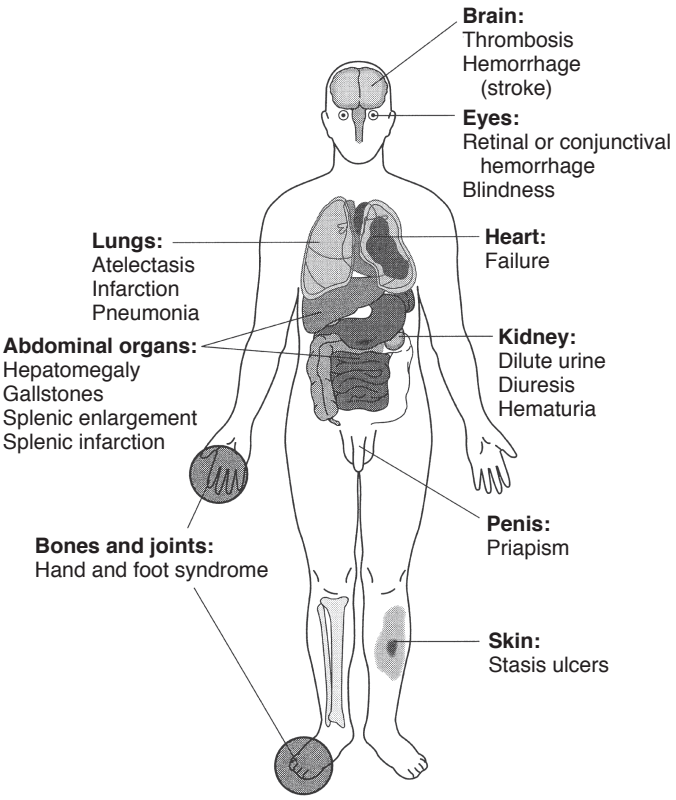
1. Mr. Frantzis is in the final stage of his disease and has opted for no treatment. Rehabilitation is no longer a goal. On days when he is feeling especially tired, it would be appropriate to bring him his breakfast in bed. A liquid supplement that is easy to drink might also be helpful.
2. Do a complete 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. Standard precautions are also important.
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.
6. **Suggested SBAR:**
   **S:** Mr. Frantzis has been confused and weak, and his gums are bleeding. He's also been experiencing pain in his ribs and sternum.
   **B:** Mr. Frantzis is 60 years old and has stopped treatment for chronic lymphocytic leukemia.
   **A:** His platelets and red cells must be low, so his white cells are probably also low.
   **R:** We need to be cautious about protecting him from infection. Also monitor his pain and administer analgesics.

### CRITICAL THINKING: HODGKIN'S DISEASE

*Corrections are in **boldface.***

Joe is a 28-year-old construction worker diagnosed with stage 1 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 Hodgkin's disease **is cancer**, but it is often curable. Joe takes a leave from work and begins **curative** radiation therapy.

## SICKLE CELL ANEMIA REVIEW




## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2, 5, 6**) are correct. Red meat, legumes, and dark leafy greens are 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. (**4**) is correct. Multiple myeloma attacks bone, making it prone to fractures. An unsteady gait could lead to falls. (1, 2, 3) may be problems but are not as high a priority as preventing fractures.
4. (**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.
5. (**1**) is correct. Vitamin K can help correct clotting problems and prevent bleeding during surgery. (2, 3, 4) are not affected by vitamin K.
6. (**4**) is correct. A high incision often discourages deep breathing and coughing because of the resulting pain. This can result in atelectasis and infection. (1, 2) Clotting and NPO status are not related to infection. (3) Early discharge may help prevent infection.
7. (**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.
8. (**2**) is correct. Chilling and exercise may both contribute to hypoxemia and a crisis. (1, 3, 4) do not cause hypoxemia.
9. (**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.
10. (**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.
11. (**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.
12. (**1, 5**) are correct. Crowds of people will increase risk of exposure to infection, and fruits and vegetables can transmit bacteria if not washed. Lymphoma affects the immune system. (2, 3, 4) are not necessary.
13. (**3**) is correct. Vaccines will help guard against infection, and the patient is at risk for overwhelming postsplenectomy infection. (1, 2) do not help prevent infection. (4) is unnecessary.
14. (**1**) is correct. Contact sports increase risk of injury and bleeding. (2, 3, 4) do not.
15. (**1, 4, 6**) Intramuscular injections, aspirin, NSAIDs, and walking without shoes or slippers all increase the risk of injury or bleeding in a patient with thrombocytopenia. (2, 3, 5) do not reduce bleeding risk.
16. 1,715 mL

# Answers

## CHAPTER 29 RESPIRATORY SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

#### Jenna Treats Mr. Jackson's Dyspnea

1. He was in a tripod position, using his accessory muscles to breathe, and he had cyanotic mucous membranes, a respiratory rate of 24/minute, and oxygen saturation ($Spo_2$) of 88%.
2. Checked oxygen patency and flow rate, helped him with pursed-lip breathing, collaborated with registered nurse (RN) to obtain nebulized mist treatment with albuterol.
3. In patients with chronic respiratory disease, 88% to 92% is high enough to prevent acute dyspnea but not so high as to reduce respiratory drive.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. dyspnea
2. Crepitus
3. thoracentesis
4. barrel
5. excursion
6. adventitious
7. tracheotomy
8. tidaling
9. apnea
10. tracheostomy

### ANATOMY REVIEW

1, 4, 6, 5, 7, 8, 3, 2

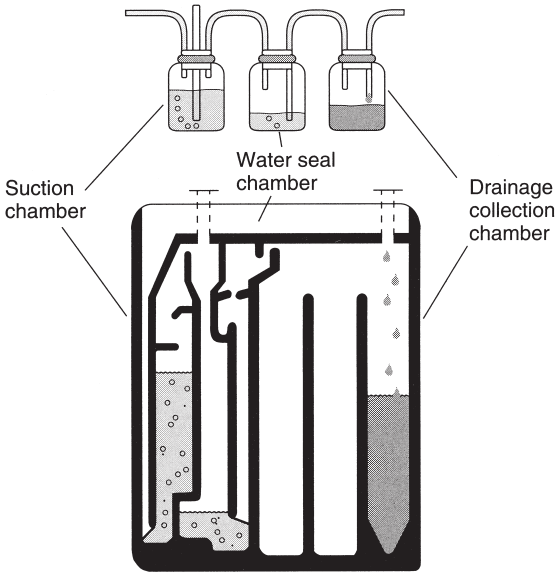
### VENTILATION REVIEW

1, 3, 5, 2, 4, 6

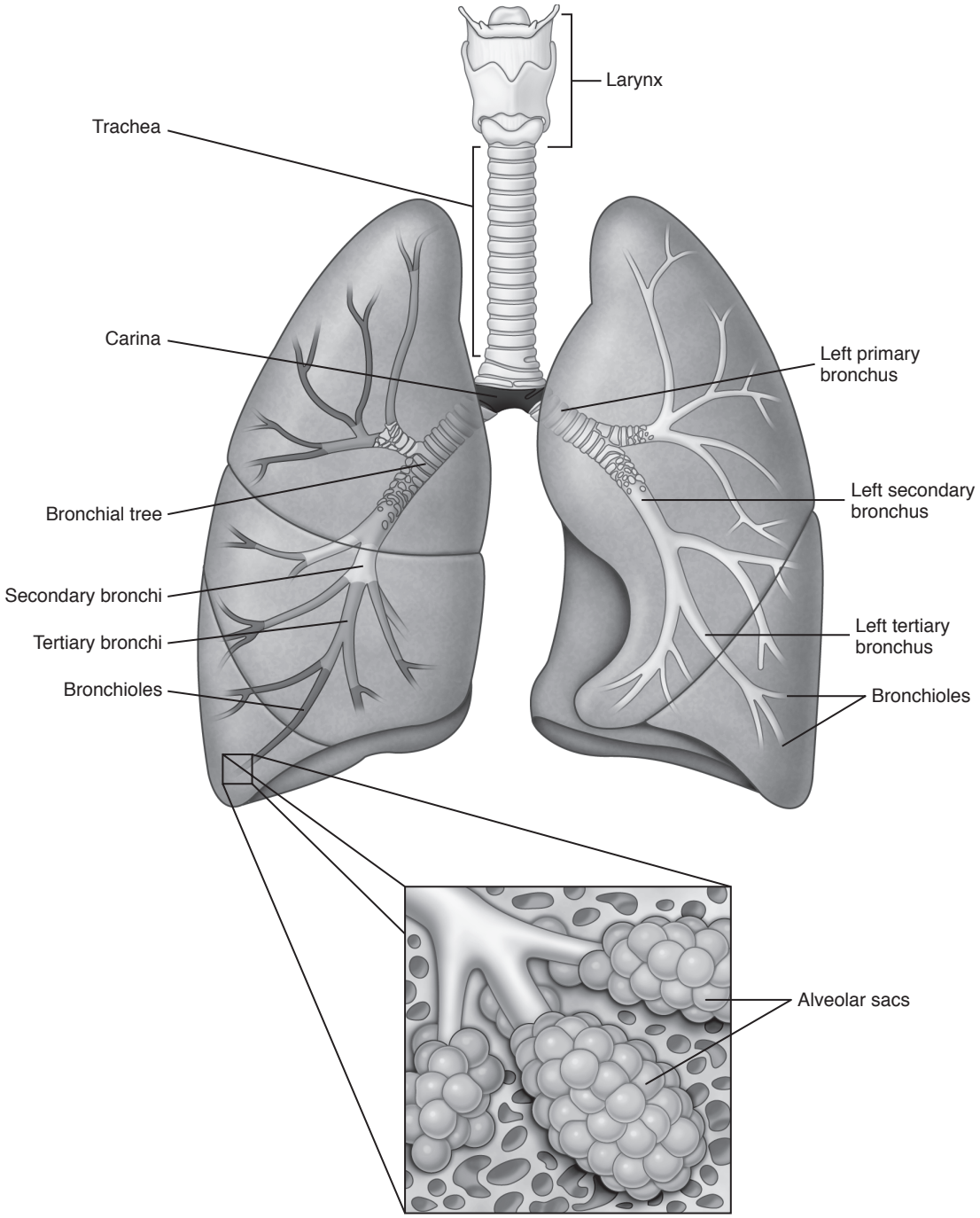
### ADVENTITIOUS LUNG SOUNDS

1. (**5**)
2. (**1**)
3. (**6**)
4. (**4**)
5. (**3**)
6. (**2**)

### CHEST DRAINAGE



## THE RESPIRATORY SYSTEM



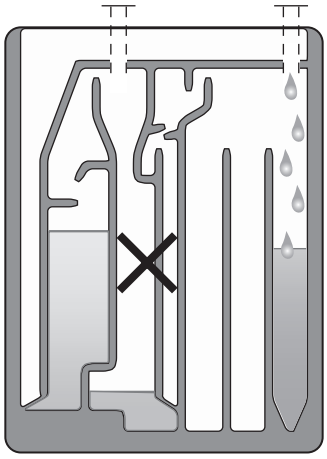

## CRITICAL THINKING

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 postprocedure instructions.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**4**) is correct. (1, 2, 3) are incorrect.
2. (**2**) is correct. (1, 3, 4) are incorrect.
3. (**4**) is correct. (1, 2, 3) are incorrect.
4. (**2**) is correct. (1, 3, 4) are incorrect.
5. (**3**) is correct. (1, 2, 4) are incorrect.
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.
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 oxygen saturation is 95% to 100%, so 79% is not adequate.
10. (**4**) is correct. "Good lung down" has been shown to increase oxygenation. (1, 2, 3) do not increase oxygenation.
11. (**1**) is correct. The catheter must be cleaned two to three times a day to prevent plugging with mucus. (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 helps mobilize secretions. (1) It does not affect chest muscles. (2) It does not use humidification. (3) It does not promote expansion.
13. (**1, 3, 4, 5**) are correct. (2) The dressing should not be removed.
14. The chamber on the chest drainage system that prevents air from being reintroduced into the chest.



# Answers

## CHAPTER 30
## NURSING CARE OF PATIENTS WITH UPPER RESPIRATORY TRACT DISORDERS

### AUDIO CASE STUDY

### Maxine's Grandpa Has the Flu

1. Chills, muscle aches and pains, fever, crackles and wheezes, lethargy.
2. Older patients' immune function is not as robust as younger patients'. Older patients are also at higher risk for dehydration because they have a lower percentage of body water.
3. Hand washing, flu vaccination each year, and staying away from others who are ill.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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 be checked for signs of blood loss. Make sure he is in semi-Fowler position to help prevent aspiration and reduce swelling. Notify the health-care provider (HCP) 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 HCP 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 HCP at what temperature acetaminophen should be taken. Some sources say to give it only if fever reaches above 103°F (39.4°C) (in adults) or if discomfort is severe.
4. Influenza is contagious, so if symptoms are the same, it would be reasonable to advise 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 at risk for complications of influenza, especially pneumonia. She should see her HCP. An antiviral agent might be helpful if given within 48 hours of exposure.

### REVIEW QUESTIONS

*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. 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. (4) Narcotics can be addicting but not when they are taken for legitimate pain.
3. (**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.
4. (**1**) is correct. Facial tenderness is a symptom of a sinus infection. (2, 3, 4) are not symptoms of sinus infection.
5. (**3, 4, 6**) are correct. Hot moist packs can help reduce inflammation, humidity will help loosen secretions, and the semi-Fowler position helps reduce pressure. (1, 5) are effective for pulmonary, not sinus, secretions. (2) is not a nursing intervention.
6. (**3, 4, 1, 2**) is the correct order. 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 are met.

7. (**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.
8. (**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. (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.
9. (**4**) is correct. Oxymetazoline is a vasoconstrictor. (1) Raising the blood pressure can increase bleeding. (2) It may dilate bronchioles, but this will not help bleeding. (3) Oxymetazoline does not enhance clotting.
10. (**3**) is correct. West Nile virus is transmitted by mosquitoes. (1) It cannot be caught by eating pork. (2) Travel does not need to be limited. (4) It is not transmitted by bird or bat droppings.

# Answers

## CHAPTER 31
## NURSING CARE OF PATIENTS WITH LOWER RESPIRATORY TRACT DISORDERS

### AUDIO CASE STUDY

### Jack Has Emphysema and COPD

1. Chronic obstructive pulmonary disease (COPD) is a group of pulmonary disorders characterized by difficulty exhaling because of airways that are narrowed or blocked by inflammation and mucus and because the loss of elastic fibers causes an increase in compliance. More effort is required for the weakened alveoli to push air out through obstructed airways. Emphysema affects the respiratory bronchioles and alveoli distal to the terminal bronchioles, causing destruction of the alveolar walls and loss of elastic recoil. This also causes damage to adjacent pulmonary capillaries. Because of the loss of elastic recoil, passive exhalation is impaired and air is trapped in the alveoli. The combination of damaged alveoli and capillaries causes reduced surface area for gas exchange.
2. The pressure placed on the small airways and alveoli from pursed-lip breathing holds them open so carbon dioxide can be eliminated.
3. No. Some damage is already done. However, the symptoms and progressive nature of COPD will slow down significantly (see Figure 31.6).

### RESPIRATORY MEDICATIONS

1. (**2**)
2. (**4**)
3. (**5**)
4. (**6**)
5. (**1**)
6. (**3**)
7. (**7**)

### CRITICAL THINKING

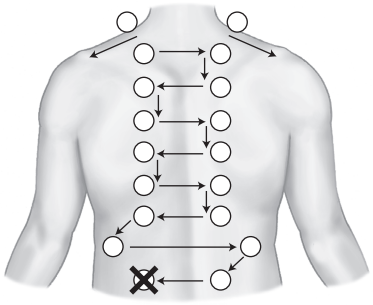
1. A complete respiratory assessment should be completed. Edith's respiratory symptoms can be assessed using the **WHAT'S UP?** format. Have her rate the degree of dyspnea on a scale of 0 to 10. Auscultate lung sounds and assess activity tolerance. Collect vital signs and peripheral capillary oxygen saturation ($Spo_2$). 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 partial pressure of carbon dioxide ($Paco_2$), making a low partial pressure of oxygen ($Pao_2$) her stimulus to breathe. Her $Spo_2$ should be kept between 88% and 92% to prevent reducing her respiratory drive.
6. Emphysema increases the risk for occurrence of bullae and blebs. Rupture of these can cause a pneumothorax.
7. The Fowler, semi-Fowler, or orthopneic (leaning over bedside table) position increases room for lung expansion and helps reduce dyspnea. Sitting in a chair may 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. Of course, she will not be able to smoke while she is in the hospital. If she is willing, ask her health-care provider for an order for medication, and refer her to a local stop-smoking program (check the internet or the local American Cancer Society chapter (www.cancer.org) for local smoking-cessation programs). Assist her to identify a friend who has quit smoking for support.

### REVIEW QUESTIONS

*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. (**3**) is correct. Keeping the patient between 88% and 92% will reduce the risk of depressing the respiratory drive with too much oxygen. (1, 2) are too high and may reduce respiratory drive. (4) reflects hypoxemia.
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 are not as significant as smoking in causing lung disease.

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 peripheral capillary oxygen saturation ($Spo_2$).
6. (**1**) is correct. Albuterol is a fast-acting rescue inhaler. (2, 3, 4) are all used for asthma but are slower onset and inappropriate for emergency use.
7. (**1, 2, 4**) are correct. Movement, a cool steamer, and coughing and deep breathing will help mobilize secretions. (3) will stop coughing and worsen retained secretions. (5) won't help.
8. (**3**) is correct. This patient did not get relief from his bronchodilator and so is at risk for respiratory complications. This patient has the most urgent need.
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 re-expanding. (1, 3, 4) may all be appropriate, but they do not monitor whether the chest drainage system is effectively reducing the pneumothorax.
13. The area where the nurse would expect to hear crackles when auscultating the chest on a patient with suspected left lower lobe pneumonia.



# Answers

## CHAPTER 32 GASTROINTESTINAL, HEPATOBILIARY, AND PANCREATIC SYSTEMS FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

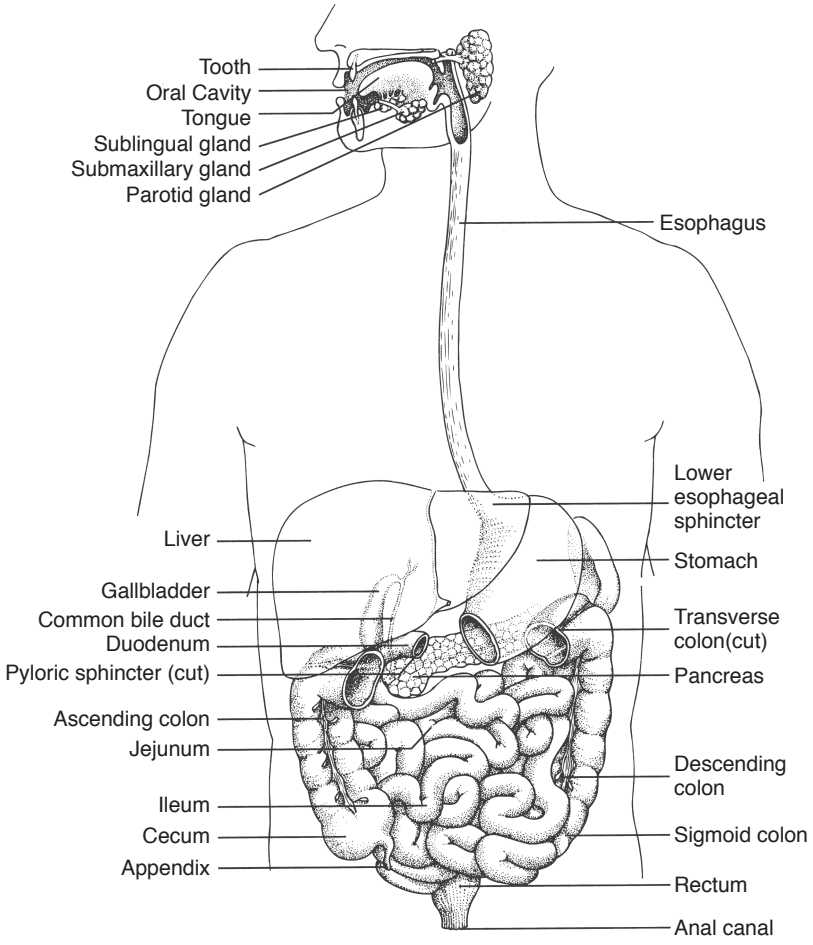
#### Grace and Enteral Feedings

1. Collects data on abdominal status—nausea or a full feeling, soft, flat, not distended. Changes and labels enteral tube-feeding administration set every 24 hours, practices appropriate hand hygiene, avoids contamination of feeding tube and feeding formula.
2. Measured length of tube and compared it to insertion measurement verified with x-ray.
3. Head of Mrs. Patel's bed was elevated to 30 degrees to prevent aspiration.
4. Head of bed is elevated to 30 to 45 degrees to prevent aspiration, appropriate patient hand hygiene practiced, and oral care administered four times daily to remove bacteria.

### FUNCTIONS OF THE GASTROINTESTINAL SYSTEM

1. esophageal
2. ileocecal
3. pyloric
4. small
5. stomach
6. large
7. small
8. esophagus
9. external
10. salivary
11. teeth, tongue
12. villi
13. rectum
14. bile

## STRUCTURES OF THE GASTROINTESTINAL SYSTEM




## VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. endoscope
2. bowel sounds
3. colonoscopy
4. gavage
5. impaction
6. occult
7. fluoroscope
8. steatorrhea
9. jaundice
10. gastroscopy

## LABORATORY TESTS

1. (**5**)
2. (**4**)
3. (**2**)
4. (**1**)
5. (**3**)

## 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 laxative may be given. Enemas may be given **the evening before and in the morning**. **Older** or debilitated patients should be carefully monitored 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 AND CLINICAL JUDGMENT

1. Flush the tube at intervals and before and after administration of medications. Use 30 mL of water every 4 hours to routinely flush the tube. Sterile water may be desired, especially for immunocompromised people, to prevent infection from potentially contaminated tap water. Flushing the tube is done to prevent clogging, and it also provides free water, which counts toward the patient's daily total free water needs.
2. Head of bed up 30 to 45 degrees to prevent aspiration.
3. By comparing current exposed tube length with documented exposed tube length at insertion.
4. Label feeding. Ensure correct tube connection is made. Follow tubes back to their site of origin before making a connection to accurately identify the purpose of the tube. Use or advocate for use of ENFit connection tubing to help prevent tubing misconnections to prevent patient injury or death.
5. To carefully control rate of the feeding and help ensure patient's nutritional needs are met.
6. Provide patient's free water needs. Consult dietitian and HCP.
7. **C:** I am **c**oncerned about Mrs. Davis's blood sugar levels. She has a history of esophageal cancer and has type 2 diabetes. She was started on her enteral tube feeding yesterday. Currently, her blood sugar is 238 mg/dL.
   **U:** I am **u**ncomfortable with her elevated blood sugar.
   **S:** I believe she is not **s**afe and is experiencing hyperglycemia.

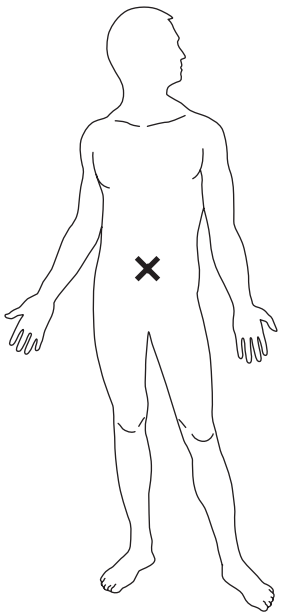
## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1, 3, 4, 5**) are correct. After a barium enema, the stools will be white in color for a day or two. The patient is encouraged to drink fluids and may need a laxative to pass the barium. (2) The nurse does not need to notify the HCP since this is a normal finding to have white-colored stools after a barium enema. The HCP would be notified if the patient could not pass the barium in the stool.
2. (**2**) is correct. 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. (4) An absent gag reflex does not stimulate vomiting.
3. (**3**) is correct. A chest x-ray shows correct nasogastric tube placement and should always be done after initial nasogastric tube placement to verify placement is not in the lung. This should be reviewed prior to starting any feeding or medications in the tube. (1) Auscultation of bowel sounds does not confirm tube placement. (2) Nothing should be instilled into the tube prior to verifying tube placement with a chest x-ray. (4) A chest x-ray, not an abdominal x-ray, shows correct nasogastric tube placement. The tube placement can be verified that it is in the stomach and not the lungs.
4. (**1, 3, 5, 6**) all require either clear visibility or they have a risk of aspiration. (2) 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. (4) It does not require being NPO. Specialized MRI scans may require the patient to be NPO.
5. (**1, 2, 3, 6**) help ensure safe tubing connections for enteral feedings. (4) Only staff familiar with the patient should reconnect a disconnected tube to prevent misconnection. (5) Route tubes/catheters with different purposes in standardized directions (intravenous lines routed toward patient's head; enteric lines routed toward feet).
6. (**1, 2, 5**) are correct. Normal aging causes decreased gastric motility leading to constipation. The nurse should ask about constipation such as abdominal fullness, use of laxatives, and normal bowel pattern. (3, 4) Antibiotics and diarrhea could indicate a gastrointestinal problem but do not indicate constipation, which can occur with normal aging.
7. (**3**) is correct. The nurse should lightly depress the abdomen 0.5 to 1 inch. (1, 2, 4) The HCP performs deep palpation. Light palpation can be completed by the nurse. The abdomen should be palpated in an organized manner with the finger pads.
8. (**1, 2, 3, 4, 5**) are correct. A nasogastric sump tube has an air vent and is used for decompression, irrigation, lavage, feeding, and medication administration. (6) Parenteral nutrition is not given via enteral route.
9. (**1, 4, 5, 6**) are correct. The nurse asks the patient about recent antibiotic use, which could cause diarrhea. The nurse gathers data about the stool, including color, consistency, frequency, odor, and amount. (2, 3) Body piercings and bruising do not lead to diarrhea.

