CHAPTER 1

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Science
2. Sympathy
3. England
4. Art
5. Korean
6. Theory
7. Licensed
8. Assessment
9. Baccalaureate
10. Empathy

Activity B
1. There are two basic educational options available for a nursing career: practical or vocational nursing and registered nursing. Several types of programs prepare graduates in registered nursing. Each educational track provides the knowledge and skills for a particular entry level of practice.
2. The factors that affect the choice of a nursing program are:
   • Career goals
   • Geographic location of schools
   • Costs involved
   • Length of programs
   • Reputation and success of graduates
   • Flexibility in course scheduling
   • Opportunity for part-time versus full-time enrollment
   • Ease of movement into the next level of education

Activity C
1. B
2. C
3. D
4. A

Activity D

4 1 3 2

3 2 4 1

Activity E
1. In 1862, Dorothea Lynde Dix established the following selection criteria for nurses. Applicants were to be:
   • 35 to 50 years old
   • Matronly and plain looking
   • Educated
   • Neat, orderly, sober, and industrious, with a serious disposition
2. According to Virginia Henderson, “the unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to a peaceful death) that he could perform unaided if he had the necessary strength, will, or knowledge; and to do this in such a way as to help him gain independence as rapidly as possible.”
3. The six essential features that characterized nursing are the following:
   • Provision of a caring relationship that facilitates health and healing
   • Attention to the range of human experiences and responses to health and illness within the physical and social environments
   • Integration of objective data with knowledge gained from an appreciation of the client’s or group’s subjective experience
   • Application of scientific knowledge to the processes of diagnosis and treatment through the use of judgment and critical thinking
   • Advancement of professional nursing knowledge through scholarly inquiry
   • Influence on social and public policy to promote social justice
4. The factors that influence the choice of a nursing program are career goals, geographic location of schools, costs involved, length of programs, reputation and success of graduates, flexibility in course scheduling, opportunity for part-time versus full-time enrollment, and ease of movement into the next level of education.

5. The guidelines to be kept in mind while delegating nursing tasks to staff members are right task, right circumstance, right person, right direction, and right supervision.

Activity F

SCIENCE

T A

CARING

V

EMPATHY

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The nurse should use counseling skills to provide effective nursing care to this client. The nurse should try to understand the client’s concerns by implementing active listening skills, thereby encouraging the client to express his problems. The nurse may then provide the client with required health teaching and education.

2. Active listening is the skill of demonstrating full attention to what is being said, hearing both the content being communicated and the unspoken message. The most important advantage of active listening is that it facilitates therapeutic interactions. Giving clients the opportunity to be heard helps them to organize their thoughts and to evaluate their situation more realistically.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. a

RATIONALE: During the Crimean War, the most important contribution of Florence Nightingale and her team of nurses was that the death rate of soldiers decreased from 60% to 1%. This was the result of improvement in ventilation, nutrition, sanitation, and the control of infection and gangrene in the soldiers.

2. b

RATIONALE: Palpating the abdomen for liver enlargement is a technique for physical examination, which is an important assessment skill. In contrast, telling the client to exercise daily and educating the client about a hepatitis B vaccination program is a counseling skill. Ensuring that the client is taking his medications regularly is a caring skill.

3. d

RATIONALE: The nurse should use counseling skills while dealing with the mother. These would include communicating with the client, actively listening during exchanges of information, and providing emotional support. Assessment, and using comforting and caring skills, may be required for her son, but are not applicable while dealing with the mother to help her cope with the situation. The mother needs emotional support to deal with the fact that her son has been diagnosed with a terminal illness.

4. b

RATIONALE: The client would be emotionally disturbed as a result of loss of limb, so the nurse uses empathy to deal with the client. Empathy is the intuitive awareness of what the client is experiencing. The nurse uses empathy in clinical care to perceive the client’s emotional state and need for support. This helps the nurse to provide effective nursing care without getting emotionally distraught by the client’s condition. Empathy helps the nurse remain compassionately detached. A nurse who understands the client’s condition would avoid hurting the client’s emotions and feelings. Providing emotional support to the emotionally unstable client and counseling the client are basic caring activities and may not involve empathy.