10. (**2**) is correct. The patient is reporting signs of hypoglycemia and the nurse should check the fingerstick blood sugar. (1, 3, 4) The HCP can be notified after you gather data to report, including blood sugar level and vital signs. You should not leave the patient until you determine the blood sugar level and ensure the patient is safe.

11. The area where the nurse would measure ascites.



# Answers

## CHAPTER 33 NURSING CARE OF PATIENTS WITH UPPER GASTROINTESTINAL DISORDERS

### AUDIO CASE STUDY

### Darnell and Peptic Ulcer Disease

1. The bacteria called *Helicobacter pylori,* commonly referred to as *H. pylori*.
2. Burning, gnawing pain in the upper epigastric region. Pain when food is eaten or 1 to 2 hours after eating. Anorexia, nausea, and vomiting also may occur.
3. The most effective treatment for *H. pylori* is triple therapy: two antibiotics to decrease bacterial resistance and a proton pump inhibitor (PPI) or H2-receptor antagonist.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. *Helicobacter pylori*
2. anorexia
3. gastritis
4. aphthous stomatitis
5. bariatric
6. steatorrhea
7. gastrectomy
8. obesity
9. hiatal hernia
10. gastrojejunostomy

### GASTRITIS

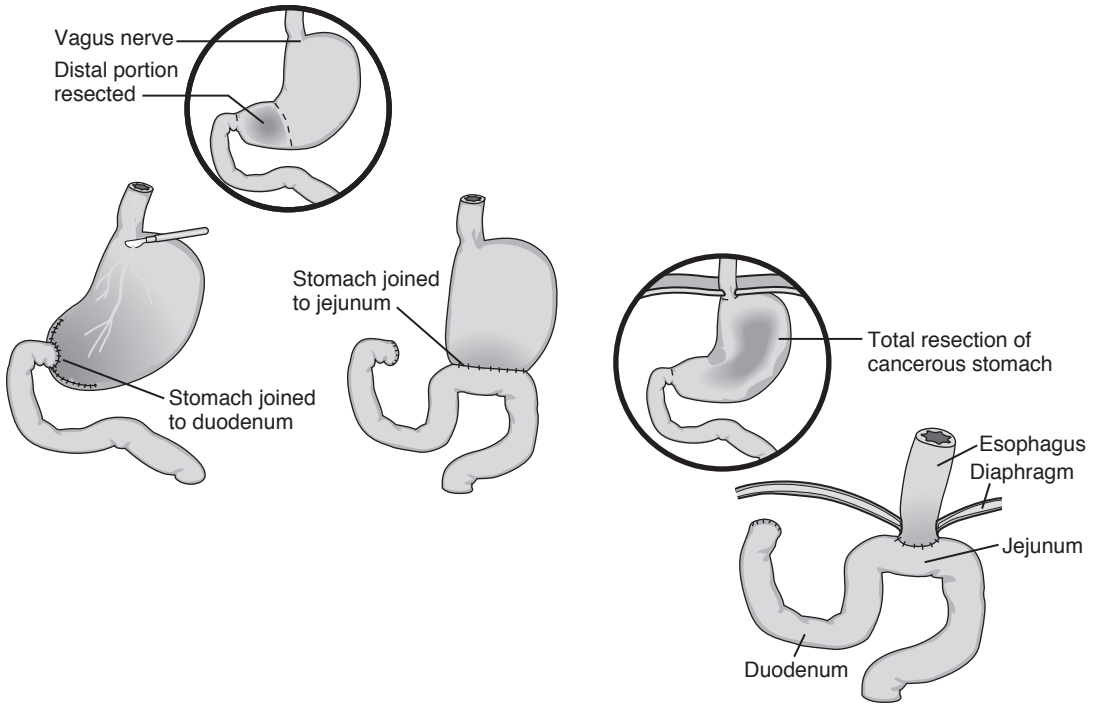
1. (**1**)
2. (**2**)
3. (**1**)
4. (**3**)
5. (**2**)
6. (**1**)
7. (**3**)
8. (**1**)

### PEPTIC ULCER DISEASE

*Corrections are in **boldface.***

Most peptic ulcers are caused by ***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 peptic ulcers caused by *H. pylori* should include **antibiotics** as indicated.

## GASTRECTOMY




## PRIORITIZATION

(**2, 1, 3, 4**) is correct. (2) See Mr. Wu first and empty the suction drain to ensure that his airway is not compromised. (1) Collect data and if safe, medicate Mrs. Warden for postoperative pain. (3) See Mr. Swanson and ensure that he is stable. (4) See Ms. Kling and spend time with her as needed to provide support due to her new diagnosis of metastatic cancer.

## CLINICAL JUDGMENT

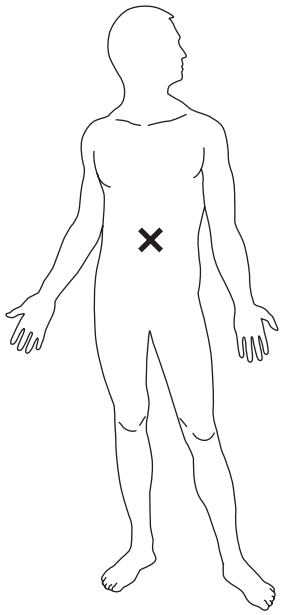
1. Your first action is to prevent Mrs. Sheffield from aspirating. Maintain Mrs. Sheffield in a side-lying position, remind her to remain in this position, and prop her up with pillows so she does not aspirate. Verify that the nasogastric (NG) tube is patent and suction is working.
2. Next take her vital signs.
3. You believe 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. Maintain the intermittent low-wall suction to remove the gastric output and thus prevent further gastric distention and vomiting. Maintain the intravenous (IV) fluids to compensate for the fluid loss. Immediately notify the health-care provider of Mrs. Sheffield's condition.
4. **C:** I am **c**oncerned about Mrs. Sheffield's postoperative condition. She has returned from surgery and vomited bright red emesis; vital signs are blood pressure 86/60 mm Hg, pulse 96 beats per minute, respirations 24 per minute, and temperature 97.6°F (36.4°C); 250 mL of bright red drainage from NG tube; IV infusing of lactated Ringer solution at 100 mL/hr; and she is diaphoretic.
   **U:** I am **u**ncomfortable with her current status.
   **S:** I believe she is not **s**afe and could possibly be bleeding from the surgery. She is presenting signs of hypovolemic shock.
5. 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. Ensure the laboratory work is done and review the results. Gather the equipment necessary to transport Mrs. Sheffield to surgery with oxygen, an emesis basin, and some extra blankets.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct. Concentrated simple sugars as in the doughnut should be avoided to prevent dumping syndrome. (1, 3, 4) These foods do not contain simple sugars and are less likely to cause dumping syndrome.
2. (**1**) is correct. Peptic ulcer disease is primarily caused by *H. pylori.* (2, 3, 4) were thought to cause peptic ulcer disease; however, since 1982 it was determined that *H. pylori* causes most peptic ulcers.
3. (**1, 3, 5, 6)** are correct. Body weight over 20%—that is, BMI greater than 30, women with a waist circumference greater than 35 inches and men with a waist circumference greater than 40 are considered obese. (2) Ideal body weight <10% is normal. (4) A BMI of 24 is normal.

4. (**2**) is correct. H2-recoptor antagonists inhibit the secretion of gastric acid. (1) Antacids neutralize gastric acid. (3) Proton pump inhibitors bind to an enzyme in the presence of acidic gastric pH, preventing final transport of hydrogen ions into the gastric lumen. (4) Mucosal barrier fortifiers form a protective paste.
5. (**1**) is correct. Anorexia is a symptom of chronic environmental gastritis. (2) Dysphagia is seen in esophageal cancer. (3) Diarrhea is not a sign of chronic environmental gastritis but can been seen with other GI disorders such as dumping syndrome. (4) A feeling of fullness can occur in patients with gastric cancer.
6. (**2, 3, 4, 5**) are correct. Diaphoresis and hypotension are common signs of hypovolemic shock. Restlessness and confusion are an indication of altered oxygenation, which accompanies shock. (1) The pulse would be weak and thready, not bounding.
7. (**3**) is correct. A low-fat diet is advised to decrease the fat content in the stool. (1) A soft diet does not address the patient's problem of inadequate mixing of food with pancreatic and biliary secretions to digest fats; 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.
8. (**2**) is correct. Sucralfate should be taken on an empty stomach so it can form a viscid and sticky gel to adhere to the ulcer surface. This provides a protective barrier over the ulcer before eating. (1) Sucralfate should not be taken with an antacid. (3) Sucralfate can commonly cause constipation, not diarrhea. (4) The patient should take the medication until the ulcer is healed and directed to stop taking the medication from the HCP.
9. (**4**) is correct. Eating small, frequent meals that can pass easily through the esophagus prevents the rapid filling of the stomach and thus heartburn and regurgitation. (1) Eating 3 hours or less before bedtime should be avoided so the stomach is empty to prevent reflux. (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.
10. (**3**) is correct. Start the oxygen first. Use the Maslow hierarchy of human needs 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 intravenous bag should be hung next to help restore and maintain volume. (2) The laboratory can be called to draw blood for a complete blood count while other interventions are occurring. The complete blood count will give a hemoglobin level that will indicate oxygen-carrying capacity. (4) Insert the urinary catheter to monitor urinary output after oxygen is on and the IV is infusing.
11. (**4**) is correct. 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. (**1**) is correct. With fundoplication, the stomach fundus is wrapped around the lower part of the esophagus. If dysphagia occurs, the HCP should be notified right away because the repair may be too tight, causing obstruction of the passage of food. The head of bed should be elevated. (2, 3, 4) The patient can be medicated for pain and nausea after the HCP is notified. Food should be held until after the HCP is notified. Slow, deep breathing can help relieve pain and nausea and is encouraged postoperatively.
13. (**1, 2, 5**) are correct. Acute gastritis can cause bleeding, and the nurse should monitor for bloody stools. Aspirin and NSAIDs frequently cause gastritis. Antacids and H2-receptor antagonists can be given to help control pain. (3) Sucralfate is used to treat peptic ulcers, not gastritis. (4) The patient should eat small, frequent meals and avoid alcohol and irritating foods such as acidic, greasy, or spicy items.
14. 200 mL/60 minutes × 10 gtt/mL = 33.3 gtt per minute, rounds to 33 gtt per minute
15. The area that is producing the coffee-grounds appearance of the patient's vomit.



# Answers

## CHAPTER 34 NURSING CARE OF PATIENTS WITH LOWER GASTROINTESTINAL DISORDERS

### AUDIO CASE STUDY

#### Tara and Gastrointestinal Bleeding

1. Use of aspirin, two tablets, four times a day for her arthritis pain.
2. Bloody stools and was light-headed and seeing spots.
3. Intravenous (IV) fluids, laboratory work, and packed red blood cells.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**12**)
2. (**10**)
3. (**2**)
4. (**11**)
5. (**1**)
6. (**4**)
7. (**8**)
8. (**9**)
9. (**3**)
10. (**5**)
11. (**7**)
12. (**6**)

### OSTOMIES

*Corrections are in **boldface.***

1. Michelle Braun is a 36-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 **total proctocolectomy.** The nurse monitors her intake and output, 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 possible** 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 each shift to ensure that it remains **pink** and **moist**. The nurse explains that the stool will be **formed**. The nurse contacts the dietitian to provide a list of the high-fiber foods that he should **avoid**.

### PRIORITIZATION

(**5, 6, 4, 3, 7, 8, 2, 1**) is the correct ranking. The patient is exhibiting signs of low blood pressure and potentially is going into shock. For safety, the patient should be quickly assisted back to bed with additional staff assistance and covered with warm blankets. Intravenous fluids are essential to replace lost fluid, so after moving the patient, it is important you quickly verify that the intravenous site is patent and the normal saline is infusing while data is collected. You must collect data to report to the health-care provider immediately. Obtain vital signs, level of consciousness, and perform rapid head-to-toe assessment to identify signs and symptoms. Notify the health-care provider immediately with collected data. Ideally, if not already on-site, the health-care provider is being contacted as data is being collected.

### CRITICAL THINKING AND CLINICAL JUDGMENT

1. 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.
2. You should collect data on Mrs. Hendricks's abdomen, including bowel sounds, distention, tenderness, and other signs of problems such as impaction, as well as her diet, exercise, fluid intake, and other possible factors that may have caused constipation.
3. You should intervene to prevent the problem from becoming worse. Mrs. Hendricks is only 1 day behind her normal bowel movement schedule. Unrelieved constipation can lead to fecal impaction, megacolon, and complications related to use of Valsalva maneuver.
4. Before giving Mrs. Hendricks more Milk of Magnesia, you 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 can be helpful.
5. Prevention is the best treatment for constipation. You can 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 privacy in the bathroom 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. Use Milk of Magnesia (magnesium hydroxide mixture), senna (Senokot), and enemas only as necessary. Continue use of footstool when using toilet.

6. Develop an SBAR communication for Mrs. Sheffield for communicating to the next shift.
   **S:** Mrs. Millie Hendricks is a 90-year-old with constipation today.
   **B:** She has a history of severe osteoarthritis, no teeth, and normally has a bowel movement every other day. She has not had a BM for 3 days.
   **A:** She was 1 day behind in her bowel movements. Today we gave her some prune juice and helped her walk, and she also had pureed fruits and vegetables. She was able to have a bowel movement, but she needs a prevention plan for constipation.
   **R:** I recommend that she have bran with her cereal in the morning, pureed fresh fruits and vegetables, and encourage her to drink more. She will need help ambulating in the halls several times a day. She needs a bowel schedule once or twice a day with privacy. You can offer warm liquids prior to the bowel schedule. We can try this plan before giving her more ordered medications.

## REVIEW QUESTIONS

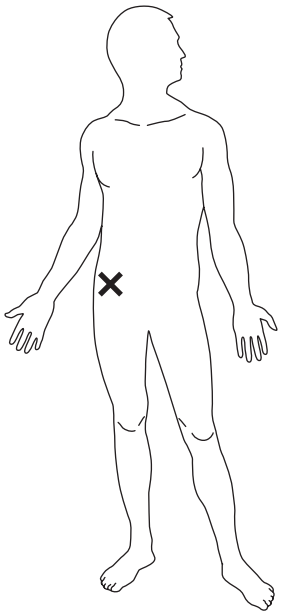
*The correct answers are in **boldface.***

1. (**3**) is correct. The LVN/LPN should notify the registered nurse of the data indicating dehydration. (1, 2, 4) These will be completed, but the registered nurse should be notified first.
2. (**2, 3, 4, 5**) are correct. Coughing and deep breathing, incentive spirometer, and early ambulation all help prevent atelectasis and pneumonia. Providing pain control allows the patient to complete the interventions. (1) Bedrest can lead to respiratory complications such as atelectasis and pneumonia by not allowing full expansion of the lungs.
3. (**1**) is correct. Fresh fruits are high in fiber and can increase diarrhea. In general, foods that irritate the patient should be avoided such as high-fiber foods, caffeine, spicy foods, and milk products. (2, 3, 4) These are low-fiber foods that generally do not irritate a patient who has ulcerative colitis.
4. (**1, 2, 3, 4, 6**) are correct. The patient with small bowel obstruction (SBO) can have decreased fluid volume, and the nurse should monitor intake and output, heart rate, and blood pressure. SBO causes a lot of pain, and pain levels and trends should be assessed. Infection can develop in SBO, so the nurse should assess the temperature. An SBO causes distention and firmness due to the blockage. (5) Most patients with SBO have fluid deficits.
5. (**3**) is correct. Parenteral nutrition 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.
6. (**2, 3, 4**) are correct. A patient with diverticulosis can use acetaminophen for pain if needed. It is important to prevent constipation. Regular exercise and drinking plenty of fluids can help prevent constipation. (1, 5) The patient should have a high-fiber diet to prevent constipation. The patient should have normal stools, not hard as with constipation or watery as with diarrhea.
7. (**3**) is correct. A bowel obstruction can cause nausea and vomiting, which can decrease fluid volume. (1, 2, 4) would not apply to a bowel obstruction.
8. (**4**) is correct. The stomas can be temporary and returned to the abdomen and reconnected after the resected area of bowel has healed. (1) The colostomy does not usually drain constant liquid stool. (2) There is no such thing as a looped bag. (3) The colostomy will drain stool from the proximal stoma, and the distal stoma will not 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. (**3, 5, 6**) are correct. These are the selections that do not contain a type of grain that must be avoided. (1, 2, 4) These items all contain gluten (oatmeal, waffle, and wheat cereal) and must be avoided with celiac disease. Grains certified as gluten free can be eaten.
11. (**1, 3, 4**) are correct. Treatment for anal fissures involves measures to ensure soft stools to allow fissures time to heal. Instructions to prevent constipation include 2 to 3 L of fluid a day to promote regular bowel movements. A side effect of opioid analgesics is constipation, which needs to be avoided; anesthetic suppositories and nonopioid analgesics may be ordered for comfort. (2) This would be the desired response for effective teaching, as pain may be so severe that the patient delays defecation, leading to further constipation and worsening symptoms. (5) Sitz baths may be used to promote circulation to the area to aid healing and comfort. (6) A high-fiber diet helps prevent constipation.
12. (**3**) is correct. Black, tarry stools could indicate bleeding, and the nurse should assess the vital signs first before completing the other interventions. (1, 2, 4) The nurse should complete the vital signs first to gather data about fluid status from the potential bleeding.
13. (**4**) is correct. A dusky color indicates impaired circulation and requires immediate medical treatment to restore blood flow. (1, 2, 3) A dusky stoma should be reported immediately; these options are not the priority and can be completed after contacting the HCP.
14. (**2**) is correct. The patient is having difficulty passing gas after abdominal surgery and ambulating can help. (1, 3, 4) The narcotic can slow down peristalsis even more and is not needed for mild pain. The stoma should be monitored but will not have any effect on passing flatus. If the pain gets worse or there are no bowel sounds, then the HCP should be notified.

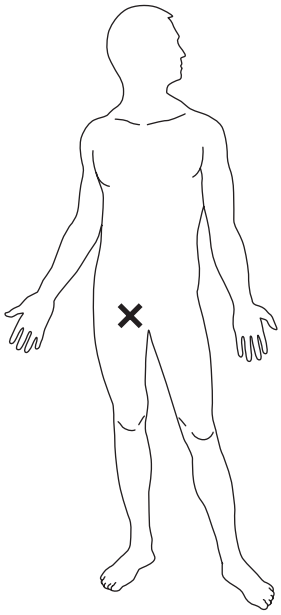
15. (**4**) is correct. Convert mg to gram: 0.5 grams = 500 mg tablet.

    1 tablet/0.5 grams × X/1 gram = 2 tablets

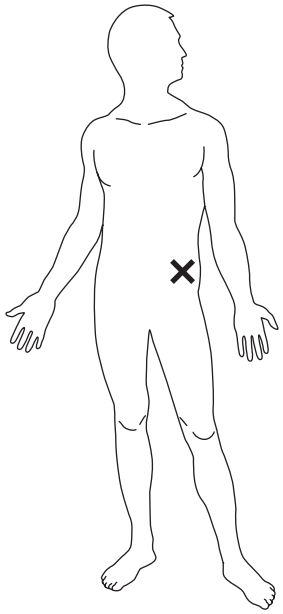
16. The area where the pain localizes in appendicitis.



17. The area where the nurse would view the surgical site for the repair of a right inguinal hernia.



18. The area where the nurse would observe the stoma.



# Answers

## CHAPTER 35 NURSING CARE OF PATIENTS WITH LIVER, PANCREATIC, AND GALLBLADDER DISORDERS

### AUDIO CASE STUDY

#### Kelsey and Cirrhosis

1. There are more than 10 possible causes of cirrhosis, such as alcohol use (but not always), hepatitis B or C, right-sided heart failure, hepatotoxic drugs or toxins, and nonalcoholic steatohepatitis. See Box 35.1.
2. Cirrhosis signs include jaundiced sclerae and skin, several bruises, itching, a much-distended abdomen, and pitting ankle edema. Hepatic encephalopathy signs include lethargy, confusion, and difficulty communicating, all of which indicate the involvement of the central nervous system.
3. Ammonia level.
4. Lactulose was ordered via retention enema for 30 to 60 minutes. Mr. Guido was not responsive and could not take the medication orally.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**4**)
2. (**3**)
3. (**10**)
4. (**5**)
5. (**7**)
6. (**11**)
7. (**12**)
8. (**1**)
9. (**8**)
10. (**2**)
11. (**9**)
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**)
2. (**6**)
3. (**7**)
4. (**5**)
5. (**1**)
6. (**8**)
7. (**9**)
8. (**3**)
9. (**2**)
10. (**10**)

### 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**) **Gallstones** may plug the pancreatic duct, causing jaundice.
7. (**A**) Presence of Cullen sign indicates **extensive hemorrhagic destruction of the pancreas**.

8. (**A**) Turner sign, a purplish discoloration of the flanks, indicates **extensive hemorrhagic destruction of the pancreas**.
9. (**A**) Chvostek sign indicates **neuromuscular irritability from decreased serum calcium levels**.
10. (**A**) Foul-smelling, fatty stools indicate **malabsorption of dietary fats from decreased lipase**.

## PRIORITAZATION

1. First you need to ensure that Mr. Johnson's airway is protected due to his vomiting and place him on his side. You will collaborate with the RN to help initiate all the IV orders. You will ensure that his bolus IV is started immediately and then maintain his IV infusion after the bolus. You will collaborate with the RN to administer the IV morphine for pain, and you will administer the Compazine per rectum for the nausea and vomiting. You will ensure that Mr. Johnson is NPO and asks for assistance when using the restroom. You will collaborate with the laboratory to ensure that his lipase and amylase are drawn tomorrow morning.
2. Mr. Johnson's indicators that he is improving include decreased pain level, no vomiting, heart rate and respirations are now normal, and his blood pressure is improved. His vital signs indicate that his fluid levels have stabilized.
3. Mr. Johnson's amylase and lipase are still elevated and are essentially the same as yesterday's values. There is no significant trend up or down. He still has a low-grade temperature and continues to be nauseated. His pain level remains high. This data still indicates inflammation of the pancreas.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. The data collected about Ms. Smythe that support the diagnosis of cirrhosis include 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. You note that Ms. Smythe is irritable, has difficulty answering questions, and appears to doze off often during the interview. Other observations you 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 HCP orders lactulose or rifaximin (Xifaxan) to rid the patient's body of excess ammonia. Lactulose lowers the pH of the colon, inhibiting ammonia from moving into the blood so that it can be excreted in the stool and inhibiting ammonia-producing bacteria. Lactulose also causes water to be drawn into the colon, which increases ammonia's transport from the body. Antibiotics may also be given to reduce bacteria in the gut that produce ammonia. Rifaximin (Xifaxan) is commonly used.
5. You will obtain the rest of her vital signs and pulse oximetry, check her orientation, and peripheral pulses.
6. **C:** I am **c**oncerned about Ms. Smythe. She was admitted 2 days ago. She just vomited with bright red blood in her emesis. She is cold and her pulse is thready at 115 beats/minute.
   **U:** I am **u**ncomfortable with her current situation.
   **S:** I believe she is not **s**afe and has upper gastrointestinal bleeding. She needs immediate medical attention.
7. You will ensure that she has nothing per mouth (NPO) and signs the consent, and you will explain that she is having an endoscopy to stop the bleeding. You will ensure that if she continues to vomit that her airway is protected. You will continue to monitor her vital signs. You will ensure that she has a patent IV.
8. You will measure and record Ms. Smythe's abdomen and weigh her daily. You will promptly report any weight gain or increase in circumference. Because Ms. Smythe will usually be ordered a low-sodium diet and will have fluids restricted, carefully monitor and record intake and output. You will monitor Ms. Smythe's vital signs and mental status every 4 hours and report changes promptly. You will administer diuretics as ordered.

## REVIEW QUESTIONS

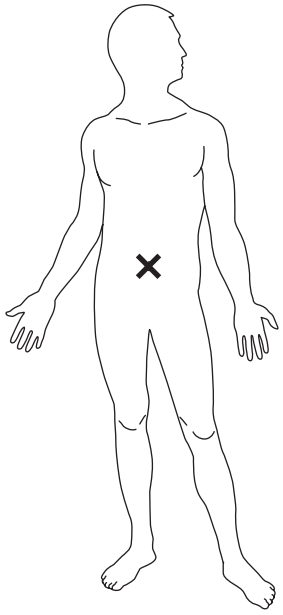
*The correct answers are in **boldface.***

1. (**2**) is correct. This choice is a low-fat diet that is recommended after cholecystectomy. (1, 3, 4) These are all high-fat diets.
2. (**4**) is correct. The patient with acute pancreatitis is at risk for hypovolemia. (1, 2, 3) should be part of the care plan but are not the priority until patient is stabilized.
3. (**2, 3, 5**) are correct. Deep breaths can cause more incisional pain, so providing analgesics and assisting with splinting will allow the patient to take deep breaths with less pain. Encouraging coughing and deep breathing will assist in keeping the lungs expanded and help maintain an effective breathing pattern. (1) A supine position will make breathing more difficult and impair the breathing pattern. (4) Although it is important to monitor bowel sounds postoperatively, this will not maintain an effective breathing pattern. (6) Maintaining bedrest will not promote an effective breathing pattern.
4. (**1**) is correct. These are symptoms of hepatic encephalopathy, and rifaximin (Xifaxan) is ordered to decrease the ammonia levels. (2) Propranolol is given to prevent bleeding of esophageal varices. (3) Multivitamins are given to supplement nutritional deficiencies. (4) Prochlorperazine is given for nausea and vomiting.