5. d

RATIONALE: The nurse uses assessment skills to interview the client’s spouse to collect more information about the incidence of unconsciousness. Assessment skills include interviewing, examining, and observing. Counseling skills, however, are applicable if the nurse provides health education and discusses the condition. Caring skills are demonstrated when providing direct nursing care to the client. Comforting skills would be used if the client feels apprehensive and insecure.

6. a

RATIONALE: While delegating a nursing task to the nursing staff, the nurse should follow the guidelines of right task, right circumstances, right person, right direction, and right supervision. Right person refers to knowing the unique competencies of the caregiver. The nurse should decide, based on the caregiver’s competency, whether he or she would be able to perform the task, thereby ensuring the best possible nursing care for the client. Right person does not mean that care is given to the...
right client, nor does it have to do with the sincerity of the caregiver. Also, the delegation of work is not based on client criteria, but the competency of the caregiver.

7. a
RATIONALE: The nurse should perform the procedure with the LPN. Even if the LPN does know the procedure, the nurse is responsible for the overall care provided to the client. Only the task is delegated, not the accountability. Requesting that the LPN refer to the manual and perform the procedure is risky, because the LPN may make mistakes. The LPN is not confident about the procedure and therefore should not be asked to do the task alone. Requesting that the LPN observe another LPN perform the procedure does not ensure that the task would be done correctly.

8. d
RATIONALE: The communication should be precise and clear when delegating the task. The nurse should mention clearly the client, his identification, and the task to be done. If not, it may lead to confusion and misinterpretation. The statement that says to complete the task and report back does not specify the patient and his identification. The other statements give clear instructions about the client but not the task.

9. b
RATIONALE: Asking the client to rate the pain on the pain scale is an example of assessment. This would give the details about the nature and intensity of the pain. Giving medicines for pain is a caring skill. Telling the patient not to worry because the pain would subside indicates comforting skills. The statement that advises the patient to support the incision site during movements is a counseling skill.

10. a
RATIONALE: The nurse should alleviate the client’s anxiety by increasing his confidence in the health care team; the nurse may inform him about the general outcomes of the surgery. The nurse should not show an attitude of indifference by telling him that there is “always a first time.” The nurse should not get personally involved by telling the client about the nurse’s own experience. Everyone has his or her own concerns, so it is not appropriate to generalize about the anxiety the client is having.

11. a, c, e
RATIONALE: The factors that affect the choice of nursing programs include career goals, length of programs, and the cost involved. Career goals decide the direction and the type of course that would help to reach those goals. The program chosen also depends upon the affordability, the cost involved, and the length of the program. Types of training are more or less the same; hence, it does not have much of an impact on the choices made.

12. a, b, d
RATIONALE: Active listening encourages the client to express his or her concerns and evaluate them realistically. In an interaction with a client, the nurse demonstrates active listening by nodding his or her head, asking counter-questions, and repeating the matter to get the exact meaning. The nurse also observes the non-verbal communication of the client. The nurse never brings in his or her own emotions and concerns into the interaction because it may shift the focus from the client to the nurse.

13. a
RATIONALE: By asking the client to describe the incident, the nurse is using assessment skills to collect more information. The nurse is using the technique of interviewing to collect client-related data. It is not an example of comforting skills, because the nurse is not providing any emotional support. Also, counseling skill is not used, because no health education is provided. Caring skills include providing assistance in activities of daily living and are therefore not applicable in this scenario.

14. a, c, d
RATIONALE: Factors that have contributed to the shortage of nurses are an increased aging population requiring health care, heavier workloads and sicker clients, and the likelihood of mandatory overtime. As more and more people are aging, the population requiring health care is also increasing, putting heavier workloads on the nursing staff. Also, clients are sicker and require more intensive care than was the case in the past. People interested in joining nursing may become disinterested when they consider the working hours. The scope for educational growth in nursing is not limited and has various growth dimensions. The training and life as a nurse are no different from any other profession.

15. c
RATIONALE: Associate degree programs represent the shortest courses in registered nursing. Graduates from this type of program acquire an associate degree in nursing, which results in their being referred to as a technical nurse. Graduate nursing programs provide specialized courses that are available at the masters and doctoral levels. Baccalaureate programs are the longest and most expensive. A hospital-based diploma program generally lasts 3 years.

CHAPTER 2
SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Process
2. Assessment
3. Collaborative problems are physiologic complications that require both nurse- and physician-prescribed interventions. They represent an interdependent domain of nursing practice.

4. The role of nurses in managing collaborative problems is
   - To correlate medical diagnoses or medical treatment measures with the risk for unique complications
   - To document complications for which clients are at risk
   - To make pertinent assessments to detect complications
   - To report trends that suggest development of complications

   - To manage the emerging problem with nurse- and physician-prescribed measures
   - To evaluate the outcomes

Activity C

Activity D
4 5 2 1 3

Activity E
1. The nursing process is an organized sequence of problem-solving steps used to identify and manage the health problems of clients. The nursing process is the framework for nursing care in all health care settings. When nursing practice follows the nursing process, clients receive quality care in minimal time with maximal efficiency.

2. The nursing process has seven distinct characteristics:
   - Within the legal scope of nursing
   - Based on knowledge
   - Planned
   - Client centered
   - Goal directed
   - Prioritized
   - Dynamic

3. There are two types of assessments:
   - Database assessment: the initial information about the client’s physical, emotional, social, and spiritual health
   - Focus assessment: the information that provides more details about specific problems and expands the original database

4. Concept mapping is a method of organizing information in graphic or pictorial form. This strategy promotes learning by having the student gather data from the client and the client’s medical record or a written case study, select significant information, and organize related concepts on a one- or two-page working document.

5. Short-term goals have the following characteristics:
   - Developed from the problem portion of the diagnostic statement
   - Client centered, reflecting what the client will accomplish, not the nurse
   - Measurable, identifying specific criteria that provide evidence of goal achievement
   - Realistic, to avoid setting unattainable goals, which can be self-defeating and frustrating
   - Accompanied by a target date for accomplishment, the predicted time when the goal will be met
SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The sources of data in this case would be the client himself, his family members, his previous case files, and any other medical documents.

2. In the given case, the types of data obtained would be both subjective and objective. The subjective data would include pain, restlessness, anxiety, and palpitation. The objective data would include high blood pressure, increased heart rate, high temperature, and high respiratory rate.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b
   **RATIONALE:** Objective data are observable and measurable facts, and are signs of a disorder. High blood pressure is considered objective data because it can be measured. Pain in the abdomen, a tingling sensation, and itching of the nose are all subjective data because none of these can be measured; they are all information that only the client can feel and describe.

2. a
   **RATIONALE:** The client with Cushing's disease and with an open wound is at increased risk for infection as a result of excess hormone secretion and impaired immune function. The first priority should be risk for infection. The client may also have impaired mobility, disturbed body image, and risk for delayed surgical recovery, but none of these would be considered a high priority.

3. c
   **RATIONALE:** While caring for a stroke patient, the first step is to perform a physical assessment to determine the needs of the client. Based on the identified needs, realistic goals are set and nursing actions are planned. Finally, the nursing actions are implemented. The nurse may evaluate the outcome of the nursing action to plan for further care.

4. d
   **RATIONALE:** According to Maslow's need hierarchy, risk for body image disturbance is of the least priority. An altered breathing pattern indicates a problem in the airway and is the most important nursing diagnosis. An altered elimination need is also a physiologic need, and therefore it also has high priority. Ineffective coping is a social problem and therefore is more important than the body image disturbance.

5. a
   **RATIONALE:** Anticoagulants have an inhibitory effect on the body's coagulation mechanism. As a result, the client can bleed heavily from sustaining even a minor injury. The nursing action should include providing a safe environment to the client. Risk for infection, risk for imbalanced fluid volume, and ineffective health maintenance may or may not be present for the client.

6. a
   **RATIONALE:** The short-term goal for the client should be to help the client ambulate to a bedside chair. The other goals, like helping the client return to activities of daily life, to maintain a healthy and active lifestyle, and to prevent repeat surgery are long-term goals.

7. b
   **RATIONALE:** The client consumed foods that were restricted for him because he did not want to be considered different from others. The client is experiencing situational low self-esteem because he feels different from his peer group. The assessment data do not indicate risk for body image disturbance, ineffective health maintenance, or risk from impaired nutritional intake.