5. (**3**) is correct. A low vitamin K level and elevated prothrombin time puts the patient at risk of bleeding. (1, 2, 4) These are appropriate interventions for a patient with cirrhosis, but do not directly relate to the laboratory values.
6. (**1, 2, 3, 4**) are correct. The nurse will continue to monitor for changes in the patient's condition, which could indicate improvement or deterioration in the patient's status. The nurse should inform the HCP that the calcium is low (hypocalcemia), which could lead to cardiac dysrhythmias. Hypovolemic shock can be present with acute pancreatitis, so the HCP should be informed of the low urine output. (5) The patient with acute pancreatitis has severe pain and should receive pain medications.
7. (**3**) is correct. This is a low-sodium meal, which is appropriate for ascites. (1, 2, 4) are all high in sodium.
8. (**2**) is correct. The nurse should question an order of acetaminophen with a patient who has liver failure since it is hepatotoxic. (1, 3) Daily weights and monitoring intake and output are appropriate to monitor fluid status with patients who have acute liver failure. (4) Antiemetics are appropriate to control nausea.
9. (**2, 3, 6**) are correct. Straining and heavy lifting will further increase pressure, which may cause bleeding, as could aspirin use. (1, 4, 5) Coughing could rupture a varix (enlarged tortuous vein), and increasing fluid intake can further increase pressure. Vitamin K supplements will not alter portal hypertension.
10. (**3, 4, 6**) are correct. They require further teaching, as there is no vaccine for hepatitis C or D and personal grooming items should not be shared. (1, 2, 5) are appropriate for prevention.
11. (**1, 2, 4, 6**) are correct. These drugs contain acetaminophen, which can be toxic to the liver. (3, 5) Antibiotics do not contain acetaminophen.
12. (**1, 2**) are correct. Bruising can indicate bleeding, which can become serious without intervention. Fever can indicate infection, which requires prompt treatment. (3, 4, 5) They do not require immediate reporting and are associated with hepatitis.
13. (**4**) is correct. The nurse should first ensure that the patient is on her side and that the airway is clear. The nurse can direct the assistive personnel to get help and then obtain vital signs. (1, 2, 3) The patient's airway should be stabilized before the other interventions such as obtaining vital signs.
14. (0.25) mL

$$\frac{12.5\ \cancel{\text{mg}} \mid 1\ \text{mL}}{\mid 50\ \cancel{\text{mg}}} = 0.25\ \text{mL}$$

15. The area where the nurse would look for the presence of Cullen sign on a patient with acute pancreatitis.



# Answers

## CHAPTER 36 URINARY SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

#### Adam: Kidney Stones, Cystoscopy, and Pyelogram

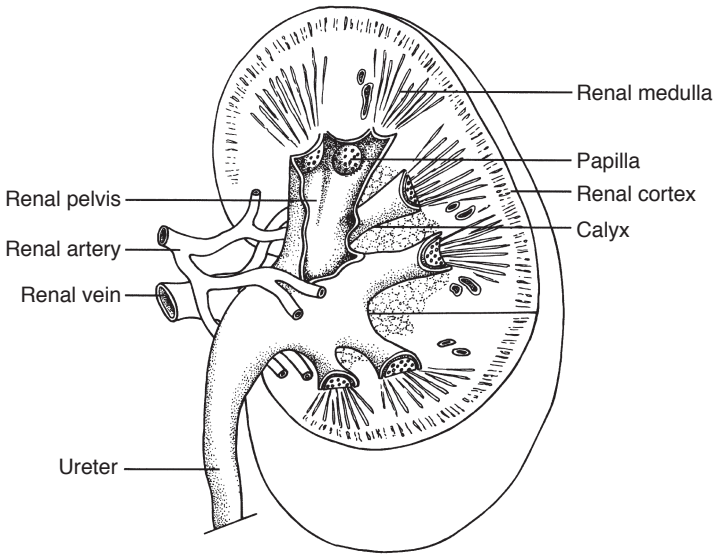
1. Colicky, wavelike pain pattern when he needed to urinate.
2. A test using high-frequency sound waves to image the kidneys, ureters, and bladder. It can show congenital disorders of the kidney, abscesses, hydronephrosis, kidney stones or tumors, kidney enlargement, or structural changes that occur with chronic renal infections.
3. Passing the stone on his own.
4. Signing an informed consent, consuming nothing by mouth (NPO) after midnight, administering continuous intravenous (IV) fluids, and completing a pre-op checklist.
5. Urine output, fluid intake, pain (especially on urination for about 24 hours), blood in urine.
6. **S:** Identify yourself, patient's name and room number. Adam had a cystoscopy and pyelogram today.
   **B:** Adam had a history of kidney stones and was diagnosed with one in the ureter, which he was unable to pass. The stone was removed during the cystoscopy and pyelogram without difficulty.
   **A:** Vital signs are stable. Slight pain with urination and pale pink urine with first two voidings.
   **R:** Monitor vital signs, urine for blood, and pain level. Reinforce discharge teaching.

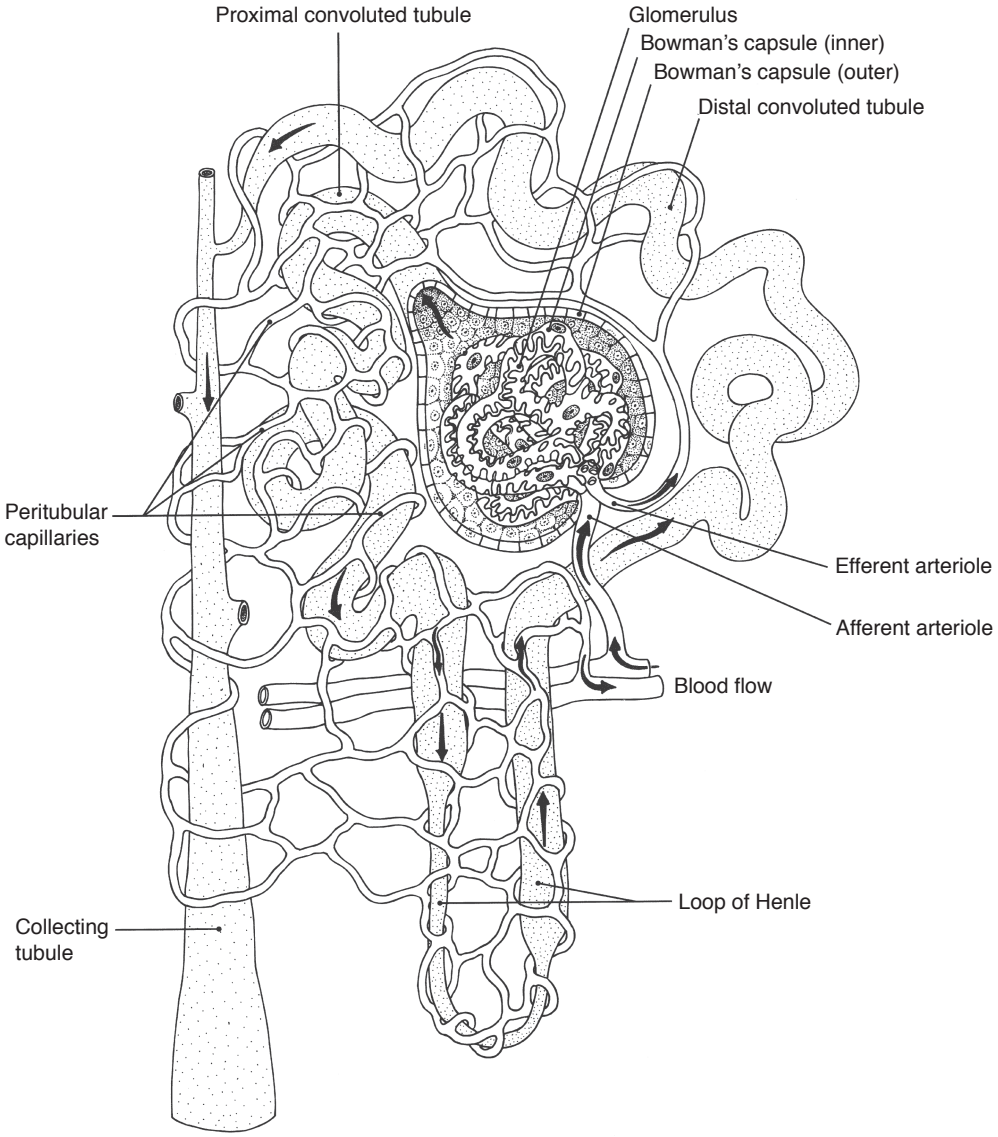
### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**3**)
2. (**1**)
3. (**4**)
4. (**2**)
5. (**7**)
6. (**6**)
7. (**8**)
8. (**5**)

### ANATOMY REVIEW






## 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. It can be nephrotoxic and cause contrast-induced nephropathy.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. These are classic symptoms of stress incontinence.
2. Fluids should not be restricted. Fluid restriction can result in concentrated urine, which is irritating to the urinary tract and can contribute to incontinence. Some people become continent only by increasing their fluid intake and setting a regular pattern of voiding.
3. Mrs. Bohke should be taught how to perform Kegel exercises. She also should be referred to a health-care provider such as a urologist or a clinic specializing in incontinence for assessment. She may also benefit from medications or surgery.

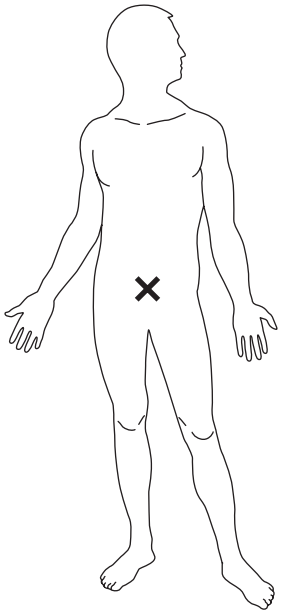
4. Functional incontinence. Mrs. Simmon would have been continent if she had been able to call the nurse for assistance within enough time.
5. The patient should be given a call light that she can feel and that is secured where she can reach it at all times. It would also be helpful to have the nurse make hourly rounds and identify if there is a need to toilet. A regular toileting schedule could be helpful.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct. A urine culture will guide treatment, so it is the priority to obtain. (1, 3, 4) They are not the priority action in order for treatment to begin, but they should be implemented by the nurse after the urine specimen is obtained.
2. (**2, 5, 6**) are correct. The urinary catheter should regularly be inspected for patency and kinks to ensure that it is functioning properly. For a properly functioning urinary catheter, the 2-hour volume of 38 mL is less than the guideline of 30 mL/hour, so the HCP should be informed of this. (1, 3, 4) Coughing and deep breathing will not affect the urine output. The HCP, not the nurse, may prescribe increased hydration.
3. (**4**) is correct. Provide a night-light in the bathroom to prevent falls. (1) This would promote nocturia. (2) There is no indication that a fluid restriction is needed, which the HCP would need to prescribe. (3) The patient is continent and does not require an adult brief.
4. (**3**) is correct. Daily weight most accurately reflects changes in fluid status. (1) A voiding pattern does not identify fluid balance. (2) Creatinine levels reflect waste products, not fluid balance. (4) Skin turgor is not an accurate indication of fluid balance in everyone.
5. (**4**) is correct. To prevent contamination, the inside of the sterile container and its top should not be touched. (1) It is not necessary to discard the first voiding of the day. A specimen that has been dwelling in the bladder for 2 to 3 hours is preferred. (2) A 24-hour urine specimen is not required for a culture. (3) The initial flow of urine should be discarded and the middle or midstream flow of urine collected to help flush away potential contaminants before the specimen is collected.
6. (**2, 4**) Encourage fluids to flush contrast media from the kidneys and monitor urine output to detect problems. (1) Fluids are encouraged. (3) The throat is not anesthetized for this test, so the gag reflex is not affected. (5) No specific positioning is required. (6) No bedrest is required after this test.
7. (**4**) Kegel exercises strengthen the perineal muscles (pelvic floor muscles) and are performed in this way. (1, 2) The perineal muscles need to be tightened not the rectum or abdominal muscles. (3) Sit-ups do not strengthen the perineal muscles, which are the target muscles.
8. (**1, 5**) are correct. The perineum should be washed before collecting a urine sample from a female and the labia held open to decrease contamination of the specimen. (2, 3, 4) are not necessary to do for a routine urine specimen.
9. (**1**) is correct. The elevated specific gravity occurs with dehydration because the urine is more concentrated. (2, 3) No bacteria is seen to indicate a UTI or contamination. (4) No blood was present on the results.
10. (**4, 5**) are correct. The elevated serum creatinine level and blood urea nitrogen (BUN) level reflect reduced kidney function. (1) is within normal range. (2) is within normal range. (3) is within normal range. (6) is within normal range.
11. (**2**) is correct. The patient should be nil per os (NPO; nothing by mouth) before undergoing an intravenous pyelogram so the contrast media is more concentrated for better visualization of renal structures. After the intravenous pyelogram, the nurse should encourage fluids to help clear the contrast media from the kidneys. (1, 3, 4) are not restricted for an intravenous pyelogram.
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 postcystoscopy interventions.
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 functional incontinence. (4) is total incontinence.
14. (**3, 5**) is correct. It is important to keep the catheter taped to prevent its movement, which increases the chance of introducing bacteria into the urine and trauma to the urethra. The exit spout must be handled with care to prevent contamination when it is open for emptying the urinary catheter bag. (1) increases risk of infection. (2) is not necessary and may increase the risk of infection. (4) A full bag increases risk of urine 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 will still be incontinent of urine. (2) A urine receptacle will not help if the patient has continuous, unpredictable urine flow. (3) Kegel exercises will not help total incontinence.
16. (**1, 3, 6**) are correct, as smoking and leather making exposes the bladder to nephrotoxic chemicals, and hematuria is a symptom of bladder cancer. (2) Weight loss is common with cancer, not weight gain. (4, 5) are not related to bladder cancer.
17. (**2**) is correct. Hyperkalemia can cause cardiac arrhythmias. (1, 3, 4) are not affected by hyperkalemia.

18. (**3**) is correct. Maintaining a closed-catheter system is essential to prevent contamination. (1) 4000 mL per 24 hours is excessive fluid intake. (2) Frequent bag emptying does not prevent a urinary tract infection and could result in port contamination. (4) The perineum does not need to be cleansed every 4 hours. It can be cleansed daily and prn with bowel movements.
19. (**1, 4, 5, 6**) indicate infection in the urinary tract. (2, 3) are normal values.
20. 1,257 mL
21. The area where the nurse would observe the insertion site of a peritoneal dialysis catheter.



# Answers

## CHAPTER 37
## NURSING CARE OF PATIENTS WITH DISORDERS OF THE URINARY SYSTEM

### AUDIO CASE STUDY

#### Maleka and Kidney Disease

1. Hypertension and diabetes.
2. Diagnostic contrast media or nephrotoxins, including certain medications, such as aminoglycosides, NSAIDs, or even the wrong blood type.
3. Check glomerular filtration rate (GFR) and serum creatinine level; ensure patient is hydrated, which may include giving fluids intravenously; and encourage fluids after the diagnostic test.
4. Arteriovenous fistula. Palpated for a thrill (a tremor), produced by greater blood flow through the fistula, and listened for a bruit, a swishing sound, to make sure it's patent and not clotted.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. Urethritis
2. Cystitis
3. Pyelonephritis
4. urethroplasty
5. urosepsis
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 due to 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 and predisposing to infection.
3. The patient should be advised to drink up to 3,000 mL of fluid (water preferred), if not contraindicated. Also, a glass of cranberry juice daily (or blueberry products) may help.
4. The single most important thing a patient with a history of UTIs should do is void frequently to prevent stasis of urine and to decrease the risk of infection.
5. Fatigue, confusion, and delirium are often experienced by the older adult who has a UTI.
6. See the completed table below.

| | Cystitis | Pyelonephritis |
|---|---|---|
| Symptoms | Voiding urgency; frequency; burning; cloudy, foul-smelling urine; hematuria; pelvic pain or pressure | Voiding urgency; frequency; burning; cloudy, foul-smelling urine; hematuria; also, flank pain, costovertebral tenderness, high fever, chills, nausea/vomiting |
| Urinalysis Results | Cloudy urine, bacteria, white blood cells (WBCs), positive nitrites and leukocyte esterase, sometimes red blood cells (RBCs) | Cloudy urine, bacteria, WBCs, positive nitrites and leukocyte esterase, casts |
| Prognosis | Good with treatment; can become chronic with repeat infections | Acute pyelonephritis has a good prognosis; with repeat infections, the patient can develop chronic pyelonephritis with scarring and eventual destruction of kidneys |

## URINARY TRACT OBSTRUCTIONS

1. The most common symptom of bladder cancer is hematuria because cancerous tissue readily bleeds.
2. The most common risk factor for bladder cancer is smoking because of continual exposure of the bladder mucosa to the carcinogenic by-products of smoking.
3. The most common symptom of kidney cancer is bleeding, again because cancerous tissue bleeds readily, just as in bladder cancer.
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, 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 urinary catheter bag. When the appliance needs changing, it is necessary to use gauze over the stoma to wick (catch) the urine to keep the area dry until the new appliance can be applied.
6. The most important care of a patient with a kidney stone is to strain all urine to identify 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.

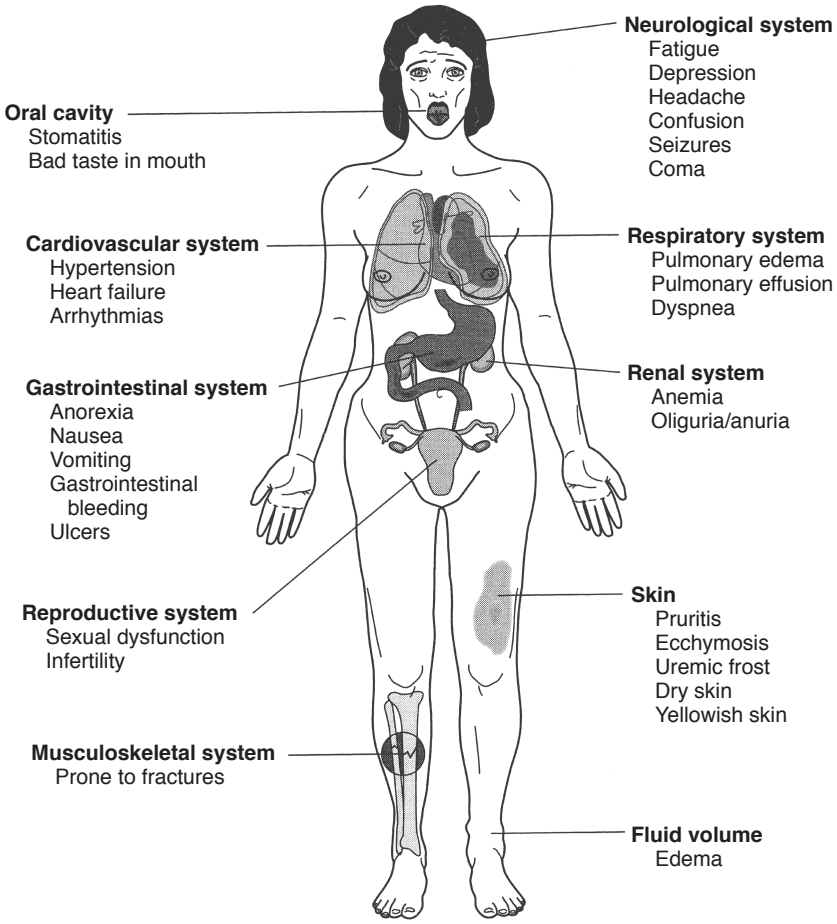
## PRIORITIZATION

1. Hold the nephrotoxic gentamicin until the HCP is notified of the elevated creatinine level.
2. Apply pressure to patient's dialysis vascular access site.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. 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.
2. The serum creatinine level of 5.4 is most diagnostic of CKD. A 24-hour creatinine clearance is more diagnostic, but this laboratory test is not available in this case study.
3. Good control of diabetes—that is, keeping blood sugars within a defined range—can help to reduce the development of diabetic complications, including chronic kidney disease (CKD).
4. 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 CKD.
5. Mrs. Zins will probably be on a defined diabetic diet that is 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 which is one of the most restrictive diets. It is a very difficult diet to follow.
6. Do *not* give the potassium chloride. Contact the HCP to review the elevated potassium results and question the potassium chloride order. The potassium chloride was ordered because furosemide is a potassium-wasting diuretic. However, the patient's potassium level is elevated. Itis not needed and it would be very dangerous to administer the potassium chloride. Patients with chronic kidney disease may not excrete potassium normally and as a result have elevated potassium levels. Potassium levels must be very closely monitored in those with chronic kidney disease.
7. It is important that Mrs. Zins not receive orange juice, a high potassium beverage, 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.
8. The three most important areas to monitor when caring for a patient with CKD are daily weight, intake and output (with fluid restriction if prescribed), and laboratory test results for dangerous levels of electrolytes.
9. 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 has a hemoglobin level of 7.2).
10. **Suggested SBAR:**
    **S:** I am caring for Mrs. Zins in room 426. She has had type 1 diabetes mellitus for 25 years.
    **B:** Mrs. Zins has experienced fatigue, hypoglycemia, edema, and hypertension and is being evaluated for chronic kidney disease.
    **A:** Potassium elevated. Potassium chloride order questioned and discontinued. Other medications given as ordered. Urine specimen sent to lab; 24-hour creatinine clearance test begun at 0800.
    **R:** Continue monitoring vital signs, blood sugar, and urine output effect from the furosemide. Continue 24-hour urine collection test until 0800 tomorrow. Weigh daily. Provide skin care to relieve itching. Plan activities in order to reduce fatigue and promote rest.

## CHRONIC KIDNEY DISEASE




## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1, 3, 5, 6**) are correct. They help prevent urinary tract infections. (2, 4) do not prevent urinary tract infections.
2. (**2**) is correct. A 24-hour creatinine clearance is most diagnostic of acute kidney injury; a result of 5 mL/min (n = 100 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.
3. (**2, 3, 5**) are correct. All urine is strained to detect passage of a stone, fluid is increased to flush out the stone, and analgesics are given as this is a painful condition. (1) Fluids would be increased, not restricted. (4) Activity may be encouraged to assist with passage of the kidney stone.
4. (**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.
5. (**4**) is correct. Mucus is normally found in the urine of a patient with a urostomy (ileal conduit). This is because a portion of the small bowel is used to make the conduit, and the bowel continues to secrete mucus. (1, 2, 3) are not necessary since the finding is normal.
6. (**2, 4**) are correct. Patency is evaluated with palpation for a thrill and auscultation of a bruit over this right arm fistula site. (1, 3, 5) Pulses are not the site that are checked for patency of a fistula. Pulses would be checked as part of patient data collection. (6) Blood pressure does not indicate patency of a fistula.
7. (**4, 5**) are correct. They are the only foods listed that do not contain significant potassium. (1, 2, 3) are all high in potassium.

8. (**2, 3, 4**) are correct. They are not high in potassium. (1, 5, 6) Bananas, nectarines, and potatoes are high in potassium and should be avoided.
9. (**4**) is correct. Use a dressing to wick the urine and continue changing the pouch because this is normal. (1) This is a normal finding so no notification is needed. (2) This is a normal occurrence, so use of a straight catheter would not be appropriate. (3) The stoma does not require irrigation with freely flowing urine.
10. (**2**) is correct. Fluid intake is increased to flush bacteria from the kidneys. (1, 3, 4) would have no effect on the treatment of glomerulonephritis.
11. (**3**) is correct. The daily weight is the single best determinant of fluid balance in the body. (1, 2, 4) are also important, but daily weight remains the most significant data.
12. (**2**) is correct. Orange juice is high in potassium, and the patient's potassium level is already high. (1, 3) gives the patient more potassium intake. (4) It would be important to check the type of diet later to understand why a high potassium beverage was provided, but the first priority is to protect the patient from more potassium intake.
13. (**1, 5**) are correct because a fistula provides greater blood flow, making dialysis more efficient and has less risk of infection since it is located under the skin. (2) All blood access sites can clot. (3) It is actually harder to access a fistula than a two-tailed subclavian. (4) Either site can be damaged by trauma.
14. (**2, 4, 5**) are correct. The patient must be weighed following dialysis to determine fluid loss during dialysis for planning future dialysis prescriptions, and vital signs are obtained to determine patient stability. After dialysis, due to the fluid and electrolyte shifting that occurred, the patient is very tired and usually needs to sleep. (1, 3, 6) are not relevant at this time.
15. (**2**) is correct because this is the mechanism by which peritoneal dialysis works. (1, 3, 4) do not describe the mechanism by which peritoneal dialysis works.
16. (**3, 4, 5, 6**) are correct because these are signs and symptoms that are seen with fluid retention, electrolyte imbalances and skin issues from urea buildup related to untreated kidney disease. (1, 2) are not symptoms of fluid excess and chronic kidney disease.
17. (**4**) is correct. Hematuria is the most common symptom of trauma to the kidney because the kidney has a very large blood supply. (1, 2) are symptoms of a urinary tract infection. (3) is commonly seen with diabetes.
18. (**2**) is correct. The patient has symptoms of too much fluid in the body, which is excess fluid volume. (1, 3) are not associated with the patient's symptoms. (4) There is no data to support this diagnosis.
19. (**1, 4, 6**) are correct because they ensure patency and prevent damage to arteriovenous fistula. (2, 3) are not necessary, as the arteriovenous fistula is under the skin. (5) Lab draws are avoided on the arm with the arteriovenous fistula.
20. 4 tablets: 1,600/400 = 4. It is essential to give phosphate binders, such as sevelamer, exactly with meals for effectiveness.

# Answers

## CHAPTER 38 ENDOCRINE SYSTEM FUNCTION AND DATA COLLECTION

### AUDIO CASE STUDY

#### Nancy Has Hyperthyroidism

1. Tachycardia, nervousness, heat intolerance, tremor.
2. High levels of triiodothyronine ($T_3$) and thyroxine ($T_4$) provided negative feedback to reduce thyroid-stimulating hormone secretion.
3. Drink fluids, wash hands, flush toilet—body fluids would be radioactive.

### VOCABULARY

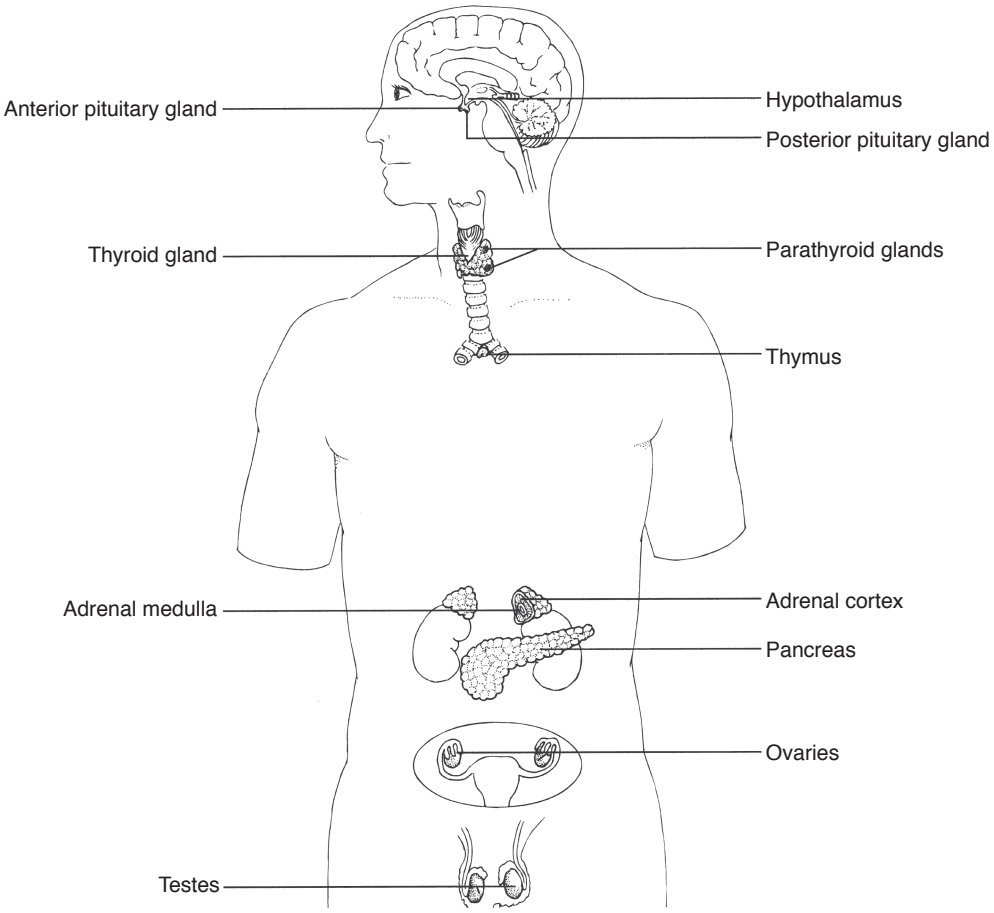
*Sample sentences will vary for the Vocabulary problems.*

1. glycogen
2. hyperglycemia
3. affect
4. exophthalmos
5. feedback

### HORMONES

1. (**10**)
2. (**17**)
3. (**1**)
4. (**8**)
5. (**5**)
6. (**13**)
7. (**16**)
8. (**11**)
9. (**9**)
10. (**3**)
11. (**14**)
12. (**6**)
13. (**7**)
14. (**4**)
15. (**15**)
16. (**2**)
17. (**12**)

## ENDOCRINE GLANDS AND HORMONES




## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct.
2. (**3, 4, 5**) are correct. ADH increases water reabsorption by the kidney tubules while aldosterone and cortisol increase reabsorption of $Na^+$ 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.
3. (**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.
4. (**1**) is correct. The heart rate is typically elevated in hyperthyroidism. (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.
5. (**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.
6. $\frac{0.15 \text{ mg} \mid 1{,}000 \text{ mcg}}{\mid 1 \text{ mg}} = 150 \text{ mcg}$
7. (**2, 4**) The incretin hormones GLP-1 and GIP help regulate blood sugar by increasing insulin secretion and decreasing glucagon secretion from the pancreas. (1) These hormones do not have any direct effect on gastric enzymes. (3, 5) Incretin hormones do not have any influence on cellular uptake of glucose or glucose clearance by kidneys.
8. (**4**) Triiodothyronine ($T_3$) and thyroxine ($T_4$) regulate metabolic rate and energy production. (1, 2, 3) are not major functions of thyroid hormone.
9. (**2**) Patients take a sip of water as the HCP palpates the thyroid gland so the upward movement of the gland can be felt. (1, 3, 4) are not necessary.
10. (**2**) A thyroid scan involves an injection or oral dose of radioactive iodine. (1, 3, 4) are not accurate.

# Answers

## CHAPTER 39 NURSING CARE OF PATIENTS WITH ENDOCRINE DISORDERS

### AUDIO CASE STUDY

#### Alice and Cushing Syndrome

1. Chronic steroid use.
2. Buffalo hump, thin skin, moon-shaped face, easy bruising, osteoporosis, and hyperglycemia.
3. Steroids cause gluconeogenesis, which raises blood glucose.
4. Weaning off of or reducing the dose of steroid or sometimes using an every-other-day schedule can help. Unfortunately, Alice needed the steroids to breathe, so the benefits of the steroids outweighed their risks.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. euthyroid
2. goitrogen
3. polydipsia
4. polyuria
5. pheochromocytoma
6. tetany
7. myxedema
8. Nocturia
9. amenorrhea
10. ectopic

### HORMONES

| Disorder | Hormone Problem | Example Signs and Symptoms |
|---|---|---|
| A. Diabetes insipidus | 1. Antidiuretic hormone (ADH) deficiency | a. Polyuria |
| B. Syndrome of inappropriate antidiuretic hormone (SIADH) | 4. ADH excess | h. Water retention |
| C. Cushing syndrome | 5. Steroid excess | c. Moon face |
| D. Addison disease | 6. Deficient steroids | k. Hypotension |
| E. Graves disease | 11. High $T_3$ and $T_4$ | j. Exophthalmos |
| F. Hypothyroidism | 9. Low $T_3$ and $T_4$ | i. Weight gain and fatigue |
| G. Pheochromocytoma | 7. Epinephrine excess | d. Unstable hypertension |
| H. Hyperparathyroidism | 3. High serum calcium | f. Muscle weakness, brittle bones |
| I. Short stature | 2. Growth hormone (GH) deficiency | g. Failure to grow and develop |
| J. Acromegaly | 8. GH excess | b. Growing hands and feet |
| K. Hypoparathyroidism | 10. Low serum calcium | e. Tetany |

## CRITICAL THINKING AND CLINICAL JUDGMENT

### Mr. Samuels

1. Because Mr. Samuels has too much ADH, he will be retaining water.
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 dark and concentrated because he is not excreting much water.
6. When Mr. Samuels is effectively treated, his urine will look more diluted because he will be excreting more water.

### Mrs. Jorgensen

7. A head injury can directly or indirectly damage the pituitary gland, placing the patient at risk for reduced ADH secretion and diabetes insipidus (DI).
8. Polyuria and polydipsia are symptoms of both DI and diabetes mellitus.
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 fluid loss.
12. Mrs. Jorgensen should watch for signs of fluid overload, such as increasing weight and concentrated urine.
13. Help her to bed or a chair. Check her vital signs and do a quick neuro check. Report to RN.
14. **S:** Mrs. Jorgensen is being discharged home tomorrow following a head injury. After admission, she developed diabetes insipidus, which causes her to lose a lot of water. (Keep in mind the case manager is not a nurse and may not know what DI is.)
    **B:** She was in a motor vehicle accident 3 days ago. She has been stable, but sometimes gets dizzy when she is out of bed. She lives alone, but she has a son in the same town.
    **A:** She will need help at home until she recovers. We need to be sure she is safe in her environment.
    **R:** A visiting nurse would be helpful to monitor her progress and to reinforce her medication instruction. The nurse could also evaluate her home for safety.

## THYROID DISORDERS

1. (**O**)
2. (**O**)
3. (**R**)
4. (**R**)
5. (**O**)
6. (**O**)
7. (**R**)
8. (**R**)
9. (**O**)
10. (**R**)
11. (**R**)
12. (**O**)

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1**) is correct. Numb fingers and muscle cramps are symptoms of tetany. (2, 3, 4) are not symptoms of tetany.
2. (**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. (**1**) is correct. Fluids will help prevent kidney stones by flushing excess calcium through the kidneys. (2, 3, 4) will not help.
4. (**2**) is correct. Addison disease is associated with fluid loss, and weight loss of 3 pounds in one day is a sign of significant fluid loss. (1) is an expected finding and does not need to be reported immediately. (3, 4) do not need to be reported immediately.
5. (**3**) is correct. Negative feedback causes the pituitary gland to produce more thyroid-stimulating hormone (TSH). (1) TSH does not take the place of triiodothyronine ($T_3$) and thyroxine ($T_4$). (2) TSH will not directly affect the metabolic rate. (4) Fat cells do not make TSH.
6. (**1**) is correct. Tachycardia can occur if she gets too much levothyroxine (Synthroid). (2, 3) are not side effects of levothyroxine (Synthroid). (4) She should lose excess weight, not gain weight, on levothyroxine (Synthroid).
7. (**2**) is correct. Body fluids will be radioactive. (1, 3) are not necessary. (4) Exposure to even small doses of radioactivity should be minimized.
8. (**2, 3, 1, 4, 6, 5**) is correct. (2) Airway is always a priority, especially following surgery near the airway. (3) Vital signs are second because the patient must be monitored for thyrotoxicosis, which could be life-threatening. (1) Surgical site is third, because physiological problems take priority, and excessive bleeding could also be life- or health-threatening. (4) An analgesic is next, so the patient will be comfortable for (6) range-of-motion exercises. (5) Teaching is last; although it is important, it does not maintain the immediate physiological integrity of the patient.
9. (**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.
10. (**2**) is correct. Buffalo hump and easy bruising are often present in Cushing syndrome. (1, 3, 4) are not symptoms of Cushing syndrome.

11. (**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.
12. (**1**) is correct. Routine neurological assessments are important to detect complications after surgery involving the central nervous system. (2) coughing is inappropriate following CNS surgery. (3) Tracheal edema is unlikely following CNS surgery. (4) An incentive spirometer is not the priority.

# Answers

## CHAPTER 40
## NURSING CARE OF PATIENTS WITH DISORDERS OF THE ENDOCRINE PANCREAS

### AUDIO CASE STUDY

#### Mr. Flint Has Diabetes

1. Diabetes, poor circulation, and poor sensation (neuropathy).
2. Bearing weight on a wound can squeeze the already compromised blood supply out, increase damage to the wound, and delay healing.
3. 126 mg/dL.
4. Type 2. He is on metformin, needed to lose weight, and had symptoms of diabetes for some time before he was diagnosed. He also has a brother with diabetes.
5. Some possible answers include polyuria, polydipsia, polyphagia, fatigue, and blurred vision.
6. Shaking, sweating, headache, and tremor.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. glycosuria
2. Hyperglycemia
3. Hypoglycemia
4. Kussmaul
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

### COMPLICATIONS OF DIABETES

1. (**5**)
2. (**2**)
3. (**4**)
4. (**1**)
5. (**7**)
6. (**6**)
7. (**3**)

### CRITICAL THINKING

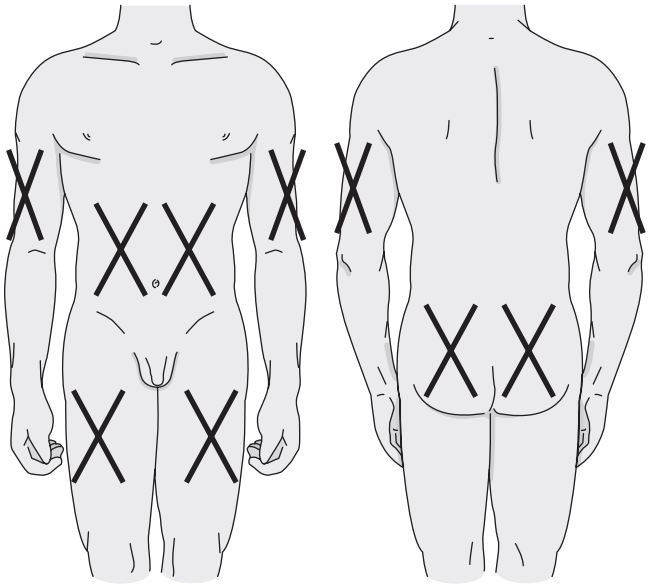
1. Jennie is exhibiting symptoms of hypoglycemia. You should follow hospital policy, which usually directs the nurse to check the blood glucose (BG) level and provide a quick source of glucose such as juice or glucose tablets if BG is less than 70 mg/dL. Notify the registered nurse (RN) according to policy.
2. It appears that the treatment has been effective; 80 mg/dL is probably okay, 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 health-care provider (HCP) before administering her supper dose of insulin lispro (Humalog).
3. **Suggested SBAR:**
   **S:** Jennie had an episode of hypoglycemia.
   **B:** At 4 p.m., she had a headache and was sweaty. I checked her blood glucose and it was 65. I gave her 120 mL of orange juice, and she came right up to 88 mg/dL within 15 minutes. She was 80 at 5 p.m.
   **A:** The hypoglycemia is now resolved.
   **R:** I called the kitchen, and her meal is on the way. I'll watch her closely this evening.
4. 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 80 and 130 mg/dL, the HCP should always be consulted for desired glucose range.
5. Common causes of hypoglycemia include skipping or delaying meals, eating less than prescribed at a meal, and more exercise than usual. It is also possible that the hospital meal plan is less than Jennie typically eats at home.
6. 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.

7. 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.
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

*The correct answers are in **boldface.***

1. (**1**) is correct. Insulin is not available in pill form at this time. The patient needs additional education. (2, 3, 4) are all correct statements.
2. 126 mg/dL
3. (**2**) Frequent urination can be a sign of diabetes. (1, 4) might be helpful but are not the priority. (3) Weight loss counseling is appropriate but is not the most important at this time.
4. (**4**) Extra socks are the safest way to warm feet that are at risk for injury. (1, 3) could cause injury. (2) can reduce arterial flow to the feet.
5. (**1, 2, 3**) These will help prevent complications. (4) is not necessary; some simple carbohydrates can be included in the carbohydrate allotment.
6. (**4**) Includes a balance of complex carbohydrates, fats, and protein. (1) is high fat, low carbohydrate. (2, 3) are high carbohydrate with minimal fat or protein.
7. (**1**) 48 is below normal and is considered hypoglycemia. (2, 3) are within range. (4) is hyperglycemia.
8. (**1**) Insulin may be needed during times of stress or illness and is easier to adjust to changes in eating or NPO status. (2, 3, 4) Once the stress of surgery is over, the patient is likely to go back to the previous medication regimen.
9. (**2**) Small, frequent, low-carbohydrate meals will help prevent fluctuations in blood glucose. (1, 3, 4) can exacerbate fluctuations in BG.
10. (**4**) is correct. If a patient forgets a prescribed oral hypoglycemic, blood sugar levels will go up. Fatigue, thirst, and blurred vision are symptoms of hyperglycemia. (1, 2) are symptoms of hypoglycemia. (3) is not related to diabetes.
11. (**2**) is correct. Use of contrast dye with metformin can cause lactic acidosis. (1, 3, 4) do not cause complications with dyes.
12. (**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) contains sugar, but also contains fat, which will slow digestion and absorption of the glucose.
13. (**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.
14. (**4**) is correct. Oatmeal and bread are both carbohydrate exchanges. (1, 2, 3) are not carbohydrates.
15. The eight areas on the body where subcutaneous insulin injections can be administered: upper arm (marked on both anterior and posterior), abdomen, upper thigh, and buttocks.



# Answers

## CHAPTER 41 GENITOURINARY AND REPRODUCTIVE SYSTEM FUNCTION AND DATA COLLECTION

### AUDIO CASE STUDY

#### Emma and Lily—Women's Health

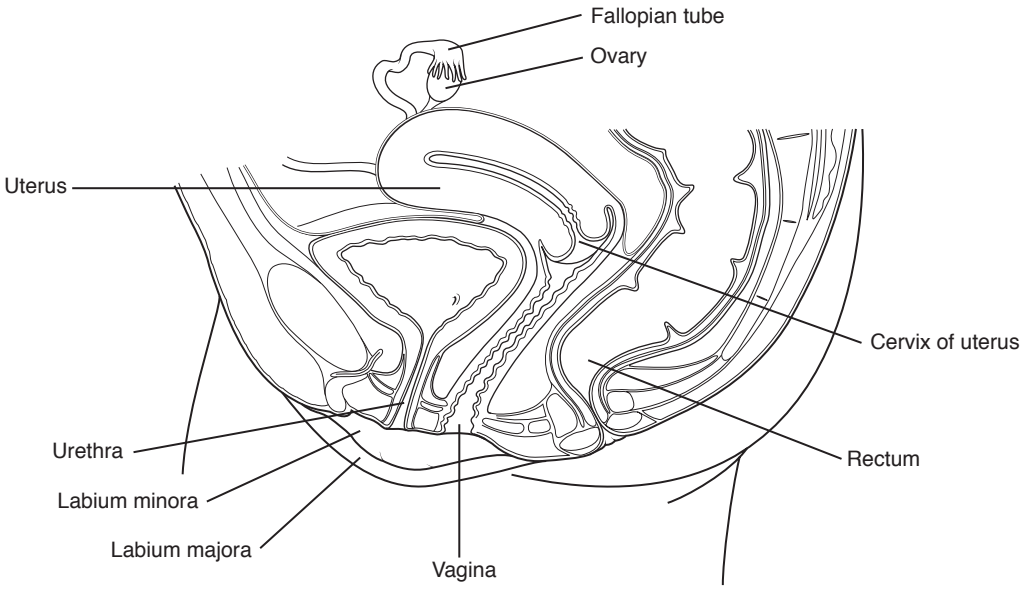
1. Have the patient empty her bladder. Provide privacy plus a drape for warmth and additional privacy. Warm the speculum if it is metal and have the patient take a deep breath, blow out, and relax during speculum insertion.
2. Birth control pills do not prevent sexually transmitted infections (STIs); use a condom *and* spermicidal jelly.
3. Prepare the woman physically (gown, position, etc.), educate, and provide emotional support. Stay with the woman during the exam if the health-care provider (HCP) allows. Explain things as they are being done if the HCP does not do so.

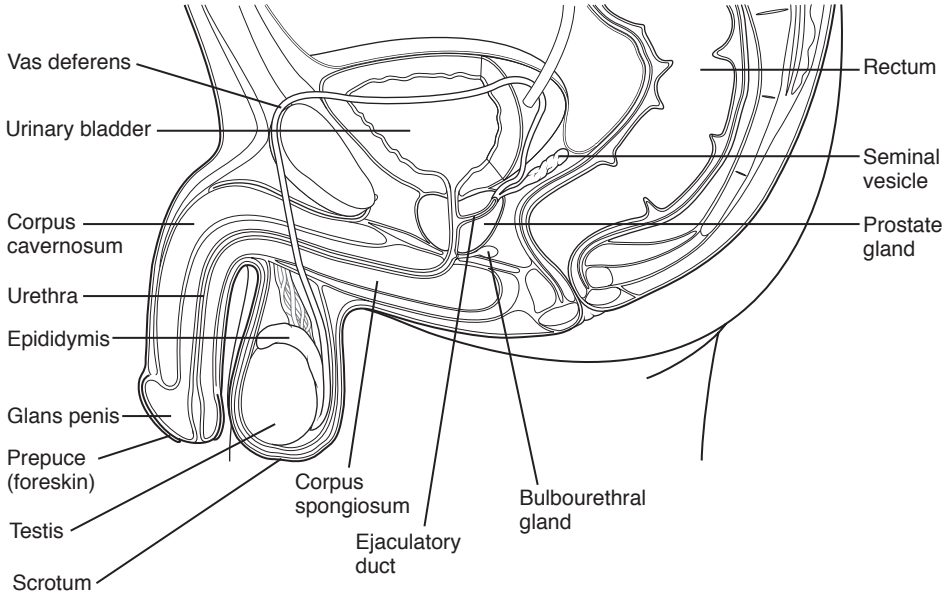
### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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**)
2. (**7**)
3. (**6**)
4. (**3**)
5. (**2**)
6. (**1**)
7. (**4**)

## MALE REPRODUCTIVE SYSTEM

4, 2, 5, 1, 3

## DIAGNOSTIC TESTS REVIEW

1. (**2**)
2. (**1**)
3. (**3**)
4. (**6**)
5. (**4**)
6. (**5**)

## CRITICAL THINKING

1. "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."
2. Examine her abdomen and check her medical record for the report of her procedure. Most likely she had carbon dioxide ($CO_2$) pumped into her abdomen as part of the procedure to enhance visualization of structures. Explain to her why her abdomen is distended. If there is no record of $CO_2$ insufflation, something may indeed be wrong, and further assessment and reporting to the nurse or HCP are indicated.
3. 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.
4. 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 HCP about a consultation with a urologist or other specialist.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1**) is correct. (2, 3, 4) are incorrect.
2. (**2**) is correct. (1, 3, 4) are incorrect.
3. (**1**) is correct. (2, 3, 4) are incorrect.
4. (**4**) is correct. (1, 2, 3) are incorrect.
5. (**3**) is correct. (1, 2, 4) are incorrect.
6. (**3**) is correct. A yearly mammogram is recommended. Optional breast self-examination can be done monthly. (1, 2, 4) are incorrect.
7. (**4**) is correct. Digital rectal examination is done by a health-care provider at a routine visit. (1, 2, 3) It is unreasonable to expect such frequent health-care provider visits; testicular self-examination can be done at home more often.
8. (**2**) is correct. A cystourethrogram involves a catheter, dye, and x-rays. (1, 3, 4) are not correct.

9. (**2**) is correct. The patient should empty her bladder before the Papanicolaou (Pap) smear. (1, 3, 4) are not necessary for Pap smears.
10. (**1**) is correct. A portion of the breast self-examination is done while lying down. (2, 3, 4) are inappropriate.
11. (**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.
12. (**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 NURSING CARE OF WOMEN WITH REPRODUCTIVE SYSTEM DISORDERS

### AUDIO CASE STUDY

#### Mrs. Franklin and Total Abdominal Hysterectomy

1. Pain, constipation, grieving.
2. Michelle provided prune juice, walking assistance, bran cereal, and fluids, including hot tea. She also was aware that opioids can increase constipation. If these are not effective, talking to the health-care provider (HCP) about a stool softener or laxative might be necessary.
3. Small amounts of serosanguinous drainage are normal. If bleeding is copious, sudden, or becomes purulent, or if Mrs. Franklin develops a fever, swelling, or excessive redness, Michelle should tell the registered nurse (RN) or HCP. She measured the amount of drainage so she can compare with later amounts for increase.
4. Your SBAR might look different from this one—remember your goal is to communicate important information in an organized way!
   **S:** I cared for Mrs. Franklin this morning. She said she is feeling constipated.
   **B:** Her abdomen is firm and slightly distended, and her bowel sounds are diminished. She says her last bowel movement was three days ago. She had some bran cereal, 480 mL of water, and 200 mL hot tea. We walked to the next unit and back. She was painful, so she agreed to try the NSAID instead of the opioid, hoping it won't affect her bowels as much.
   **A:** I agree with her that she will feel better if she can move her bowels.
   **R:** If her bowels haven't moved by this afternoon, I will give her some warm prune juice and walk her again. Can you check in on her and ask her about her pain while I'm at lunch?

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**3**)
2. (**4**)
3. (**2**)
4. (**10**)
5. (**5**)
6. (**7**)
7. (**1**)
8. (**6**)
9. (**8**)
10. (**9**)

### BREAST SURGERIES

1. (**5**)
2. (**1**)
3. (**3**)
4. (**2**)
5. (**4**)

### MENSTRUAL DISORDERS

1. (**5**)
2. (**3**)
3. (**1**)
4. (**2**)
5. (**4**)

### MASTECTOMY CARE

*Errors are in **boldface** and the correct nursing care steps are detailed below.*

You are assigned to care for Mrs. Joseph, who is one day postoperative 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.

1. 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 might be helpful.
2. Never assume that because a patient has had a procedure before, she knows everything to expect. Assess her knowledge level and provide information accordingly.