8. b
   **RATIONALE:** Pain of grade 2 on a pain scale is a piece of objective data because it is measurable. The pricking pain, throbbing pain, and cramping pain are descriptive and cannot be measured; therefore, they are subjective data.

9. c
   **RATIONALE:** The long-term goal for this client would be to prevent recurrence of disc prolapse by practicing body mechanics. To prevent infection at the surgical site, to avoid putting strain on the back during the immediate post-operative period, and to ambulate and perform activities of daily life are short-term goals that can be achieved in a week.

10. b
    **RATIONALE:** The client is scared about the recurrence of pain and feels anxious anticipating the pain. The pain threatens the psychosocial integrity of the client, as evidenced by Maslow's Hierarchy of Needs. There is no evidence that there is urinary retention or an impaired coping mechanism.

11. a
    **RATIONALE:** Risk for disuse syndrome is a potential diagnosis because it is not present in the client but
may develop as a complication of the disease. An ineffective breathing pattern, impaired physical mobility, and total self-care deficit are actual diagnoses because these are already present in the client.

12. b
**RATIONALE:** The client is concerned about the baby’s safety and has fears of miscarriage. Fear is the most important diagnosis in this scenario. Spotting does not lead to a decrease in body fluid volume. The client may be advised bedrest, but the client’s primary concern is her baby. There may or may not be a problem with impaired urinary elimination.

13. c
**RATIONALE:** Assessing the condition of the wound should be the first step performed by the nurse. The remaining steps would follow the findings obtained from the assessment of the wound. Assessment is followed by preparing articles for dressing, then dressing the wound, and finally documenting the findings.

14. d
**RATIONALE:** The client has an impaired gastrointestinal system and is on enteral feeding, which increases the risk of aspiration. Therefore, risk for aspiration is given highest priority in the nursing diagnosis. This nursing diagnosis directly addresses the problem in airway maintenance. Bowel elimination, imbalance in fluid volume, and risk for imbalanced nutrition are also possible problems, but are not as important as the problem of airway maintenance.

15. a, c, d
**RATIONALE:** Conducting postoperative surgical assessments, monitoring the client’s level of pain before and after administering medications, and checking the neurologic status of a client with a head injury are focus assessments, because they are done frequently or on a scheduled basis to know the client’s progress. Conducting urine analysis on admission and inquiring about dietary habits of the client are data base assessments.

16. c
**RATIONALE:** Ineffective coping is the appropriate diagnosis for the client. It is defined as the state in which an individual demonstrates impaired adaptive behaviors and problem-solving abilities in meeting life’s demands and roles. Risk for disuse syndrome and deficient diversional activity are not related to the coping mechanism. Disturbed self-esteem may be related to it, but it does not have any effect on the displacement.

17. a
**RATIONALE:** Alopecia is the thinning or complete loss of hair; it is a complication of hormone therapy. Alopecia can cause body image disturbances, especially in females. It could be managed by the use of wigs, scarves, and hats. Teaching the client about use of cosmetics, shampoo, and washing of the hair and scalp may not help.

18. b, c, d
**RATIONALE:** Pain in the abdomen, tenesmus, and nausea are subjective data, because none of them can be measured; they can only be described by the client. High temperature and high blood pressure are measurable, and therefore are objective data.

### CHAPTER 3

#### SECTION II: ASSESSING YOUR UNDERSTANDING

**Activity A**

1. Statutory
2. Veracity
3. Deontology
4. Liability
5. Defamation
6. Tort
7. Teleology
8. Felony
9. Common
10. Administrative

**Activity B**

1. The figure provided is an incident report.
2. The nurse has an important role in filling out the incident report. All witnesses are identified by name. Any pertinent statements made by the injured person, before or after the incident, are quoted. Accurate and detailed documentation often helps to prove that the nurse acted reasonably or appropriately in the circumstances.
3. The incident should include five important pieces: when the incident occurred, where it happened, who was involved, what happened, and what actions were taken.
4. The figure is the format of a living will.
5. An advance directive is a written statement identifying a competent person’s wishes concerning terminal care. The two types of advance directives are a living will and a durable power of attorney for health care.
6. The nurse and the health care workers cannot sign the living will of a client in their health care facility.