3. The incision on her chest may hurt when she coughs and deep breathes, but not doing so increases her risk of pulmonary complications. She should receive analgesics and encouragement to cough and deep breathe every hour.
4. 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.
5. Neither arm should be used for blood pressures after mastectomies; consult with the health-care provider about the advisability of using the left arm or possibly her legs. Since the left mastectomy was done a year ago, the HCP may prefer that over using the leg.
6. She should be taught to exercise her arm using exercises recommended by the institution.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. 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 if applicable.
2. 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, sitting with her legs apart under a skirt, and getting out and walking (if this is practical) when the bus stops. She should also mention any antibiotic use and emphasize the recurrent nature of this problem to her HCP; assessment for immune system problems should be done 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, explore 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 with yeast infections.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**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.
2. (**3, 4, 5**) are correct. Human papillomavirus is the most common cause of cervical cancer. Obesity and smoking are also risk factors. (1, 2) There is no evidence that tight clothing or high-sodium diet increase cancer risk.
3. (**1, 2, 3, 4, 6)** are correct. Restriction of alcohol, nicotine, caffeine, salt, and simple sugars may help reduce PMS symptoms. (5) Exercise may help reduce symptoms.
4. (**2**) is correct; it is not 100% effective. (1, 3, 4) are all true and do not indicate a need for more teaching.
5. (**3**) is correct. Her breathing must be addressed first. Gasping for breath may be due to crying, but postoperatively, there are many more serious reasons for dyspnea that should be ruled out. (1, 2, 4) may be appropriate once her breathing is stable.
6. (**2**) is correct. Elevation of the arm reduces swelling. (1, 3, 4) may worsen swelling.
7. (**4**) is correct. These are signs of infection. Prompt reporting is necessary so a culture can be done and antibiotics ordered. (1) May be effective, but these are not independent nursing functions. A physician order is needed. (2) May cause unnecessary concern in the patient. It is the nurse's responsibility to make the contact to ensure that the patient is safe. (3) Another day allows time for the infection to spread.
8. (**2, 3, 5, 6**) are correct. Higher rates of breast cancer are associated with certain races, overweight, smoking, and hormone replacement therapy. (1, 4) are incorrect. Breast cancer is associated with early menarche and late first pregnancy.
9. At least 240 mL; a minimum of 30 mL per hour.
10. (**3**) is correct. A vaginal suppository or cream is best instilled while the woman is on her back, such as in bed before sleep. This allows the medication to absorb and not leak out. (1, 2, 4) are not convenient and/or may allow the medication to leak out.

# Answers

## CHAPTER 43 NURSING CARE OF MALE PATIENTS WITH GENITOURINARY DISORDERS

### AUDIO CASE STUDY

#### Mr. Poole and Transurethral Resection of the Prostate

1. To monitor bleeding.
2. Lifting, activity, straining for a bowel movement, use of aspirin, NSAIDs, or anticoagulants.
3. Reduce pain from bladder spasms.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

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**)
2. (**5**)
3. (**1**)
4. (**2**)
5. (**10**)
6. (**7**)
7. (**4**)
8. (**6**)
9. (**8**)
10. (**9**)

### ERECTILE DYSFUNCTION REVIEW

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 asking 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 hyperplasia 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 or procedure. Find out how Mr. Washington got to the urgent care center and arrange a ride to the hospital if needed.
4. If urine flow remains blocked, hydronephrosis, infection, and rupture of the bladder can occur.
5. "A special scope will be inserted into your penis that will shave small amounts of prostate tissue away from 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, 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 suppositories can help 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 exercises to increase sphincter tone. He should not restrict fluids because this can increase risk for urinary tract infection. 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

*The correct answers are in **boldface.***

1. (**3**) is correct. Always replace the foreskin back over the glans of the penis to prevent impairment of circulation and the possibility of not being able to replace the foreskin later. (1) Never leave the foreskin 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 testicular self-examination is one method to detect testicular cancer. (2) Digital rectal examination is used to detect prostate enlargement. (3) An annual physical examination is advised but does not replace monthly checks for early detection. (4) Ultrasound is not done routinely to detect testicular cancer.
3. (**1, 3, 6**) are all correct. (2) Erectile dysfunction is not a symptom of benign prostatic hyperplasia. (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. (2, 4) imply that dysfunction is expected, which is not true.
5. (**2**) is correct. The belladonna and opium suppository will relieve bladder spasms. (1) Morphine relieves pain but not spasms. (3) Warming the solution is not recommended. (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. (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. (4) Incontinence may last several weeks.
8. (**4**) is correct. This 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. (3) This does not allow the patient to identify his own concerns.
9. (**2**) is correct. 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 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 NURSING CARE OF PATIENTS WITH SEXUALLY TRANSMITTED INFECTIONS

### AUDIO CASE STUDY

#### Janis Works at the STI Clinic

1. Andrea may not have been able to be open and honest about her feelings if her boyfriend was in the room. Some partners can also be controlling and may want to guide the conversation during an appointment. Having Andrea alone in the room likely changed the outcome of the appointment.
2. Having sex with that person would carry the same risk as having sex with all that person's previous sexual partners.
3. Initially, flulike symptoms can occur, as well as urethritis, cystitis, mucopurulent cervicitis, and vaginal discharge. Vesicles and painful ulcerations on the genitals follow.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**4**)
2. (**2**)
3. (**3**)
4. (**5**)
5. (**1**)
6. (**6**)

### INFLAMMATORY DISORDERS

1. (**1**)
2. (**3**)
3. (**2**)
4. (**5**)
5. (**4**)

### BARRIER METHODS FOR SAFER SEX

1. Male 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. Condoms should either have a reservoir tip or be applied while holding approximately a half inch of the closed end flat between the fingertips to allow room for 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 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 that rubber dental dam material may be taped over areas that have lesions to avoid direct contact with blood and body fluid, this very high-risk behavior is not recommended.

### CRITICAL THINKING

1. Misunderstandings may include the following:
   - The mistaken idea that one blood test can diagnose all STIs
   - Misunderstanding about the time that may be required to treat STIs (if the disease is treatable)
   - Lack of understanding of the importance of interview information for diagnosing STIs
   - 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. 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.
4. Complications vary based on organism. However, many of the STI pathogens share destructive properties. Patients who have an STI for an extended period may experience chronic pain, pelvic inflammatory disease, infertility, certain cancers, adverse pregnancy outcomes, and long-term neurological, cardiac, or orthopedic sequelae.

## CLINICAL JUDGMENT

1. 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 they deem 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.
2. In addition to the provider, a translator would be necessary to share important health information between the member of the interdisciplinary team and the female patient. Referrals may be necessary to other specialists, such as a gynecologist.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**4**) is correct. Syphilis is associated with gummas. (1, 2, 3) are incorrect.
2. (**3**) is correct. Human papillomavirus causes genital warts. (1, 2, 4) cause other viral disorders.
3. (**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) Teaching is appropriate, but reprimanding is not. (5) An antibiotic will not treat a viral infection and would need a physician's order. (6) Reverse isolation would protect a patient who is immune compromised and is not appropriate in this case.
4. (**4**) is correct. A history and physical examination with diagnostic testing are the only ways to diagnose a sexually transmitted infection. (1) is incorrect. (2, 3) Checking for lesions and using a condom are good ideas but will not prevent all sexually transmitted infections.
5. (**4**) is correct. Questioning a partner is only one small part of sexually transmitted infection 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.
6. (**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 a sexually transmitted infection. (4) Gentle cleaning is important, but a sexually transmitted infection can occur at any age.
7. (**3**) is correct. Urethritis causes painful, frequent urination and discharge. (1, 2, 4) are not symptoms of urethritis.
8. (**1**) is correct. Her pain should be assessed before intervention takes place. (2, 3, 4) may also be appropriate after assessment has taken place.
9. $\dfrac{2{,}400{,}000 \text{ units} \mid 8 \text{ mL}}{\mid 5{,}000{,}000 \text{ units}} = 3.8 \text{ mL}$
10. (**4**) is correct. An initial outbreak following infection with the herpes virus occurs 2 days to 2 weeks after exposure and may produce a flulike condition. Urethritis, cystitis, and mucopurulent cervicitis 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

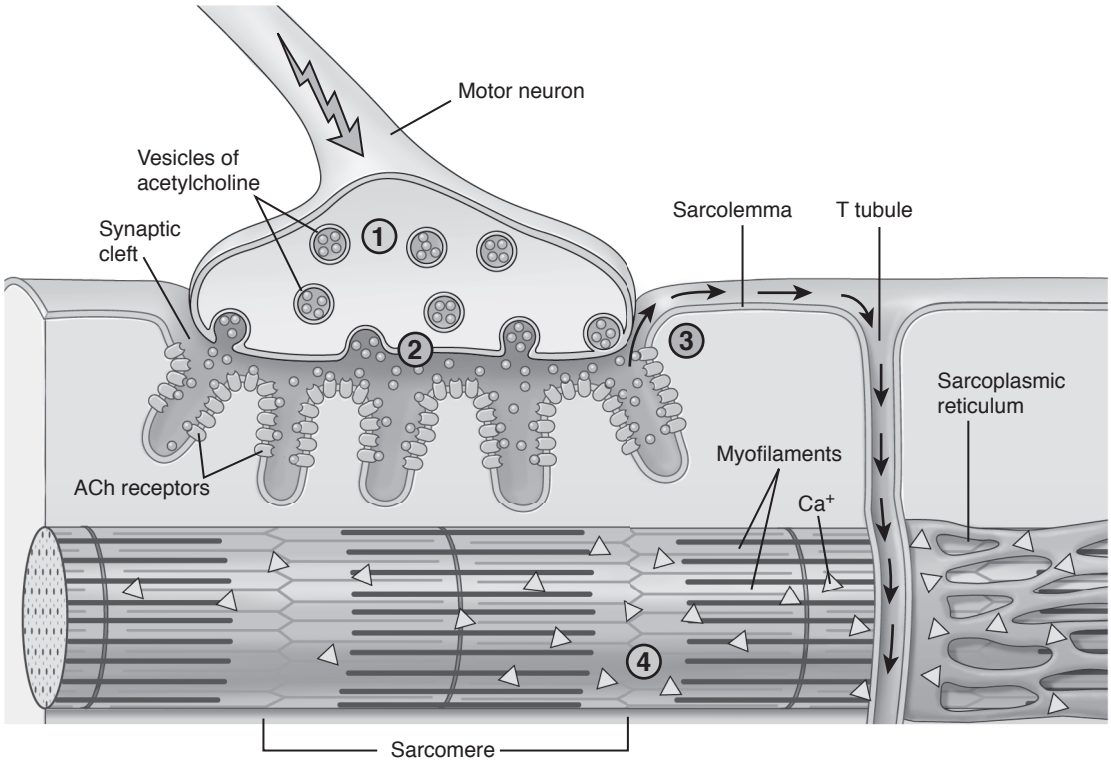
## CHAPTER 45 MUSCULOSKELETAL FUNCTION AND DATA COLLECTION

### AUDIO CASE STUDY

#### Tony and Fracture Care

1. It is a quick set of assessments using the ABCDs for organization. A primary survey conducts an initial assessment of the patient's airway, breathing, circulation, and disability. (*E* can also be included for *exposure*). A secondary survey identifies medical problems or injuries that are not immediately life-threatening but require treatment.
2. Pneumothorax from a rib fracture or a cardiac contusion from a blow to the chest.
3. There are six areas for a neurovascular check: (1) movement, (2) sensation, (3) color of extremity skin, (4) temperature, (5) pulses, and (6) capillary refill.

### COMPONENTS 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

*Sample sentences will vary for the Vocabulary problems.*

1. (**3**)
2. (**1**)
3. (**4**)
4. (**5**)
5. (**2**)
6. (**9**)
7. (**8**)
8. (**7**)
9. (**10**)
10. (**6**)

## DIAGNOSTIC TESTS

1. (**3**)
2. (**1**)
3. (**2**)
4. (**5**)
5. (**4**)
6. (**7**)
7. (**6**)
8. (**11**)
9. (**10**)
10. (**9**)
11. (**8**)

## CLINICAL JUDGMENT

1. Allergies, medical conditions, medications, surgeries, injury, cause and mechanism of injury (e.g., twisting, crushing, stretching; how the patient is injured will indicate other injuries to look for).
2. Inspection: area of injury, asymmetry, mobility and range of motion, swelling, deformity and limb length, ecchymosis. Palpation: skin temperature, crepitation, tenderness, sensation.
3. **C:** This is Janet, LVN in the emergency department. I am concerned about Mr. Allen's analgesic order. He has had a reaction to the medication in the past.
   **U:** I am uncomfortable with him receiving this analgesic.
   **S:** I believe it could be unsafe for him to receive it.
4. The frequency of pain-level evaluation is based on the patient's pain severity, duration of action of analgesics administered, and agency policy. Pain level is reevaluated based on the administered analgesic's onset of action: For intravenous analgesics, reevaluation is in 15–30 minutes; oral analgesics are reevaluated in 45–60 minutes.
5. Explanation of pain management and procedures and tests to be performed, the importance of reporting symptoms.
6. The nurse notifies the HCP immediately.
7. The HCP and physical therapy.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**1, 6**) are correct. The patient often is nil per os (NPO) after midnight the night before surgery, although plain toast may be allowed 6 hours before surgery and clear liquids up to 2 hours before surgery. Patients having general anesthesia are taught coughing and deep-breathing exercises to promote lung expansion and prevent lung complications before surgery so they understand them when prompted to do them after surgery. (2) No food is usually allowed 6 hours prior to surgical time. (3, 4) are the responsibilities of the HCP. (5) Straight-leg raises are not taught when surgical repair is performed because activity restrictions may be ordered.
2. (**1**) is correct. Notify the surgeon because circulation in the extremity may be compromised and require immediate treatment. (2, 4) Temperature and a dressing change have no relevance at this time. (3) This is an emergency situation in order to restore circulation and preserve function in the leg so it cannot wait for 30 minutes.
3. (**4, 5**) are correct. Pallor of an extremity is not a normal finding and may indicate circulatory problems, so the HCP is notified. Capillary refill is typically less than 2 to 3 seconds. A longer time indicates that the circulation is compromised or possibly that the patient is dehydrated so the HCP is notified. (1, 2, 3) are normal findings.
4. (**1, 3, 5, 6**) are correct. History of bone health, activity, exercise, and diet are important to maintain bone health. Collecting data about them is the first step in planning interventions for a bone disease. (2) Exercise is important to maintain bone density. (4) A spouse's health history does not affect the patient's medical conditions.
5. (**2**) is correct. A prior reaction to contrast media provides the best information to determine if the patient may have an issue with the contrast media. (1) This is a question for an MRI. (3, 4) Allergies to food do not create a higher risk of allergy to contrast media. Guidelines indicate there is no reason to even ask about a seafood allergy since iodine is not an allergen as it occurs naturally in the body. This is a common misunderstanding related to contrast media.
6. (**1, 2, 3, 4, 5**) are correct. They are not elevated in gout, so further teaching would be needed. (6) Uric acid is elevated in gout.

7. (**1**) is correct. Crepitation is the term used for a grating sound heard in a joint. (2) An effusion is a collection of fluid in a space. (3) A friction rub is associated with either pleural or pericardial inflammation or fluid accumulation. (4) Subcutaneous emphysema is leaking air that is felt under the skin.
8. (**4, 5, 6**) are correct. Joint movement should immediately be stopped to prevent further joint injury, the joint should be protected from further injury, and immobilization of the joint should be maintained to prevent joint damage. (1, 2, 3) would move the joint, causing possible injury.
9. (**1, 3, 5**) are correct. Feeding, bathing, and dressing oneself are activities of daily living, which are parts of a functional assessment. (2, 4, 6) are not items evaluated in a functional assessment.
10. (**2**) is correct. A hematoma may develop after a biopsy. (1) Crepitation is heard in a joint which the iliac crest is not. (3) An infection would not develop immediately. (4) The iliac crest is not a joint so it cannot dislocate.

# Answers

## CHAPTER 46 NURSING CARE OF PATIENTS WITH MUSCULOSKELETAL AND CONNECTIVE TISSUE DISORDERS

### AUDIO CASE STUDY

#### Alex and Osteomyelitis

1. Osteomyelitis.
2. Hand hygiene and use of sterile technique for dressing changes.
3. Analgesics.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. Arthritis
2. Arthroplasty
3. Synovitis
4. Arthrocentesis
5. Hyperuricemia
6. Vasculitis
7. Avascular necrosis
8. Replantation
9. Hemipelvectomy
10. Fasciotomy
11. Osteosarcoma
12. Osteomyelitis

### FRACTURES

1. (**10**)
2. (**1**)
3. (**9**)
4. (**8**)
5. (**7**)
6. (**6**)
7. (**5**)
8. (**4**)
9. (**3**)
10. (**2**)

### PROSTHESIS CARE EDUCATION

1. False. New shoes should be the same height and the same type.
2. False. Clean with mild soap and water.
3. True
4. True
5. False. Grease the parts as instructed by the prosthetist.

### HEALTH PROMOTION FOR PATIENTS WITH GOUT

1. stress
2. Avoid
3. fluids
4. aspirin, aspirin
5. Avoid
6. purine, sardines

### PRIORITIZATION

(**2, 5, 3, 1, 4**) Transfer and positioning cast to prevent pressure points by palming the cast while moving it, placing it on a pillow, and leaving it uncovered to air dry is the initial priority; next, collect data of circulation, sensation, and mobility status to detect problems with extremity or cast that require prompt action; and then check vital signs to determine patient's stability before analgesic administration.

## PLANNING CARE

### NURSING DIAGNOSIS
**Impaired Physical Mobility *related to hip precautions and surgical pain***

**Interventions**
- Reinforce hip precautions, and transfer and ambulation techniques.
- Monitor the patient for and take measures to prevent complications of immobility.
- Turn patient every 2 hours to the side ordered and check skin.
- Protect skin: Keep pressure off of heels, elbows and sacrum; use barrier cream for incontinence; provide adequate diet and hydration.
- Teach patient to deep breathe and cough every 2 hours while awake and/or use incentive spirometer every hour while awake.
- Apply thigh-high compression stockings and/or compression devices as ordered.
- Give anticoagulants as ordered.
- Provide analgesics as prescribed especially before movement or ambulation.
- Encourage the patient to practice leg exercises.
- Mobilize patient as soon as possible as prescribed.

**Rationale**
- Activity is restricted due to hip precautions and weight-bearing limitations.
- Immobility complications can occur in multiple body systems if preventive measures are not used.

**Evaluation**
- Does the patient transfer and ambulate as instructed by physical therapy?
- Is the patient free from complications of immobility?

## CRITICAL THINKING AND CLINICAL JUDGMENT

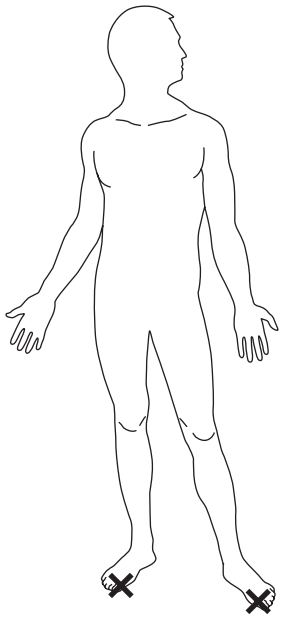
1. Acute compartment syndrome, fat embolism, osteomyelitis, pulmonary embolism, pneumonia.
2. (a) Acute compartment syndrome, osteomyelitis; (b) fat embolism, pulmonary embolism
3. Neurovascular checks on the operative left leg, incision status, respiratory status, vital signs with temperature.
4. Coughing and deep breathing hourly while awake, early ambulation as ordered, ensuring adequate hydration, hand hygiene, sterile technique for dressing changes.
5. **C:** I am **c**oncerned that Mr. Selby is experiencing a complication of his fracture.
   **U:** I am **u**ncomfortable with his condition, as he is exhibiting symptoms of fat emboli.
   **S:** I am concerned for his **s**afety, as I believe he is experiencing a life-threatening event and must be seen and treated immediately.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3, 5**) is correct. 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. (2) It is not placed on dry ice which could freeze and damage it. (4) A sterile dressing is not likely to be readily available and the covering should be moist. (6) It is not placed in ice to avoid extreme temperatures that could damage it.
2. (**4**) is correct. An elevated serum uric acid level, which is a waste product resulting from the breakdown of proteins, occurs with gout. (1, 2, 3) are not involved in gout.
3. (**2**) is correct. Palming the cast to move it prevents indentations being made in the wet cast with fingertips. (1) A long leg plaster cast can be heavy and difficult to move alone, (3) Fingertips can make indentations in the wet plaster that can then become pressure points that injure the skin. (4) The cast must be moved to promote drying on all sides as well as for comfort of the patient.

4. (**3, 5**) are correct. Giving a test dose of gold is important to observe for an allergic reaction. The patient is monitored after the test dose for an allergic reaction. (1, 2, 4, 6) are not related to gold therapy.
5. (**4**) is correct. The morphine should be prepared so it is ready to give promptly when it can be given in 15 minutes; 4 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. However, because the pain is at the maximum, it will not provide enough relief. (2) There are no abnormalities to report to the health-care provider at this time. (3) Removing the pillow may increase pain if swelling increases.
6. (**4**) is correct. This is a sign of hip dislocation. (1, 2, 3) are not signs of right hip dislocation.
7. (**1, 2, 3, 6**) are correct. They are not high-purine foods and can be eaten. (4, 5) are high in purines and should be avoided.
8. (**1, 5, 6**) are correct. They contain aspirin, which can cause an attack of gout. (2, 3, 4) do not contain aspirin.
9. (**3, 5, 6**) are correct. Agency protocol specifies pin care using aseptic technique. Monitor pin sites to detect infections. (1) The pins may need to be carefully touched for cleaning. (2) Agency protocol is followed for cleansing agent and frequency. (4) Never loosen the pins, as they are providing traction and the bones could move.
10. (**2, 4, 5**) are correct. Pathological fractures result from disease. (1, 3, 6) are not diseases.
11. (**2, 4, 5**) Hand hygiene, aseptic technique, and wearing sterile gloves to apply a new dressing are essential. (1, 3) are needed to protect the nurse only if there is potential wound drainage.
12. (**1, 2, 4, 6**) are correct. Weight-bearing exercise and weight training, intake of foods high in calcium, and calcium supplements help prevent osteoporosis. (3) Dark, green leafy vegetables are high in calcium and should be included in the diet. (5) Maintaining normal weight is important to reduce stress on joints to prevent osteoarthritis, not osteoporosis.
13. (**1, 3, 4, 6**) are correct. (2) It is given in morning upon arising. (5) Wait 30 minutes before giving other medication.
14. (**2, 3, 5, 6**) are correct. Further education is needed, as these all promote flexion of the hip, which would promote contracture development and prevent the use of a prosthesis. (1, 4) prevent contracture development and should be used.
15. (**2**) is correct. Maintaining ideal body weight will reduce wear and tear on the knee. (1, 3) are related to gout management. (4) Jogging would increase stress on the knee joints.
16. (**1**) is correct. Notify the HCP because the patient may be developing compartment syndrome, an emergency condition, that could result in the loss of the limb if not treated immediately. (2) This is inappropriate after surgery, and it is not a nursing intervention. (3) The leg should not be massaged after a fracture or surgery due to the risk of an embolus. (4) It would be too early to administer another dose of analgesic, and it would mask a symptom of a potential complication. The HCP should determine treatment for the pain.
17. (**3**) Maintain legs in abduction to prevent dislocation of the hip. (1) Leg adduction increases the risk of hip dislocation. (2) This is a position that is seen as a result of hip dislocation. (4) Less than 90-degree hip flexion prevents hip dislocation.
18. The most common location for pain and inflammation associated with gout are the great toes.



# Answers

## CHAPTER 47 NEUROLOGIC SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

#### Mrs. Beason Passes Out

1. Level of consciousness and orientation, vital signs, pupil responses, bilateral strength in extremities, and sensation.
2. Asking where she is can determine orientation to place. Disorientation can signal many neurological and non-neurological disorders.
3. Explain that an angiogram uses injected dye to view blood vessels. Include the following:
   - Administer clear liquids prior to the procedure.
   - Explain that dye will be injected into an artery in the groin.
   - Explain that dye may cause flushing and a feeling of warmth in the groin that can feel like the patient has wet her pants.
   - Advise that she will need to lie flat after the test to prevent bleeding.
   - Advise that she will need to drink fluids to flush the dye from her system following the test.
   - Explain that her nurse will do frequent checks following the procedure.
4. An angiogram can be used to check the carotid arteries for occlusion, which can increase risk of stroke. Mrs. Beason may have been having warning signs of an impending stroke.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

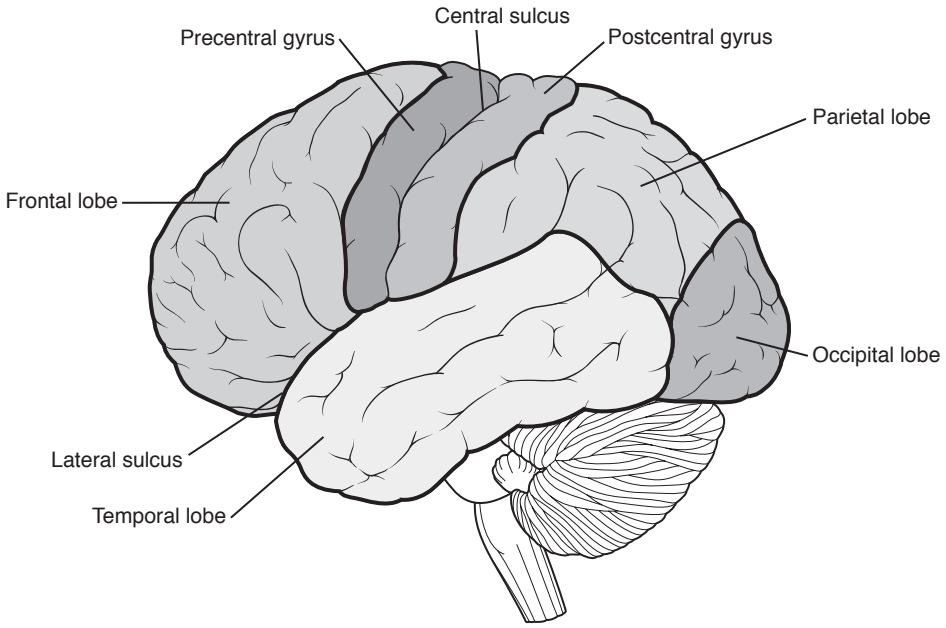
1. dysphagia
2. electroencephalogram
3. paresthesia
4. decorticate
5. decerebrate
6. Anisocoria
7. nystagmus
8. contractures
9. dysarthria
10. aphasia

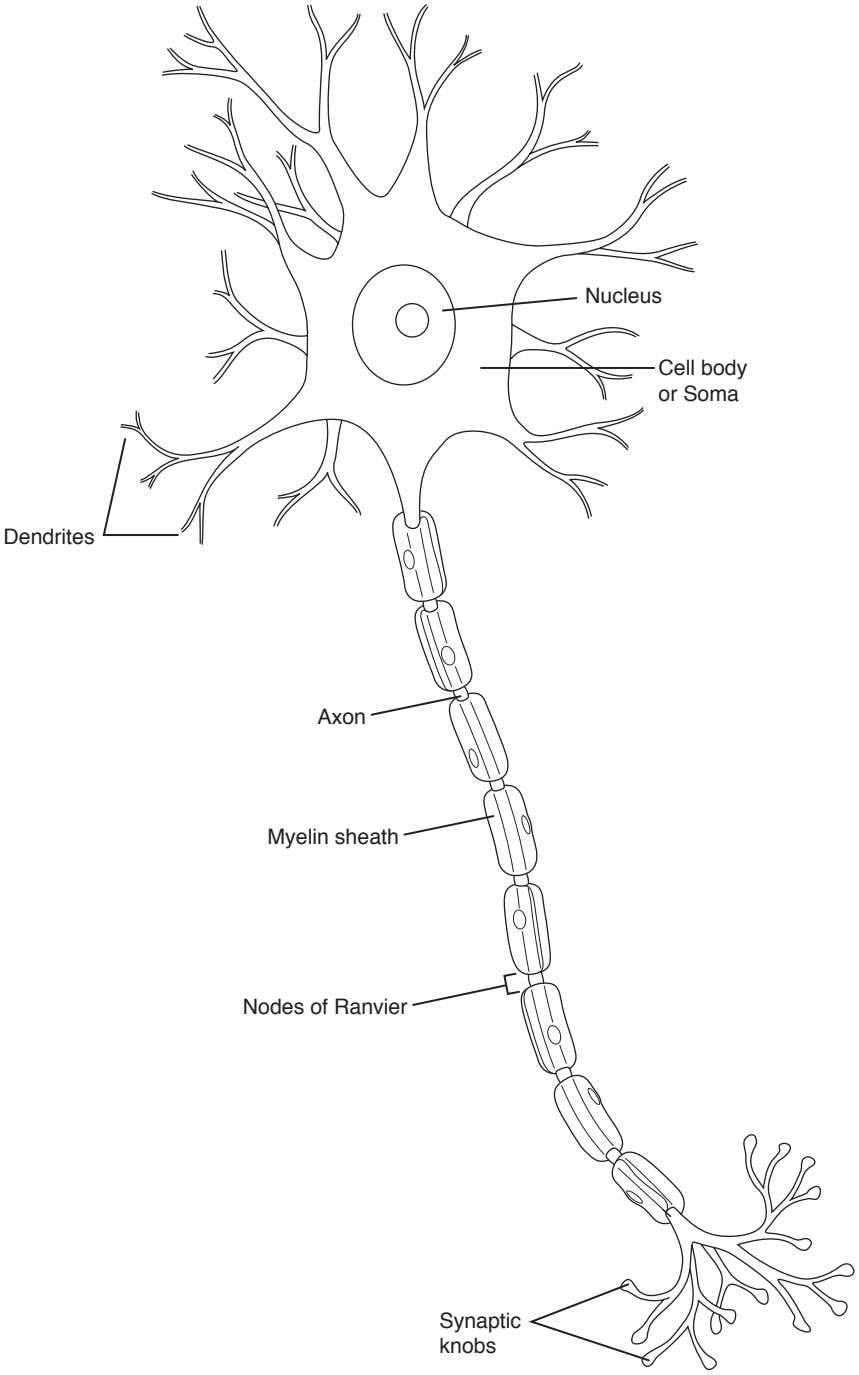
### DIAGNOSTIC TESTS

1. A myelogram is an x-ray (or computed tomography [CT] scan or magnetic resonance imaging [MRI]) examination of the spinal canal after injection of contrast material into the subarachnoid space. Before 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 health-care provider's (HCP's) orders (based on type of contrast medium used). Fluids are encouraged to help the kidneys excrete contrast medium.
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 HCP 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 inserting a needle into the spinal fluid to collect cerebrospinal fluid (CSF) for analysis. Before the procedure, you may ask the HCP 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 HCPs 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 HCP with specimens. Following the procedure, check orders for bedrest and encourage fluids. Monitor the puncture site for leakage of CSF. Notify the HCP if a headache occurs.
4. 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 (e.g., pacemakers, joint replacements, foreign bodies, metal-based 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 HCP and obtain a sedative or alternative order. If the patient is in pain, request analgesic orders for use before the procedure. No special aftercare is necessary.
5. A CT scan 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 HCP may order contrast material. Find out if this is planned, and ensure the patient has no allergies to contrast material. The HCP 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 REVIEW






## ANATOMY REVIEW

1. (**5**)
2. (**4**)
3. (**1**)
4. (**3**)
5. (**2**)

## ASSESSMENT OF CRANIAL NERVES

1. (**3**)
2. (**4**)
3. (**2**)
4. (**1**)
5. (**5**)

## CRITICAL THINKING

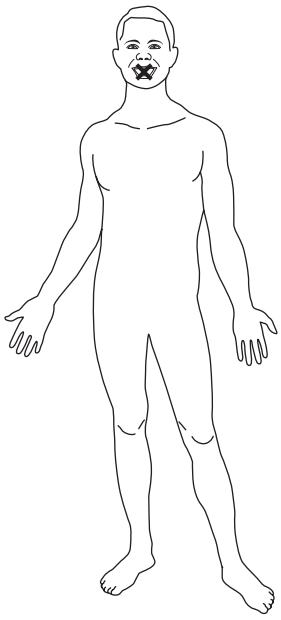
1. After checking her transfer records for previous activity level, check muscle strength in her legs and feet. Ask how she got up to go to the bathroom at the hospital. Then have a second nurse or aide help in dangling her at the bedside and slowly standing before attempting to ambulate. If she is unable 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.
5. **S:** Mrs. Pickett is a new patient admitted today.
   **B:** Mrs. Pickett had a stroke 2 weeks ago.
   **A:** Mrs. Pickett has left-sided weakness
   **R:** Supervise her meal and observe for swallowing issues. Refer to SpT, PT, and OT. Transfer with two people until strength improves.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct. Axons transport nerves away from the body. (1) Dendrites are extension of the nerve cell. (3) Synapse is the small gap an impulse must cross. (4) Neurolemma is the thin sheath around a nerve axon.
2. (**2**) is correct. Efferent neurons carry signals from the brain to the peripheral nervous system. (1) Afferent neurons bring sensory information to the brain.
3. (**1**) is correct. The medulla oblongata controls breathing. (2) The cerebellum is responsible for maintaining balance. (3) The cerebrum initiates movement, regulates temperature, and enables speech and problem solving. (4) The thalamus filters sensory input.
4. (**2**) is correct. Cranial nerve VII controls the muscles that allow you to smile. (1) Cranial nerve II carries the impulses from the retina to the brain for interpretation. (2) Cranial nerve X provides sensory input for the cardiac and respiratory system, blood pressure and reflexes. (3) Cranial nerve XI provides for the contraction of neck and shoulder muscles and motor input to larynx.
5. (**4**) is correct. Following a finger with the eye tests both cranial nerve IV and VI. (1) Turning the head left to right tests cranial nerve XI. (2) Identifying whispering in the ears tests cranial nerve VIII. (3) Saying "ahh" tests cranial nerve IX.
6. (**1**) is correct. The sympathetic nervous system is responsible for increasing the heart rate and dilating the pupils. (2, 3, 4) (2) The autonomic nervous system can increase peristalsis, which can lead to cramping. (3) Hypoglycemia and headaches are not specifically autonomic or sympathetic functions. (4) The autonomic system can cause pupil constriction and bronchoconstriction.
7. (**3**) is correct. Norepinephrine brings about the sympathetic response. (1) Acetylcholine is a neurotransmitter for the parasympathetic nervous system. (2) Prostaglandins are involved in the inflammatory response. (3) Serotonin is a neurotransmitter that regulates mood, learning and memory.
8. (**2, 4**) are correct. The cervical nerves supply the back of the head, the neck, the shoulders and arms, and the diaphragm and thus would be responsible for writing (arm movement) and nodding (head movement). (1) Cranial nerves (facial nerve) are responsible for the contraction of facial muscles and (3) (hypoglossal) the movement of the tongue. (5) Lumbar and sacral nerves supply hips, pelvic cavity, and legs.
9. (**3**) is correct. The patient is positioned on the side (or sitting) to expose the spinal column for puncture. (1, 2, 4) are not necessary for a lumbar puncture.
10. (**1**) is correct. High-top tennis shoes will maintain foot alignment and help prevent foot drop. (2) Muscle relaxants won't promote walking. (3) It is important to reduce pressure on bony prominences, but it will not promote walking. (4) Ability to manage personal care independently will not promote walking.
11. (**4**) is correct. Metal of any kind can be attracted to the powerful magnets in a magnetic resonance imaging machine. (1) refers to a lumbar puncture. (2) refers to an electroencephalogram. (3) is not necessary.
12. (**2, 3, 4, 5**) are correct. Patients who are receiving contrast media 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. (1) During the computed tomography scan, the patient must lie still on a movable table. Noncontrast scans take approximately 10 minutes; contrast scans take between 20 and 30 minutes, not 1 to 2 hours.
13. The area where the nurse would focus assessment of the motor impulses from the glossopharyngeal and vagal nerves.



# Answers

## CHAPTER 48 NURSING CARE OF PATIENTS WITH CENTRAL NERVOUS SYSTEM DISORDERS

### AUDIO CASE STUDY

### Mr. Lisle Has a Spinal Cord Injury

1. Jack likely has a cervical injury below C3. If it were C3 or above, he would not have survived.
2. Jack has very little control over his environment or care; allowing him to direct his care not only allows some autonomy and self-esteem but is also helpful to a new student!
3. Jack is at risk for skin breakdown (which he already has), infection (respiratory, urinary, wound), deep vein thrombosis (DVT), orthostatic hypotension, renal complications, depression, substance abuse, and autonomic dysreflexia.
4. *Skin*: turn frequently, use pressure-reduction devices in bed and wheelchair, and monitor skin condition. *Infection*: monitor respiratory status, urine clarity, wound drainage, temperature, and white blood cell count. *DVT*: monitor legs for unequal size, redness, and swelling. *Renal*: monitor intake and output, urine appearance, blood urea nitrogen (BUN), and creatinine. *Autonomic dysreflexia*: monitor vital signs and maintain patent urine flow and bowel program.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**9**)
2. (**6**)
3. (**1**)
4. (**7**)
5. (**2**)
6. (**4**)
7. (**5**)
8. (**3**)
9. (**8**)
10. (**10**)

### DRUGS USED FOR CENTRAL NERVOUS SYSTEM DISORDERS

1. (**2**)
2. (**3**)
3. (**1**)
4. (**5**)
5. (**4**)

### CENTRAL NERVOUS SYSTEM DISORDERS

1. (**9**)
2. (**6**)
3. (**1**)
4. (**5**)
5. (**7**)
6. (**2**)
7. (**8**)
8. (**10**)
9. (**4**)
10. (**3**)

### SPINAL DISORDERS

1. L
2. C
3. C
4. L
5. L

### ALZHEIMER'S DISEASE REVIEW

1. (**3**)
2. (**2**)
3. (**1**)

### CRITICAL THINKING: SPINAL CORD INJURY

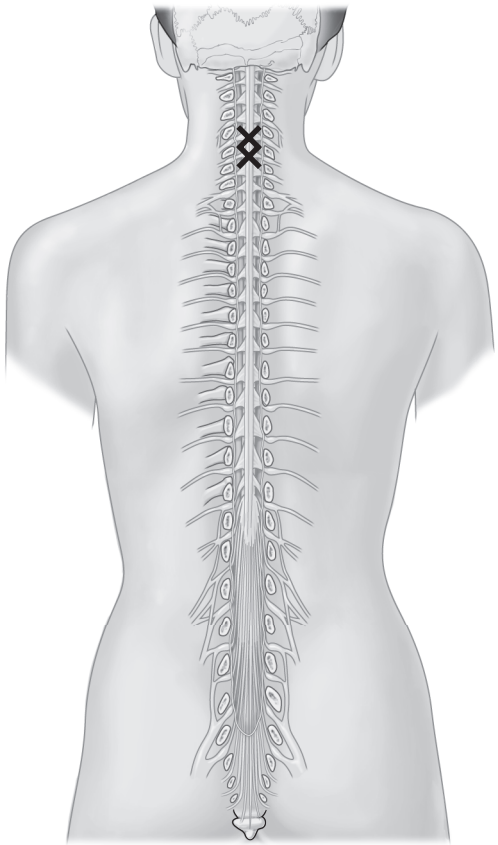
1. These are the hallmark signs of spinal cord injury or spinal shock. Loss of vasomotor control results in vasodilation. This causes hypotension. Dilated blood vessels allow more exposure of blood to the skin surface, thereby cooling the blood and causing hypothermia. Bradycardia results from disruption of the autonomic nervous system.
2. Mr. Granger no longer has full use of his respiratory muscles. Therefore, he is not able to take deep breaths.
3. (a) Cervical traction will keep his cervical spine immobile and prevent further damage to the spinal cord. (b) 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. (c) Loss of innervation to the bladder may result in urine retention. Intermittent or indwelling catheterization is used to prevent bladder rupture or urinary reflux with careful attention to sterile technique to prevent infection.

4. Edema of the spinal cord, fatigue of respiratory muscles, or both are reducing Mr. Granger's already compromised respiratory function. As he feels shorter 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.
5. 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.
6. *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 health-care provider. *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, which will allow him to feel involved in his health care. Include his significant others as much as he and they wish.
7. 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 and increase his involvement in his own care. After he is stable, he will likely be transferred to a rehabilitation facility to continue to learn self-care.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct. A structured environment provides a quiet setting with minimal distractions. (1, 3, 4) could all increase the patient's agitation.
2. (**1**) is correct. Decreasing level of consciousness is a symptom of increasing intracranial pressure. (2, 3, 4) Sympathetic and parasympathetic responses and increased cerebral blood flow do not cause decreased level of consciousness.
3. (**3**) is correct. Widening pulse pressure warns of increasing intracranial pressure. (1, 2, 4) do not occur in increased intracranial pressure.
4. (**2**) is correct. Elevating the head of the bed reduces increased intracranial pressure. (1, 3, 4) all can potentially increase intracranial pressure.
5. (**3**) is correct. This addresses the patient's feelings and is most likely to calm her. (1, 4) Trying to reason with a patient who is unable to reason may be threatening. (2) is misleading; the patient is not going to find her mother.
6. (**4**) is correct. Ambulation is the best evidence that the patient with lumbar disc disease is mobile. (1, 3) are good outcomes but are not related to mobility. (2) relates to cervical disease, not lumbar.
7. (**3**) is correct. Inability to move the affected leg would not be expected and should immediately be reported to the health-care provider. (1, 4) Incisional pain and 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.
8. (**1**) is correct. 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.
9. (**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.
10. (**1, 4**) are correct. (2) Oral contraceptives are contraindicated because of the increased risk for deep vein thrombosis. (3) A diaphragm may be too difficult for the woman to insert. (5) Patients may not feel an intrauterine device 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.
11. Injury to the C4 or C5 vertebrae on the spinal cord is most likely causing the patient to be unable to breathe without a ventilator after a motor vehicle accident.



# Answers

## CHAPTER 49
## NURSING CARE OF PATIENTS WITH CEREBROVASCULAR DISORDERS

### AUDIO CASE STUDY

#### Grandpa Max Has a Stroke

1. Max exhibited right-sided weakness and difficulty speaking; additional symptoms might include dizziness, head pain, confusion, and vision changes. In women, nausea, face or limb pain, chest pain, shortness of breath, hiccups, or palpitations can occur.
2. Face, arms, speech, time.
3. The onset of his symptoms was unknown, so it could not be confirmed that he was within the 4.5-hour window. After 4.5 hours, the risks of tPA outweigh the potential benefits.
4. Amanda and her grandfather were at the center of the team. In the hospital, a stroke team was involved as well as physicians, nurses, a nursing assistant, and speech, occupational, and physical therapists.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**7**)
2. (**3**)
3. (**1**)
4. (**4**)
5. (**5**)
6. (**6**)
7. (**9**)
8. (**10**)
9. (**8**)
10. (**2**)

### DRUGS USED FOR CEREBROVASCULAR DISORDERS

1. (**1**)
2. (**3**)
3. (**4**)
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's 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, has a history of atherosclerosis and hypertension, and 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 to 4.5 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 her 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-reducing 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 move her head 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

*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, or TIA. (2, 3, 4) A cerebrovascular accident, stroke, or subarachnoid hemorrhage 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.
3. (**1**) is correct. The patient may be exhibiting unilateral neglect or homonymous hemianopia. (2) There is no evidence that the patient is hard of hearing. (3) Waving the hand is rude and unnecessary in this case. (4) Using a picture board will not help if the patient cannot perceive the 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) 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 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 helps reduce incontinence.
7. $$\frac{62\text{ mg} \mid 1\text{ grain} \mid 1\text{ tablet}}{60\text{ mg} \mid 1\text{ grain}} = 1\text{ tablet}$$
8. (**2**) is correct. Stroke may be extending. (1, 3, 4) all delay treatment if 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 risk with vomiting. (1, 3) Setting up suction and giving medication take too long; they are not priorities. (4) Performing a test for blood is not indicated with 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. If everything appears normal, have the patient swallow about 30 mL of water. If the patient coughs, has difficulty swallowing, or has a wet/gurgly voice afterward, the patient should still not be given anything by mouth. (1, 5) Grip and 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.

# Answers

## CHAPTER 50
## NURSING CARE OF PATIENTS WITH PERIPHERAL NERVOUS SYSTEM DISORDERS

### AUDIO CASE STUDY

### Mrs. Mead Has Myasthenia Gravis

1. The eyes are controlled by very small muscles. Larger muscles have many more fibers, and if some are weak, others can take over.
2. Edrophonium (Tensilon) is an anticholinesterase medication. By inhibiting cholinesterase, more acetylcholine remains at the neuromuscular junction, which increases the muscle response to nerve impulses.
3. (1) DO NOT take any new drugs, over-the-counter or prescription, without consulting your neurologist. (2) The importance of around-the-clock anticholinesterase medication in preventing muscle weakness. (3) Energy-conservation techniques and timing of medication with activities.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. atrophied
2. exacerbations
3. neuralgia
4. ptosis
5. demyelination
6. plasmapheresis
7. fasciculation
8. anticholinesterase

### PERIPHERAL NERVOUS SYSTEM DISORDERS

*Errors are in **boldface** and the corrections are detailed below.*

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) 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**.
   - Electromyography, not ultrasound, is likely to be done.
   - Receptor sites for the neurotransmitter acetylcholine are affected.
   - Mestinon (pyridostigmine), not Mastodon, is an anticholinesterase drug used to reduce symptoms. (A mastodon is a prehistoric elephant.)
   - It seems wise to recommend exercise, but individuals with myasthenia gravis become very fatigued, and rest, not exercise, is the only way to relieve it. Moderate exercise as tolerated is a better recommendation.
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.
   - Pain in the face, not the wrist, characterizes trigeminal neuralgia.
   - The trigeminal nerve is the fifth, not the third, cranial nerve.
   - Fresh air may aggravate pain because even a breeze on the face can cause excruciating pain.
3. Mrs. Mattie Schultz is admitted with exacerbated multiple sclerosis (MS). Her legs are becoming weaker, causing difficult walking, and she has been having difficulty swallowing. You know that **buildup** of myelin on her neurons is responsible for her weakness. You assess her for stressors that might have caused her exacerbation, such as urinary tract infection (UTI) or upper respiratory tract infection. 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.
   - Patchy degeneration, not buildup, of myelin accounts for symptoms of MS.
   - Steroids or adrenocorticotropic hormone (ACTH) to stimulate the adrenal cortex or to secrete cortisol is given to reduce inflammation and relieve symptoms.
   - Diazepam (Valium) might be given for muscle spasms, but bethanechol (Urecholine) or oxybutynin (Ditropan) is given for urinary problems.

## CRITICAL THINKING

1. Amyotrophic lateral sclerosis (ALS) is a nerve disease in which the nerves that stimulate the muscles to make them contract degenerate and form scar tissue. This makes it difficult for muscles to contract.
2. Nerves that control the muscles in his legs are becoming more affected. A referral for physical therapy and a cane or other walking aid might help Reverend Wilson continue to function for as long as possible.
3. He should know that ALS does not affect thinking. If his job is not physically demanding he should be able to continue.
4. Muscle spasms can be relieved with medications such as baclofen (Lioresal) or a benzodiazepine such as diazepam (Valium).
5. Reverend Wilson's muscles that control swallowing may be affected now. An appropriate nursing diagnosis is *Impaired Swallowing* related to muscle weakness. Because his swallowing is unlikely to improve dramatically, a good goal might be that he will not aspirate. Talk to the physician about ordering a swallowing evaluation by a speech therapist, who can recommend interventions to help prevent aspiration. Additional interventions include making sure he is sitting up straight to eat, staying with him during meals in case he has difficulty, having him swallow each bite twice, and having him avoid thin liquids. Eventually he and his wife may need to decide if they want to consider tube feedings.
6. Possible nursing diagnoses include *Disturbed Body Image, Risk for Imbalanced Nutrition: Less Than Body Requirements, Impaired Oral Mucous Membrane Integrity, Impaired Physical Mobility,* and *Risk for Impaired Skin Integrity.* Note that these are only possible ideas and would need to be verified with a thorough assessment.

## REVIEW QUESTIONS

*The correct answers are in* ***boldface.***

1. (**1**) is correct. Anticholinesterase drugs reduce activity of cholinesterase, leaving more acetylcholine available to aid in muscle contraction. (2) Anticholinergic drugs will worsen symptoms. (3, 4) Adrenergic drugs or beta blockers will not help.
2. (**4**) is correct. The patient with Bell palsy may have difficulty closing the affected eye, and eyedrops will keep the eye lubricated. (1, 2, 3) are not useful for Bell palsy. Heat, rather than ice, is sometimes used.
3. (**3**) is correct. The only way to know if nutrition is adequate without blood work is to monitor weight. (1, 2, 4) Monitoring meal trays, intake and output, and swallowing are all good interventions but will not show whether nutrition has been maintained. Serum albumin is also sometimes used to monitor nutrition status.
4. (**4**) is correct. Guillain-Barré syndrome is most likely caused by an autoimmune process. (1, 2, 3) are not causes of Guillain-Barré syndrome.
5. (**2**) is correct. Arterial blood gases monitor respiratory function. Deteriorating arterial blood gases signal respiratory failure from weakening respiratory muscles. (1) signals kidney disease, which is not a common problem in Guillain-Barré syndrome. (3, 4) Bleeding and electrolyte imbalances are not associated with Guillain-Barré syndrome.
6. (**4**) is correct. A Tensilon (edrophonium) test is given to determine if it effectively reduces muscle weakness. (1, 2) There is no such thing as a pyridostigmine (Mestinon) test or a quinine tolerance test. (3) Pulmonary function studies might be done if respiratory muscles are affected but would not be diagnostic for myasthenia gravis.
7. (**4**) is correct. Myelin is damaged in multiple sclerosis. (1, 2, 3) are not related to multiple sclerosis.
8. (**2**) is correct. Amyotrophic lateral sclerosis is terminal, and advance directives are essential. (1, 3, 4) are inappropriate. Hospice is likely not necessary early in the disease; it is never too early to make important decisions.
9. (**1, 2, 5**) are correct. Monitoring oxygen saturation and respiratory function can help identify problems early. Elevating the head of the bed will reduce the workload of the respiratory muscles. Deep breathing and coughing can help clear lungs of retained secretions. (3) Bedrest can increase risk of respiratory complications. (4) Suction should be done only when necessary.
10. $\frac{30\text{ mg} \mid 1\text{ mL}}{\mid 50\text{ mg}} = 0.6\text{ mL}$
11. (**2**) is correct. Mr. Gomez with ALS is having problems with his airway, so this is a priority over other patients (1, 3, 4) are stable. After report, the nurse should go and see Mr. Gomez.
12. (**2**) is correct. Eating uses muscles innervated by the fifth cranial nerve and is most likely to cause pain. (1, 3, 4) do not use the facial muscles and are less likely to cause pain. Sleeping usually relieves pain.