**Activity C**

1. B
2. C
3. D
4. A

**Activity D**

1. Allocation of scarce resources is the process of deciding how to distribute limited life-saving equipment or procedures among several people who could benefit. Such decisions are difficult. In effect,
Activity E

SECTION III: APPLYING YOUR KNOWLEDGE

Activity F

1. The health care team should conduct the surgery because it is life-saving for the client. In an emergency, consent can be implied. In other words, it is assumed that in life-threatening circumstances, a client would give consent for treatment if he or she were able to understand the risks. However, another physician must concur that the emergency procedure is essential. Meanwhile, the nurse can track down the client’s details and inform the family.

2. The act does not equate to battery because the surgery is done to save the life of the client, and consent in an emergency situation is implied.

SECTION IV: PRACTICING FOR NCLEX

Activity G

1. c

RATIONALE: The physician can be charged with slander for bad-mouthing the nurse in the presence of the client. Tort is a litigation in which one person asserts that physical, emotional, or financial injury was a consequence of another person’s actions or failure to act. Assault is an act in which bodily harm is threatened or attempted. Such harm may be physical intimidation, remarks, or gestures. Libel is a damaging statement written and read by others. These are not applicable in this case.

2. c

RATIONALE: Removal of the feeding tube from the comatose client carries legal implications. The nurse should check the client records for family authorization. The family members can make treatment decisions on behalf of the client if the client is unable to do so. Although a written order from the physician is necessary, the nurse should not carry out the orders without checking to see the orders in writing. The need for court orders may differ from one health care facility to another.

3. a

RATIONALE: Taking monetary compensation from the client is unlawful. The nurse should inform the supervisor, who may take necessary action per the Nurses Act. Ignoring the incident and keeping silent is unethical and would encourage the colleague's behavior. It is not appropriate to call the police. Confronting the colleague may raise conflict and the colleague may become emotional or evasive. Moreover, the colleague may not cease the behavior after the confrontation.

Activity E

<table>
<thead>
<tr>
<th>C</th>
<th>I</th>
<th>V</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>A</td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>B</td>
<td>M</td>
<td>S</td>
</tr>
<tr>
<td>I</td>
<td>A</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>T</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>E</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>L</td>
<td>E</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. b  
**Rationale:** The surgeons should operate upon the client, assuming that consent is implied. In an emergency, consent can be implied. It is assumed that in life-threatening circumstances, a client would give consent for treatment if he or she were able to understand the risks. In most cases, another physician must concur that the emergency procedure is essential. The nurse should not wait for the family to come and give consent because it could prove fatal for the client. Neither the nurse nor the supervisor can sign the consent form; it is unlawful to do so.

5. c  
**Rationale:** Revealing confidential client-related information to someone without the client's permission is a violation of the client's right to privacy. Right to information is not applicable in this situation, because the client's records are confidential. However, the scenario is not a breach of duty because there is no direct harm to the client. Defamation is also not applicable to this scenario because defamation is an act in which untrue information harms a person's reputation, which has not happened here.

6. a  
**Rationale:** Nurses are not supposed to carry out any verbal orders except in an emergency. The nurse should tell the physician to come back and write the orders. The nurse is not authorized to write orders on behalf of the physician. The nurse should not carry out any instructions if not in writing. It is the nurse's duty to inform the client about drug dosage change, but it does not imply that the nurse carries out verbal orders.

7. b  
**Rationale:** The nurse's action is an act of negligence. Negligence is the harm that results because a person did not act reasonably. The nurse did not notice the sign of hypoglycemia but failed to act appropriately. Defamation, assault, and battery are not applicable in this case. Defamation is an act in which untrue information harms a person's reputation. Assault is an act in which bodily harm is threatened or attempted. Battery refers to unauthorized physical contact.

8. c  
**Rationale:** A living will is an instructive form of an advance directive—that is, it is a written document that identifies a person's preferences regarding medical interventions to use or not to use in a terminal condition, irreversible coma, or persistent vegetative state with no hope of recovery. The health care professionals of the same health care facility are not supposed to sign the will. Therefore, the nurse should not sign it, and should politely indicate the reason to the client. Calling the physician or nurse supervisor is not an appropriate action.