# Answers

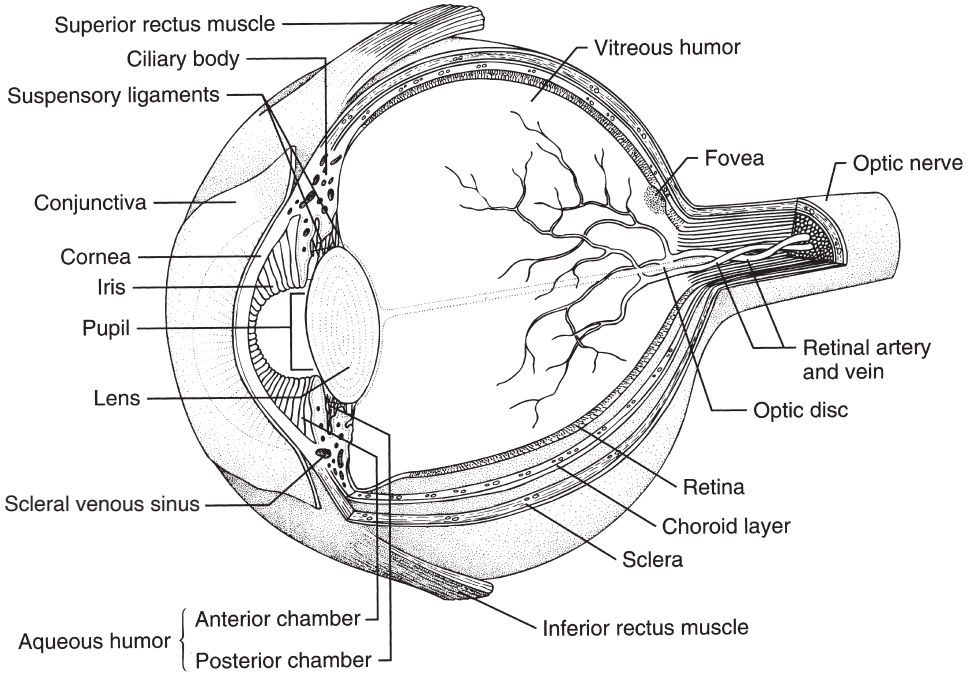
## CHAPTER 51 SENSORY SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES: VISION AND HEARING

### AUDIO CASE STUDY

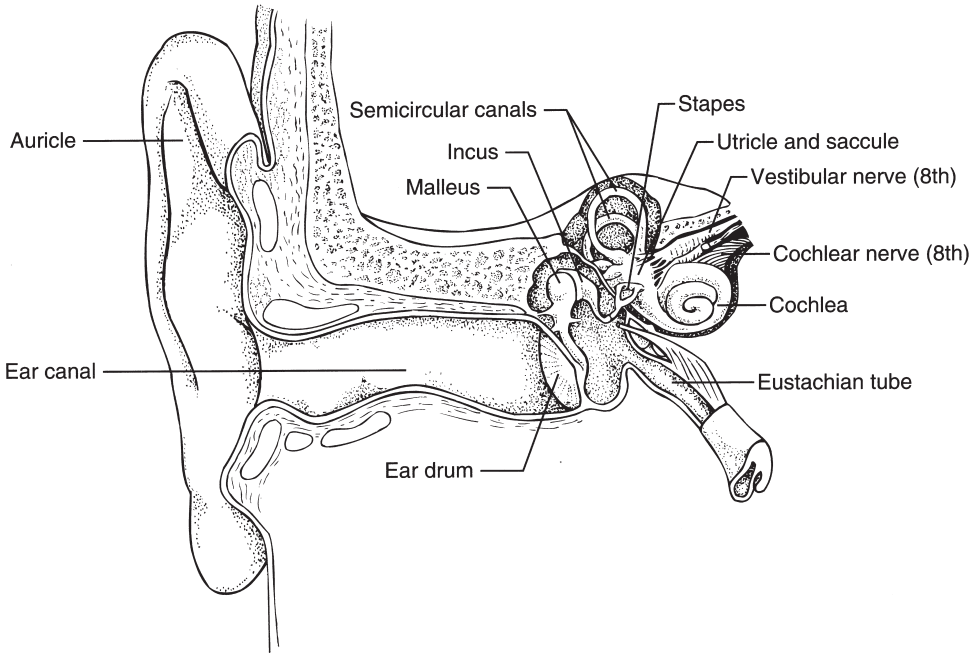
### Selena and Sensory Care

1. Knock before entering. Always state who you are and what you are doing.
2. One of the most simple and effective ways to improve vision for older adults is to make sure their eyeglasses are clean. Clean glasses can improve safety by preventing falls or ingestion of a harmful substance.
3. Deafness or decreased hearing acuity is one of the main reasons that older adults withdraw from social activities. Selena wanted to prevent that from occurring.
4. Instruct the patient to tilt the head backward and look up toward the ceiling. Hold the medication bottle in one hand and use the other hand to pull the lower eyelid down and out to form a pocket. Then use the patient's forehead to steady your hand and release an eye drop into the pocket. Avoid touching the tip of the dropper to anything to keep from contaminating it. Have the patient close the eye and apply gentle pressure with a tissue over the tear duct for at least 2 minutes, which is the amount of time it takes for the eye drop to be absorbed to keep the medication from being absorbed systemically and causing potentially serious side effects.
5. **Suggested SBAR:**
   **S:** Ted did not have his glasses and hearing aid this morning at breakfast and was unable to hear our conversation or see his food. His glasses were smudged, and his hearing aid was turned off and needed cleaning.
   **B:** Ted is a resident who wears glasses for vision and hearing aids for presbycusis.
   **A:** Ted needs both glasses and hearing aid when eating and ambulating for safety.
   **R:** Reinforce teaching with staff caring for Ted to ensure that he wears his glasses when awake and that they are clean. Reinforce teaching to clean the hearing aid daily with a dry cloth and brush if needed. Reinforce teaching to keep the hearing aid off at night but turn it on in the morning by turning it up until a sequel is heard and then adjust the volume down to Ted's comfort level.

### STRUCTURES OF THE EYE



## STRUCTURES OF THE EAR




## VISION

A. 1
B. 4
C. 6
D. 2
E. 7
F. 3
G. 5

## HEARING

A. 1
B. 5
C. 3
D. 8
E. 2
F. 4
G. 6
H. 7
I. 9

## VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. Nystagmus: Constant involuntary cyclical eyeball movement.
2. Tropia: Deviation of the eye away from the visual axis.
3. Accommodation: Adjustment of the eye for distance to focus the image on the retina by changing lens curvature.
4. Ptosis: Drooping of the upper eyelid as a result of paralysis.
5. Arcus senilis: Opaque white ring around the periphery of the cornea in aged persons from deposits of fat.
6. Ophthalmologist: Physician trained to diagnose and treat eye conditions and diseases.
7. Optometrist: Doctor of optometry who diagnoses and treats certain eye conditions and diseases.
8. Optician: Makes prescribed corrective lenses.

## DIAGNOSTIC TESTS

| Assessment Test | Purpose of Test | Normal Test Results |
|---|---|---|
| Snellen chart | Visual acuity | Right eye (OD) 20/20, left eye (OS) 20/20 |
| Visual fields | Peripheral vision | Equal to health-care provider's |
| Cardinal fields of gaze | Extraocular movement | Follows in all fields without nystagmus |
| Accommodation | Pupillary response to near and far distance | Eyes turn inward and pupils constrict when focusing on a near object |
| Rinne | Differentiate between conductive and sensorineural hearing loss | Air conduction greater than bone conduction |
| Weber | Hearing acuity | Heard equally |
| Romberg | Balance/vestibular function | Able to maintain standing position without loss of balance |

## CRITICAL THINKING AND CLINICAL JUDGMENT

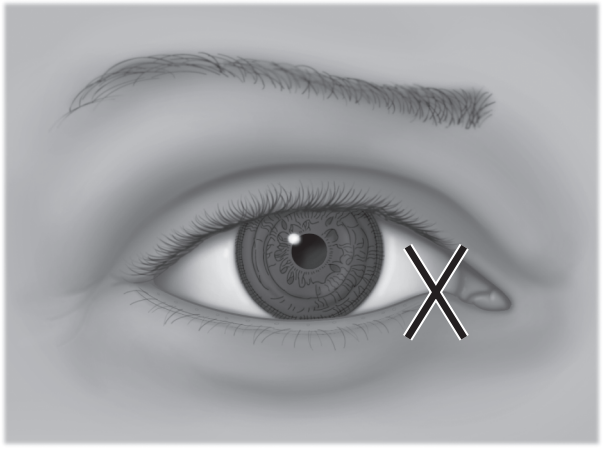
1. Eye strain from computer use.
2. Ask the positioning of Ms. Litley's computer and the lighting of the office.
3. Position the center of the computer screen 4 to 5 inches below eye level and the screen 20 to 28 inches from the eyes. Glare should be reduced by situating the computer screen away from windows and lights. She should blink frequently to prevent dry eyes. She should rest her eyes every 20 minutes by looking 20 feet away for 20 seconds. She should also take a break every 2 hours for 15 minutes.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**2**) is correct. The first distance recorded when conducting the Snellen test is the distance from which the patient can clearly see the alphabetical line on the chart. The second distance recorded is the distance from which a person with normal vision can see the same alphabetical line. (1, 3) Both are opposite of the correct finding. (4) Normal vision is 20/20.
2. (**2, 3, 5**) are correct since consumption of fish and antioxidants (including anthocyanins, carotenoids, flavonoids, and vitamins) are associated with lower rates of age-related macular degeneration and age-related eye disorders. (1) There is no benefit from supplemented omega-3 fatty acids. (4) Large doses of vitamin and mineral supplements are not recommended for eye health.
3. (**3**) is correct. PERRLA refers to pupils, equal, round, reactive, light, and accommodation. (1, 2) are incorrect. (4) PERRLA is the expected finding and is normal, not abnormal.
4. (**2**) is correct. Having regular hearing evaluations helps ensure ear health. (1, 3, 4) These questions will provide data about ear problems.
5. (**4**) is correct. Symmetrical eye muscle strength keeps the eyes in the same position, and the light is reflected in exactly the same place. (1) is incorrect. (2) Defines accommodation. (3) Defines the pupils' reaction to light.
6. (**1**) is correct. Often patients with presbycusis have a hearing aid to help them hear. (2) Speaking in a louder voice often makes it more difficult for the patient to hear. (3) The nurse should face the patient when speaking to him or her. (4) No drainage is associated with presbycusis.
7. (**4**) is correct since the patient may become dizzy and the nurse should protect the patient from falls. (1) Noise levels are not part of the test. (2) is completed with the whisper test. (3) Cerumen does not affect the test.
8. (**1**) is correct. Blowing the nose during a cold with both nostrils open prevents infected secretions from moving up the eustachian tubes. (2) is incorrect. The external ear can get wet during showering or swimming and then dried afterward. (3) is incorrect. Cotton swabs should not be inserted into the ear canal to avoid puncturing the ear drum. (4) is incorrect. The ear is generally self-cleaning and cerumen is removed naturally.
9. (**2, 3, 4, 5**) are correct. Glaucoma, cataracts, macular degeneration, and esotropia can all cause visual disturbances, and interventions are needed to assist with vision. (1) Arcus senilis, although a physical eye finding, does not cause visual problems. (6) Presbycusis is related to hearing loss, not visual changes.
10. (**2**) is correct. Air conduction is heard longer than bone conduction. (1) indicates the normal findings of a Weber test. (3, 4) indicate abnormal findings.
11. (**4, 5, 6**) are correct. Patients with hearing loss sometimes speak unusually loud or soft, turn toward the speaker to hear better or lip read, and withdraw from social situations and would need interventions to aid in hearing. (1, 2, 3) indicate that the patient is hearing well enough to communicate and no interventions are needed.

12. (**4**) is correct. Seeing halos around lights would be an important visual finding. (1, 2, 3) are indicative of problems with ear health.
13. (**1**) is correct. Darwin tubercle is a normal finding at any age. (2, 3, 4) A Darwin tubercle is normal. It does not need to be reported or have any further testing.
14. (**1, 2, 4**) are correct and protect the nurse from having irrigation solution splashed on the hands, body, or face when performing a nonsterile procedure for a patient on contact isolation. (3) would not be needed with a face shield. (5) would not be needed. (6) This is not a sterile procedure.
15. (**3**) is correct. Aspirin can be ototoxic to the ears, causing tinnitus; however, some older patients may not be able to hear the tinnitus. (1, 2, 4) are not related to toxic effects of aspirin on the ear.
16. The area where the nurse should apply pressure after administration of the eye drops is the punctum (tear duct).



# Answers

## CHAPTER 52
## NURSING CARE OF PATIENTS WITH SENSORY DISORDERS: VISION AND HEARING

### AUDIO CASE STUDY

#### Sally and Ménière's Disease

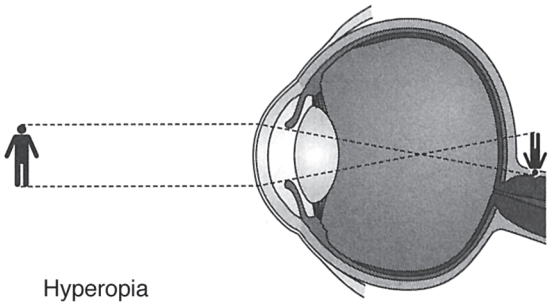
1. Balance
2. Vertigo, unsteadiness, and nausea
3. Falling without warning
4. Antiemetic for nausea and meclizine (Antivert) for vertigo

### VOCABULARY

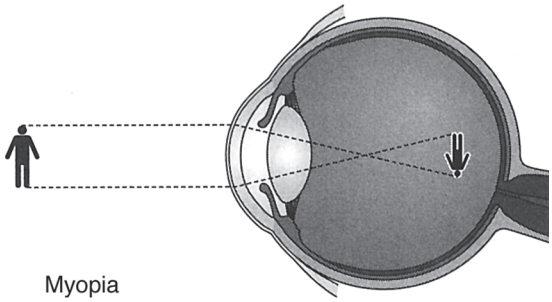
*Sample sentences will vary for the Vocabulary problems.*

1. (**5**)
2. (**4**)
3. (**3**)
4. (**6**)
5. (**2**)
6. (**1**)

### ERRORS OF REFRACTION



Hyperopia



Myopia

### VISUAL AND HEARING DATA COLLECTION

- **Macular degeneration (dry type):** The patient reports slow, progressive loss of central and near vision in one or both eyes. The visual loss is described as blurred vision, distortion of straight lines, and a dark or empty spot in the central area of vision. Examination of visual acuity for near and far vision will reveal loss of vision. Use of the Amsler grid will allow the examiner to detect central vision distortion. The examiner may use intravenous fluorescein angiography to evaluate blood vessel abnormalities.
- **Cataract:** The patient reports difficulty seeing at night, when reading, and in bright light; increased sensitivity to glare; double vision; and decreased color vision. Visual acuity is tested for near and far vision. The direct ophthalmoscope and slit lamp are used to examine the lens and other internal structures. The lens will appear cloudy on examination, and the visual acuity may be reduced.
- **Hordeolum:** Small, raised, lightly colored area observed on palpebral border without pain.
- **Angle-closure glaucoma:** The patient reports unilateral severe pain of rapid onset, blurred vision, halos around lights, sensitivity to light, and tearing. The patient may also experience nausea and vomiting. A tonometry test will reveal increased intraocular pressure. The visual field examination may demonstrate a loss of peripheral vision.
- **External otitis:** The patient has pain and may have pruritus. Redness, swelling, and drainage may be observed during otoscopic examination. Rinne and Weber tests may indicate conductive hearing impairment. Laboratory tests such as complete blood count, white blood cell count, and culture may indicate infection.
- **Impacted cerumen:** The patient may experience hearing loss, a feeling of fullness, or blocked ear. Otoscopic examination reveals cerumen blocking the ear canal. Audiometric testing, whisper voice, and Rinne and Weber tests may indicate conductive hearing loss.
- **Otitis media:** The patient may have a fever, earache, and a feeling of fullness in the affected ear. If purulent drainage has formed, there may be pain and conductive hearing loss. Otoscopic examination will reveal a reddened and bulging tympanic membrane. Audiometric studies and Rinne, Weber, and whisper tests will likely reveal hearing loss. Laboratory studies may indicate an elevated white blood cell count.

- **Otosclerosis:** The patient will have progressive bilateral hearing loss, particularly with soft, low tones. The patient may experience tinnitus. Otoscopic examination may reveal a pinkish, orange tympanic membrane. Audiometric testing and the whisper voice test will show decreased hearing. The patient will hear best with bone conduction with the Rinne test, whereas lateralization to the most affected ear will occur with the Weber test. Imaging studies will indicate the location and the extent of the excessive bone growth.

## PRESBYOPIA

*Corrections are in **boldface.***

Presbyopia is a condition in which the lenses **lose** their elasticity, resulting in a decrease in ability to focus on **close** objects. The loss of elasticity causes light rays to focus **beyond** the retina, resulting in hyperopia. This condition is usually associated with aging and generally occurs **after** age 40. Because accommodation for close vision is accomplished by lens contraction, people with presbyopia exhibit the **inability** to see objects at close range. They often compensate for blurred close vision by holding objects to be viewed **farther away**. Complaints of eye strain and mild **frontal** headache are common.

## GLAUCOMA

*Corrections are in **boldface.***

Glaucoma may be characterized by abnormal pressure **within** the eyeball. This pressure causes damage to the cells of the **optic** nerve, the structure responsible for transmitting visual information from the **eye** to the brain. The damage is **silent**, progressive, and **irreversible** until the end stage, when loss of **peripheral** vision occurs and eventually blindness. Once glaucoma occurs, the patient **will always have it and must follow treatment to maintain stable intraocular eye pressures**.

## CONDUCTIVE HEARING LOSS

*Corrections are in **boldface.***

Conductive hearing loss is interference with conduction of **sound impulses** through the external auditory canal, eardrum, or middle ear. The inner ear is **not** involved in a pure conductive hearing loss. Conductive hearing loss is a **mechanical** 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, **can be** corrected. Hearing devices **may improve** hearing for conditions that cannot be corrected. Hearing devices are most effective with conductive hearing loss when **no** inner ear and nerve damage are present.

## OTOSCLEROSIS

*Corrections are in **boldface.***

Otosclerosis results from the formation of new bone along the **stapes**. With new bone growth, the **stapes** becomes **immobile**, which causes conductive hearing loss. Hearing loss is most apparent after the **fourth** decade. Otosclerosis usually occurs **more** frequently in women than in men. The disease usually affects **both ears**. It is thought to be a hereditary disease. The primary symptom of otosclerosis is **progressive** hearing loss. The patient usually experiences bilateral conductive hearing loss, particularly with soft, **low** tones. **Stapedectomy** is the treatment of choice.

## PRIORITIZATION

**(1, 4, 3, 2)**

1. Patient A, who reports severe pain over the right eye, should be seen first. This could indicate a serious problem such as angle closure glaucoma and is considered a medical emergency. The health-care provider (HCP) should be notified immediately.
2. Patient D with pain and a crackling noise in the ear should be seen next. This could be related to an infection. Gather more data, including temperature, and notify the HCP.
3. Patient C, the postoperative patient with a stapedectomy, should be seen next. Reinforce teaching that hearing may not return until the swelling subsides.
4. Patient B, who has difficulty reading fine print, should be seen last. Gather more data such as opacity of the lens and difficulty seeing at night, since these could indicate cataracts. Notify the HCP with the information.

## CRITICAL THINKING AND CLINICAL JUDGMENT

1. The key symptom is visual loss without pain. The eye examination reveals opacity of the lens, a primary indicator of cataract formation. The vision is diminished because the light rays are unable to get to the retina through the clouded lens.
2. Cataract formation is diagnosed through an eye examination. Visual acuity is tested for near and far vision. The direct ophthalmoscope and slit lamp are used to examine the lens and other internal structures. Instruct the patient that it is important for him to remain still while the health-care provider uses the handheld ophthalmoscope. The slit lamp will require the patient to rest his chin and forehead against the machine while the health-care provider performs this painless test. Instruct the patient that both tests require shining a bright light into the eye, which may be uncomfortable for a few seconds.
3. Refer to the "Nursing Process for the Patient Having Eye Surgery" in chapter 52. Areas to include in a teaching plan are preoperative and postoperative care, medication administration, and no swimming after surgery.

4. **S:** Mr. Nguyen is a 70-year-old male who was diagnosed with cataracts.
   **B:** He has had difficulty seeing at night and has given up driving. He used to be an avid reader but has difficulty with this as well. He is sensitive to light, has opaque lenses, and no pain.
   **A:** Mr. Nguyen has cataracts and needs to be prepared for surgery.
   **R:** I recommend you reinforce preoperative and postoperative teaching to include the perioperative period, how to administer eye medications, and signs and symptoms of postoperative hemorrhage and/or infection.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3**) is correct. Mydriatics dilate the pupil and prevent accommodation. The patient should wear sunglasses after the exam to protect the eyes. (1, 2, 4) The patient should avoid rubbing the eyes and wearing contacts, as the cornea could be damaged since it has been anesthetized. The eyes do not need to be flushed.
2. (**2**) is correct. After pneumatic retinopexy, the patient is educated on positions to keep the air bubble in place. (1, 3, 4) Patients having cataract replacement, trabeculectomy, or corneal transplant do not need specific positioning after surgery.
3. (**2, 3**) are correct. Cyclopentolate (Cyclogyl) and hydroxyzine (Vistaril) both dilate the pupil, which increases intraocular pressure and are contraindicated in angle-closure glaucoma. (1, 4, 5, 6) These medications do not dilate the pupil and can be used for the patient.
4. (**2, 4, 5, 6**) are correct. Aspirin, furosemide (Lasix), gentamicin (Garamycin), and tobramycin (Tobrex) can cause hearing loss. (1, 3) Acetaminophen and docusate are not ototoxic.
5. (**3**) is correct. The patient with Ménière's disease has vertigo and is at risk for falling. (1, 2, 4) The patient with Ménière's disease can be dehydrated due to nausea, and hearing should try to be preserved, but these are not the priority. The patient with Ménière's disease does not usually experience pain.
6. (**1, 3, 4**) are correct. Decreased distinction of colors, loss of near vision, and loss of central vision occur with macular degeneration. (2, 5, 6) The patient with macular degeneration may have slow loss of vision and retain peripheral vision; dizziness or other vestibular changes are not associated with macular degeneration.
7. (**2, 4, 5, 6**) are correct. Swimming should be avoided after surgery until the eye is healed. Sudden sharp pain and increased drainage should be reported, as they can be rare complications. Keeping a follow-up appointment is important to ensure eye health. (1, 3) It is not necessary to elevate the head of the bed or avoid caffeine.
8. (**2**) is correct. The hearing aid should not be submerged in water. (1, 3, 4) state proper care for the hearing aid.
9. (**1, 4, 5**) are correct. These three symptoms are known as the triad of symptoms of Ménière's disease. (2, 3, 6) are incorrect.
10. (**1, 3, 4, 6**) are correct. These would not help reduce vertigo and require further teaching. (2, 5) The labyrinth is involved with balance and equilibrium. Avoiding sudden movements can be helpful and lying down promotes safety. These both show understanding of teaching.
11. (**4**) is correct. Acute bacterial conjunctivitis is contagious, and the patient should not share personal items with family members. (1, 2, 3) Acute bacterial conjunctivitis is contagious and the patient should not wear eye makeup or it will contaminate the makeup and prolong the infection. Conjunctivitis is easily spread to family members. Conjunctivitis can be viral or bacterial and is treated with eye washes and/or medication.
12. (**3**) is correct. Blurring of vision is the first symptom of cataracts due to the clouding of the lens. (1, 2, 4) Cataracts are usually painless, cause decreased color vision, and are not associated with dry eyes.
13. (**3**) is correct. Sudden onset of acute pain could indicate increased intraocular pressure, bleeding, or detachment; all could lead to permanent eye damage. (1, 2, 4) are important nursing interventions but with lower priority.
14. (**2**) is correct. The intraocular pressure increases as the aqueous humor is prevented from flowing from the anterior to the posterior chamber. (1, 3, 4) Glaucoma affects the eye's drainage system, not production of fluids.
15. (**3, 4, 5, 6**) are correct. (1) Flashing lights occur in detached retina. (2) Lens opacity, halos, difficulty reading fine print, double or hazy vision, and decreased color vision can be found with a cataract.
16. (**1, 3, 6**) are correct. Coughing, sneezing, bending over, as well as vomiting all increase intraocular pressure and put the patient at risk of hemorrhage. (2, 4, 5) do not directly increase intraocular pressure.
17. (**2, 3**) are correct. Mydriatics such as anticholinergics (atropine) and antihistamines (diphenhydramine) are contraindicated in angle-closure glaucoma. These medications cause dilation leading to increased intraocular pressure. (1, 4, 5, 6) do not cause angle closure due to dilation.
18. (**1, 4, 5, 6**) are correct. These measures prevent increased pressure in the ear. (2) One side of the nose should be blown at a time. (3) It would be difficult to avoid sneezing, so it should be done with the mouth open.

# Answers

## CHAPTER 53 INTEGUMENTARY SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

#### Hakem Assesses Skin Lesions

1. Both are fluid-filled. A vesicle is less than 1 cm, and bullae are more than 1 cm in size.
2. Psoriasis.
3. Papules.
4. Only on the wound in a thin layer; applying ointment to intact skin can cause maceration.
5. **Suggested SBAR:**
   **S:** Christine has painful excoriations on the soles of her feet.
   **B:** One area is 3 × 6 cm and the other is 4 × 7 cm. We cleaned the areas, applied the steroid ointment as ordered, and covered them with occlusive dressings. We taught the patient how to do it at home, including importance of taking the dressings off for 12 out of each 24 hours.
   **A:** Christine appears to understand how to do her dressings at home.
   **R:** When she comes in for a recheck, it might be a good idea to have her demonstrate her dressing change.