9. a  
**Rationale:** In case of hazardous incidents, the nurse should inform the physician and the supervisor about the incident. The incident report is separate from a medical document and should not be kept along with the client's records; neither should it be mentioned in the client's records. It is a legal document; therefore, a copy of the incident report should not be made. Incident reports determine how to prevent hazardous situations and serve as a reference in case of future litigation.

10. b  
**Rationale:** The nurse would get immunity from possible legal lawsuit through the provision of assumption of risk. The nurse had warned the client about walking without assistance, but the client ignored the nurse's warning and fell down. The nurse should document the whole incident, including the fact that warning was given to the client. A Good Samaritan law, statute of limitations, and judicial law are not applicable here. Good Samaritan laws provide legal immunity to passersby who provide emergency first aid to victims of accidents. Statute of limitations is the designated time within which a person can file a lawsuit. Judicial laws are decisions based on prior similar cases.

11. c  
**Rationale:** A nurse threatening to turn off the signal system of communication is an appropriate example of assault. Assault is an act in which bodily harm is threatened or attempted. Such harm may be physical intimidation, remarks, or gestures. A nurse telling a client that he cannot leave the health care facility or restraining him from being discharged without the consent of the physician could amount to false imprisonment. A nurse discussing confidential client information with a friend is an example of invasion of privacy.

12. b  
**Rationale:** The determination of negligence is based on the fact that harm resulted because the nurse did not act reasonably. The client could not be taken up for a barium ingestion test because of ingestion of food. The dietary department sending a wrong food tray is unrelated. The nurse insisting the client eat the food and not confirming the order with the physician only contributed to the situation.

13. b, d  
**Rationale:** Restraining a client against his will is not lawful. The nurse can be charged for battery and false imprisonment. Battery is unauthorized physical contact that can include touching a person's body, clothing, chair, or bed. False
imprisonment is interference with a person’s freedom to move about at will without legal authority to do so. It is applicable if a nurse detains a competent client from leaving the hospital or other health care agency. Assault, slander, and libel are not applicable because there is no harm done to the client’s reputation in either oral or written form.

14. b, c

**RATIONALE:** The nurse can be charged for invasion of privacy and libel. All information that the patient renders to the nurse should be kept confidential. If any case reports have to be published, the names need to be changed to maintain privacy. By publishing the client’s name in the research report, the nurse has caused invasion of privacy of the client. The nurse has written harmful statements about the client, which could be charged as libel. Libel is a damaging statement written and read by others. Felony, misdemeanor, and slander are not applicable here. A misdemeanor is a minor criminal offense, whereas a felony is a serious criminal offense, such as murder or falsifying medical records. Slander is a character attack uttered orally in the presence of others.

15. b, c, e

**RATIONALE:** The nurse should inform the physician and take his or her orders for restraining the client. The nurse should also discuss it with the client’s family and make them understand the reason for restraining the client. Mention of the type and duration of the restraint should also be made in the client’s records. The nurse cannot make his or her own decision to restrain the client, because this could lead to being charged with battery or false imprisonment. The nurse should not sedate the patient or restrain him without a physician’s orders.

**CHAPTER 4**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Psychologist
2. Holism
3. Mortality
4. Hereditary
5. Primary
6. Infirmitry
7. Morbidity
8. Secondary
9. Medicare
10. Team

1. The figure represents holism as a concept that considers the sum of the physical, emotional, social, and spiritual health of a person.
2. The various aspects of holism are physical, mental, social, and spiritual.
3. The various aspects of holism are interrelated; if a person is physically ill, the affect can be seen in their social, mental, and spiritual well-being as well.