### INTEGUMENTARY STRUCTURES

1. (**5**)
2. (**4**)
3. (**7**)
4. (**2**)
5. (**9**)
6. (**3**)
7. (**8**)
8. (**1**)
9. (**6**)

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**5**)
2. (**1**)
3. (**2**)
4. (**3**)
5. (**4**)

### DIAGNOSTIC SKIN TESTS

1. (**2**)
2. (**4**)
3. (**1**)
4. (**3**)

### PRIMARY SKIN LESIONS

1. (**2**)
2. (**5**)
3. (**8**)
4. (**1**)
5. (**6**)
6. (**3**)
7. (**4**)
8. (**7**)

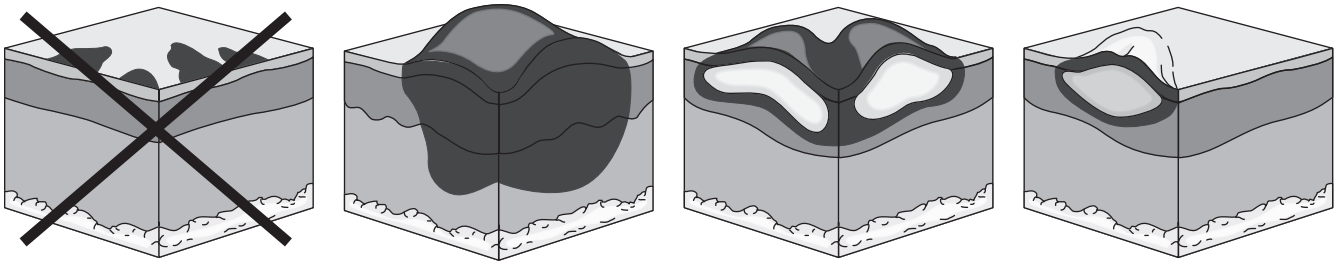
### CLINICAL JUDGMENT

1. (a) vesicles; (b) pressure injury; (c) skin tear; (d) ecchymosis; (e) cyanosis.
2. (a) Alginates will help absorb exudate and maintain a moist healing environment; silver or another antimicrobial agent can help treat the infection; hydrogels can promote healing and maintain a moist environment; other dressings may also be useful. (b) Impregnated gauze or other nonadherent dressing will help heal skin tear and protect it from further tears or trauma.
3. Consult with a dietitian for a healthy diet. Consult with husband to determine favorite foods.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. Macule.



2. (**4**) is correct. (1, 2, 3) are younger and have more moisture and elasticity.
3. (**1**) is correct. Cyanosis is a bluish color resulting from a decrease in tissue oxygen. (2) is a reddish color. (3) is a yellowish color. (4) is a pale color.
4. (**3**) results in the decreased ability to maintain warmth. (1, 2, 4) do not affect warmth.
5. (**4**) provides protection for a skin tear. (1) is used for a deep or infected wound. (2) will adhere to the wound. (3) is used to fill in a deep wound.
6. (**3**) is correct. Petechiae indicate a clotting problem, so the provider must be informed immediately. (1, 2, 4) are not of use because this is a clotting problem.
7. (**1, 3, 5, 6**) are correct. Use sterile saline to remove excess drainage and debris from the wound. Using a sterile calcium alginate swab in a rotating motion, swab wound and wound edges 10 times in a diagonal pattern across the entire surface of the wound. (2) Do not swab over eschar. (4) The swab should be sterile, not just clean.
8. (**2**) is correct. Occlusive dressings must be removed 12 of every 24 hours to prevent skin atrophy, folliculitis, or systemic absorption of medication. (1) Only affected surfaces are covered. (3) A thin layer is used. (4) Gauze can absorb medication.

# Answers

## CHAPTER 54
## NURSING CARE OF PATIENTS WITH SKIN DISORDERS

### AUDIO CASE STUDY

#### Mr. Fletcher's Pressure Injuries

1. Mr. Fletcher is very thin, immobile, is at risk for friction and sheer, and has poor circulation due to smoking history.
2. Stage 1: The skin is still intact, but the area is red and does not blanch when pressed. There may also be warmth, hardness, and discoloration of the skin. A stage 1 ulcer may be difficult to detect in a dark-skinned person.
   Stage 2: There is a break in the skin, with partial-thickness skin loss of epidermis, dermis, or both. The pressure injury may appear as an abrasion, a shallow crater, or a blister. Stage 2 pressure injuries do not contain slough (yellow fibrous tissue).
   Stage 3: There is full-thickness skin loss, which extends to the subcutaneous fat but not fascia. The pressure injury looks like a deep crater and may have undermining of adjacent tissue. Bone, tendon, and muscle are not visible.
   Stage 4: There is full-thickness skin loss with exposed muscle, bone, or support structures such as tendons. Slough or eschar may be present. There may be undermining and sinus tracts (tunneling).
3. Patrick turned and repositioned Mr. Fletcher, provided meticulous wound care, was vigilant about looking for new signs of pressure, encouraged good nutrition, and advised Mr. Fletcher to shift his weight every 15 minutes.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**12**)
2. (**11**)
3. (**10**)
4. (**9**)
5. (**8**)
6. (**7**)
7. (**6**)
8. (**5**)
9. (**4**)
10. (**3**)
11. (**2**)
12. (**1**)

### BENIGN SKIN LESIONS

1. (**3**)
2. (**5**)
3. (**4**)
4. (**6**)
5. (**1**)
6. (**2**)

### PLASTIC SURGERY PROCEDURES

1. rhinoplasty
2. face-lift
3. blepharoplasty

### CLINICAL JUDGMENT

1. Mr. Carr's itching and scratching are interfering with his dermatitis and wound healing. He is also at risk for infection.
2. Communicate with the RN or provider to obtain a topical or oral agent to help reduce itching. (Remember that antihistamines can cause sleepiness and worsen dementia in older adults.) Clean his legs well, and redress as ordered. Encourage Mr. Carr to wear gloves while sleeping to reduce scratching and advise him that pressing gently against the itchy areas may help. Help him to locate gloves if needed (cotton gloves are available at most drugstores). Observe and carefully document how his dermatitis and wounds appear, taking photographs if possible. Monitor carefully for infection. Instruct Mr. Carr about the risk for infection and the need to avoid scratching.
3. Further skin breakdown and infection are major risks.
4. **Suggested SBAR:**
   **S:** Mr. Carr has been scratching his legs, and they are bleeding.
   **B:** He removed his dressings because his legs were so itchy. His dermatitis is irritated and red, but I don't see any purulence. There is redness especially on the left calf. I cleaned and redressed his legs, and advised him to wear gloves for sleep and to use pressure instead of scratching.
   **A:** His itching needs to be managed before his legs will heal.
   **R:** Can we obtain an order for an oral or topical agent for itching? I also think we need to be very careful to monitor for infection.

## CLINICAL JUDGMENT

1. Diabetes, immobility, pressure, hypotensive period that resulted in ischemia; poor initial circulation indicated by need for femoral-popliteal bypass.
2. Sacrum: stage 2; heel: deep tissue injury.
3. Turning every 2 hours relieves pressure, but this is not frequent enough to prevent ischemia in the high-risk patient because ischemia begins to develop in 20 minutes. Elevation of the right foot relieves pressure and is very helpful. A pressure-reducing mattress can help relieve or reduce pressure. Nursing staff can implement more frequent turns without an order and initiate a care plan for the nursing diagnosis of *Impaired Skin Integrity.*
4. Consult with a nurse wound care specialist. Also work with the RN and unlicensed personnel to be sure everyone understands the plan of care.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3**) is correct. Shear can result from pulling a patient up in bed, leading to tissue injury and a pressure injury. (1, 2, 4) help prevent pressure injuries.
2. (**1**) is correct. A nonocclusive dressing is typically used on an infected wound. (2, 3, 4) are occlusive dressings.
3. (**1, 4, 5**) are correct. Patting the skin dry prevents injury to skin. Short nails and gloves prevent scratching. (2, 3, 6) If the patient is confused, medications should not be left at the bedside. A transparent dressing is generally not recommended for a rash. Wrist restraints are not indicated.
4. (**2**) is correct. Serosanguineous describes light red (blood-tinged) drainage. (1) There is no indication of infection or pus. (3) There is not a large amount. (4) Serous drainage is not blood-tinged.
5. (**2**) is correct. Because the wound is not infected, gentle flushing produced by a needleless syringe is desired. (1, 4) are pressure flushing techniques for infected wounds. (3) will cause further tissue damage.
6. (**1**) is correct. This describes basal cell carcinoma and should be reported immediately. (2, 3, 4) Any care of the lesion should be ordered by the health-care provider.
7. (**2, 1, 4, 3**) is the correct order.
8. (**1**) is correct. A fungal infection has most likely developed due to the use of the antibiotics. (2) can worsen the condition. (3) This is not a viral infection. (4) The patient is not complaining of itching, and an antihistamine can be dangerous for a 92-year-old.
9. (**4**) is correct. Pressure-relieving surfaces should be used in patients who are very high risk (9 or below on the Braden Scale) with intractable pain, pain exacerbated by turning, or other risk factors. (1, 2, 3) There is no evidence that these individuals are at risk.
10. (**4**) is correct. The black tissue is eschar. The eschar must be removed to allow granulation to occur. (1) There is no evidence of infection, and topical agents cannot penetrate eschar. (2) Mechanical debridement is not in the LPN/LVN's scope of practice. (3) Flushing will not penetrate the eschar.
11. (**2, 4, 5, 6**) are correct. These can all increase risk of breakdown. (1, 3) Slight overweight and lift sheets can be protective.
12. (**2**) is correct. Washing linens should be sufficient because mites only survive 24 hours without human contact. (1, 3, 4) are not necessary; however, pets should be treated.

# Answers

## CHAPTER 55 NURSING CARE OF PATIENTS WITH BURNS

### AUDIO CASE STUDY

#### Peyton and Burns

1. Superficial partial-thickness burns are bright red to pink, blanch to touch, are moist and glistening, and have serum-filled blisters. Deep partial-thickness burns may be pink to light red to white with blisters. They are soft and pliable, and blanching is present. Full-thickness burns are snowy white, gray, or brown. The texture is firm, leathery, and inelastic.
2. Partial-thickness burns are the most painful because the nerve endings are intact. Full-thickness burns cause nerve destruction and so are not painful. Most burns have a mixture of severity, so pain is nearly always present.
3. Following a major burn, increased capillary permeability leads to the leakage of plasma and proteins into the tissue, resulting in the formation of edema and the loss of intravascular volume. There is also water loss by evaporation through the burned tissue that can be 4 to 15 times the normal amount. Increased metabolism leads to further water loss through the respiratory system. Intake and output as well as daily weights help monitor fluid status.
4. Burns raise the metabolic rate and require extra calories. The goals of nutritional support in burned patients are to (1) meet metabolic needs, (2) promote wound healing, (3) promote resistance to infection, and (4) replace lost protein (severely burned patients can lose nearly one-half pound of skeletal muscle per day).

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. (**6**)
2. (**4**)
3. (**3**)
4. (**1**)
5. (**5**)
6. (**2**)

### CRITICAL THINKING AND CLINICAL JUDGMENT

1. The most likely cause of this change is the effect the electrical current had on the bones in the forearm. Remember that the bones offer the most resistance to electrical injury. This type of burn can develop worsening symptoms from the inside out. Mr. Patel is experiencing ischemia. His burn needs to be reevaluated by the health-care provider (HCP).
2. Do further examination: Check his left arm and use it as a basis for comparison for changes in the right. Check size of discoloration. Measure circumference of the right forearm. Check right brachial pulse. Also, recheck his right leg and foot for assessment changes. Document.
3. Elevate right arm and make sure dressing is not binding. Contact the registered nurse or HCP immediately. An escharotomy may be necessary to relieve pressure. Further debridement may be necessary.
4. Acute tubular necrosis.
5. **Suggested SBAR:**
   **S:** I am caring for Mr. Patel, a burn patient whose right radial pulse is decreasing and his forearm has a spot turning a gray color.
   **B:** He was admitted this morning with a 20% electrical burn over his right arm, right shoulder, right leg, and right foot.
   **A:** I am concerned about his circulatory status.
   **R:** I am concerned about him. Can you please come to assess him?

### REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3**) is correct. Hot liquids cause a scald burn. (1) Radiation burns are caused by ultraviolet light or radiation therapy. (2) Contact burns are caused by hot tar, hot metals, or hot grease. (4) Chemical burns are caused by contact with chemicals, usually industrial.
2. (**4**) is correct. Stage 3 is rehabilitation, and exercises will be used to return the patient to optimum function. (1, 2, 3) are more appropriate for stages 1 and 2.

3. (**3**) is correct. Inhalation injury is a priority concern in a home fire. (1, 2, 4) are important once respiratory status is stabilized.
4. (**2**) is correct. Clothing must be removed because it can hold heat in and continue the burning process. (1, 4) are appropriate after clothing has been removed and the burning process stopped. (3) Ice is not appropriate and may cause additional tissue damage.
5. (**1**) is correct. Circulation is a concern with any burn, but especially with a circumferential burn. (2) Numbness and tingling are signs of circulatory impairment and are not normal. (3, 4) may be appropriate, but circulation is the first priority.
6. $\frac{100 \text{ mL}}{1 \text{ hour}} \mid \frac{1 \text{ hour}}{60 \text{ minutes}} \mid \frac{15 \text{ gtt}}{1 \text{ mL}} = 25 \text{ gtt per minute}$
7. (**1**) is correct. Acute renal insufficiency can occur as a result of hypovolemia and decreased cardiac output. Decreased urine output should be reported. (2) The licensed practical nurse/licensed vocational nurse can administer oral narcotics. (3) Respiratory rate is within normal limits; oxygenation is acceptable. (4) Metabolic demands are very high in patients with burns, and hyperglycemia is seen due to hypermetabolism; however, decreased urinary output is a higher priority.
8. (**2**) is correct. In the first 48 hours after a burn, fluid shifts lead to hypovolemia and, if untreated, hypovolemic shock; this blood pressure is alarmingly low and should be reported. (1) Loss of intravascular fluid causes an increase in hematocrit; this reading is still within normal limits. (3) Tachycardia may be related to fluid loss, hypermetabolism, or other hematologic changes; this pulse rate is not critical. (4) Hyperventilation and increased oxygen consumption due to hypermetabolism, fear, anxiety, or pain may occur; this respiratory rate is not critical.

# Answers

## CHAPTER 56
## MENTAL HEALTH FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

### AUDIO CASE STUDY

#### Bonnie: Ego Defense Mechanisms and Therapeutic Communication Techniques

1. Bonnie is using displacement (transference). Other ego defense mechanisms are denial, repression, rationalization, compensation, reaction formation, regression, projection, restitution, conversion reaction, and avoidance.
2. Restitution.
3. Exploration: "Can you tell me what happened?" Observation: "You sound upset." General lead: "Go on, honey." Reflecting: "So what do you think you should do?" And silence.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. Coping
2. cognitive
3. Psychopharmacology
4. Electroconvulsive
5. milieu
6. insight
7. Orientation
8. affect

### DEFENSE MECHANISMS

1. Denial
2. Rationalization
3. Reaction formation
4. Compensation
5. Repression
6. Displacement or transference
7. Projection
8. Restitution
9. Avoidance
10. Conversion reaction

### CLINICAL JUDGMENT

1. Dirty hair and clothing, poor personal hygiene, and morbid obesity are not normal. A good way to open up communication related to the subject is to ask if she would like you or an assistant to help her with a bath. If her state of cleanliness is bothersome, she will most likely welcome the help and maybe even share information as to why she has been unable to bathe. On the other hand, if she refuses help or says she doesn't need a bath, further assessment of her ability to care for herself is warranted.
2. It should become obvious whether Mrs. Jewel knows where she is and whether she is oriented to person and time during routine data collection. If you have any doubts, ask specific questions such as "Where are you? Why are you here? Who is this sitting over here? [Point to a family member if one is in the room.] What year is it? Who is the president of the United States?" (or other questions to which most people should know the answers).
3. During routine data collection, listen carefully to Mrs. Jewel's responses. Document any irrational or inconsistent responses.
4. For recent memory, ask what she ate for breakfast or about a news event in the last week that everyone should have heard about. For remote memory, ask questions about her younger years, such as where she lived, the name of her grade school, or the year she got married.
5. There is no special questioning needed to determine communication ability. Simply pay attention to her responses to routine questions. Document unusually fast or slow speech, stuttering, inappropriate volume, or difficulty getting ideas across.
6. *Affect* is the outward expression of emotion. If this expression does not match what Mrs. Jewel is telling you or if it is inconsistent with her situation, her affect is inappropriate. For example, it would be unusual to be laughing about being in the hospital.
7. Asking her to explain a proverb (such as "A stitch in time saves nine") will help determine if she has good judgment. In addition, you might ask her what she would do under certain circumstances, such as if her blood sugar was low. Keep in mind that her response might reflect both judgment and knowledge.

8. *Perception* is the way a person experiences reality. Pay attention to her responses to your questions. For example, if she stopped taking medication for her diabetes because voices in her head told her to do so, her perception is faulty. Normal responses are based on reality.
9. You can collaborate with the RN and HCP, as well as a diabetes educator if one is available, a wound care nurse if she requires wound care, a social worker, and a dietitian. Discuss with the team whether home care might also be helpful to the patient.
10. **Suggested SBAR:**
    **S:** Mrs. Jewel is a 48-year-old woman admitted to the medical unit with cellulitis of her lower legs and diabetes mellitus.
    **B:** Mrs. Jones also has a diagnosis of arthritis and morbid obesity. Her hair is unwashed and tangled, her clothes are dirty, and she has strong body odor.
    **A:** She does not appear to have a good understanding of her health or self-care needs.
    **R:** Monitor mental status. Provide teaching about health status and self-care as tolerated.

## REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**4**) is correct. Close friends and relationships are a sign of mental health. (1, 2, 3) may all be considered healthy behaviors.
2. (**2**) is correct. Blaming is a type of projection. (1, 3, 4) do not necessarily involve blaming others.
3. (**4**) is correct. The worker has displaced anger at the boss onto spouse and children. (1, 2, 3) do not involve transferring responses to others.
4. (**2**) is correct. The patient may be disoriented following electroconvulsive therapy. Maintaining safety is a primary goal during this time. (1) Restraints are inappropriate. (3) The patient should not be discharged until they are oriented and safety is ensured. (4) Oxygen is not standard treatment after electroconvulsive therapy.
5. (**4**) is correct. A stressor must be defined by the patient. (1, 2, 3) Although surgery, divorce, and loss of a job would seem stressful to most people, it is important to allow patients to identify for themselves what is stressful.
6. (**2**) is correct. Magnetic resonance imaging is used to rule out physiological problems. (1, 4) Magnetic resonance imaging does not measure neurotransmitters or electrical activity. (3) Magnetic resonance imaging is a diagnostic test, not a treatment.
7. (**1**) is correct. Helping the patient identify stressors is most helpful. (2) does not help the patient work through the problem. (3) It is impossible to eliminate stress. (4) Giving advice is not appropriate.
8. (**3**) is correct because it reflects the question back to the patient. (1) Giving approval is not therapeutic. (2) Asking "Why?" may be threatening. (4) may discourage a potentially good decision.
9. (**3**) is correct. Regression is the return to an earlier time in life when a patient experienced less stress; it is commonly seen in patients while hospitalized. (1) Conversion reaction is anxiety channeled into a physical symptom. (2) A drug reaction would not be a common explanation for the behavior. (4) Repression is an unconscious "forgetting."
10. (**4**) is correct. It presents reality and addresses the patient's feelings. (1) may be threatening. (2) is not true. (3) is not therapeutic.

# Answers

## CHAPTER 57
## NURSING CARE OF PATIENTS WITH MENTAL HEALTH DISORDERS

### AUDIO CASE STUDY

### Samantha and Bipolar Disorder

1. Sleeping most of the time, loss of interest in eating, no energy to do anything, cried a lot.
2. Excitation, cooking huge amounts of food, buying a bigger freezer, believing she was going to be on television.
3. Delusions.
4. Medications (mood stabilizers), therapy for Samantha and her family.

### VOCABULARY

*Sample sentences will vary for the Vocabulary problems.*

1. alogia
2. codependence
3. phobia
4. obsession
5. bipolar
6. Autism
7. schizophrenia
8. delirium
9. Addiction
10. Anhedonia

### CRITICAL THINKING AND CLINICAL JUDGMENT

1. Remain calm and keep your distance. Ask, "Who told you what I am up to?" If his answer is not in touch with reality (e.g., the voices in his head told him), then gently say, "Mr. Joers, I know the voices seem real to you, but I can't hear them. The surgeon wants to fix your broken hip this morning, so I need to check your blood pressure. It will just take a minute." If the night nurse is still on the unit, consider having him or her assist because this will be a familiar face to Mr. Joers.
2. This depends on several factors. He will need to be reasonably cooperative to complete preoperative care. Check to see if his consent form has been signed. If he is disoriented or psychotic, then he will not be able to legally sign. See if he has a legal guardian who can give consent. It is possible that surgery will need to be delayed until he is more stable.
3. The stress of admission to the hospital, fear and anxiety related to pain, and impending surgery. Also, medication schedules are sometimes disrupted during transfers from one institution to another.
4. Check his medication record to see if any medications that might help are due to be given. Be sure to consult physician orders for medications to give or hold before surgery. Notify the registered nurse and/or the surgeon of Mr. Joers's symptoms. Based on his response to your interventions, be prepared to share your opinion about whether he is cooperative enough to be able to proceed with surgery. If there is a family member who has a close, trusting relationship with Mr. Joers, consider calling him or her in to assist with his care.
5. If Mr. Joers is psychotic, he will not be oriented to the fact that he has a broken hip. His gait is also affected by his Parkinson disease. He is at risk for danger to himself or others. He will need one-on-one supervision to be sure he does not try to get out of bed or otherwise harm himself. In addition, his paranoia may pose a danger to staff if he perceives that staff is trying to harm him.
6. **Suggested SBAR:**
   **S:** Mr. Joers is a 72-year-old man admitted from the nursing home after he fell and broke his hip. He is scheduled for surgery this morning at 0800. He seems disoriented and paranoid this morning. He was unable to cooperate with completion of his surgical checklist.
   **B:** Mr. Joers has a history of Parkinson disease, schizophrenia, and anxiety. He was oriented and appropriate during admission and throughout the night. I have called a family member to stay with him.
   **A:** I am concerned that his schizophrenia is exacerbated.
   **R:** I will re-attempt to do the surgical checklist when his family arrives. Will you assess him and determine if you are going to proceed with surgery?

### REVIEW QUESTIONS

*The correct answers are in **boldface.***

1. (**3**) is correct. Drinking alcohol before work could impair judgment and cause harm to patients. (1, 2, 4) are all reasonable and safe responses to anxiety.
2. (**1**) is correct. Group support is one of the most effective treatments for alcoholism. (2) Drugs may be used during acute withdrawal but are not ideal for long-term therapy. (3) Electroconvulsive therapy is not a treatment

for alcoholism. (4) Reducing alcohol consumption is not successful for most people.

3. (**1**) is correct. This amount of sleepiness is unusual. (2) Tolerance can occur, but this amount of sleepiness is not an expected response. (3) It is unsafe to get the patient up if he is difficult to arouse. (4) is not an independent nursing action.
4. (**3**) is correct. This response lets the patient know what is real and then distracts with a walk. (1, 4) do not correct the misperception. (2) is not kind or respectful.
5. (**2**) is correct. Fluctuations in sodium affect metabolism of lithium. (1, 3, 4) are not known to affect lithium.
6. (**4**) is correct. Speaking to other staff so that the patient cannot hear may be interpreted personally by the patient. (1, 2, 3) are therapeutic for the patient with schizophrenia.
7. $\frac{150 \text{ mg}}{100 \text{ mg}} \mid \frac{5 \text{ mL}}{} = 7.5 \text{ mL}$
8. (**1**) is correct. It shows the patient is able to sort what is true and what is not. (2, 4) show hopeless thoughts. (3) is not healthy for one's own feelings to be dependent on another person's behavior.
9. (**3**) is correct. It may take 6 to 8 weeks for an antidepressant to be effective. (1, 2) are not appropriate. (4) can cause a dangerous drug interaction.
10. (**1, 2, 3, 5**) are correct. (4) Patients are typically hypothermic rather than hyperthermic.
11. (**4**) A depressed patient is at risk for suicide and must be kept safe. (1, 2, 3) are cause for concern but are not as immediate as (4).
12. (**3**) Obsessions are repetitive thoughts, and compulsions are related actions. (1) is incorrect. (2) describes bipolar disorder. (4) is an inappropriate response.
13. (**1**) Anticholinergic agents help restore the balance of neurotransmitters to prevent extrapyramidal side effects. (2, 3, 4) will not reduce the side effects.
14. (**4**) The patient has post-traumatic stress disorder and needs calm reorientation until the episode is over. (1, 2, 3) are inappropriate responses.
15. (**3**) Checking vital signs verifies whether there is a real physical cause for the symptoms and also reassures the patient. (1, 2) may be appropriate after checking vital signs. (4) Instruction should take place during a calm period.
16. (**2**) The priority is to provide nourishment and correct electrolyte imbalance, which can be life-threatening. (1, 3, 4) are appropriate but not the priority.