4. The nursing team.
5. The main purpose of the nursing team is to provide effective nursing care to the client and the client’s family.
Activity C

Activity D
2 4 3 1
1 3 4 2 5

Activity E
1. According to Maslow, the first-level physiological needs are the most important. They include activities necessary to sustain life. Maslow believed that until humans satisfied their physiological needs, they could not or would not seek to fulfill other needs.
2. The types of illnesses based on their duration are acute illness, chronic illness, and terminal illness.
3. Managed care organizations are private insurers who carefully plan and closely supervise the distribution of their clients’ health care services to control costs of health care. These organizations focus on prevention as the best way to manage costs.
4. Capitation is a payment system in which a preset fee per member is paid to a health care provider regardless of whether the member requires services. Capitation provides an incentive to providers to control tests and services as a means of making a profit. If members do not receive costly care, the provider makes money.
5. Nurse-managed care is a pattern in which a nurse manager plans the nursing care of clients based on their type of case or medical diagnosis. A clinical pathway typically is used in a managed care approach. In nurse-managed care, a professional nurse evaluates whether predictable outcomes are met on a daily basis.

Activity F
MORTALITY
A
S M
ILLNESS
O D
W I C
PRIMARY
R
ACUTE

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. The nurse manager plans the nursing care of clients based on their type of case or medical diagnosis. He or she forecasts outcomes and determines the best strategies for favorable outcomes, keeping in mind the cost factors. The nurse manager is responsible for the client’s preoperative workup, hernioplasty, and post-operative care. The nurse manager evaluates whether predictable outcomes are met on a daily basis.
2. The nurse-managed care model ensures that standards of care are met with greater efficiency and cost savings. The recovery is fast and the client is ready for discharge by the time designated by prospective payment systems. It also addresses the issues of nursing shortages and the need to balance the costs of medical care with limited reimbursement systems.

SECTION IV: PRACTICING FOR NCLEX

Activity H
1. d RATIONALE: The client would require extended care at a rehabilitation center to help him adapt to walking with the prosthesis. The client would have to undergo continuous assessments and evaluation of the prosthesis, followed by intense physiotherapy. The client does not require acute care provided in primary, secondary, or tertiary care centers.
2. b RATIONALE: Depression is the first priority of nursing care. Wellness involves physical, emotional, social, and spiritual health. The client does not have any physical illness; rather, her emotional needs should be cared for. Dependability and low self-esteem are social and spiritual aspects of health and are dependent on physical and emotional health.
3. a RATIONALE: Chronic illnesses have a gradual onset, usually with pain in the joints, and last for a long time. The incidence increases with age, and the elderly are more likely to suffer from chronic disorders like osteoarthritis. Osteoarthritis runs a long course and has an equally long treatment regimen. Chronic disorders are not hereditary and do not have a genetic predisposition; they are therefore not inherited from parents.
4. c RATIONALE: Heart disease as a result of damaged lungs is a secondary disease. Lung disease resulting from smoking is a primary disorder, and smoking resulting from any cause is a causative factor. Heart disease resulting from fetal abnormality is not a secondary disorder. Any disease condition resulting from an underlying and preexisting disease condition is called a secondary disorder.
5. a  
Rationale: Gout is a chronic disease with intermittent remissions and exacerbations. During the remission state the client remains free of the symptoms, whereas during the exacerbated state the symptoms of gout are aggravated. Heart attack, common cold, and varicose veins are not associated with a state of remission.

6. d  
Rationale: Functional nursing is a pattern of nursing care in which each nurse on a client unit is assigned specific tasks. The approach is task based, not client based. The team leader in a team nursing care pattern heads a team of nursing staff who carry out the task together. A nurse manager is responsible for assessing and planning nursing care in a nurse-managed care pattern. Primary nursing care involves an admitting nurse, who is responsible for a client’s care throughout his or her stay at a health care facility.

7. c  
Rationale: The nurse manager is responsible for care and outcomes in a nurse-managed care pattern of nursing care. Team nursing has a team leader to supervise the members. In the functional nursing model, the nurse-in-charge ensures that all nursing tasks are carried out. The case manager is responsible for providing overall nursing care to a group of clients in case–method nursing care.

8. b  
Rationale: The diagnosis-related group is an important component of Medicare for reimbursement of health care costs. The disease conditions and procedures are classified into various groups. The reimbursement of cost is done according to the particular group in which the diagnosis is included, regardless of the actual cost incurred. Managed care organizations are private insurers with an objective to provide cost-effective health care. They carefully plan and closely supervise the distribution of their clients’ health care services.

9. c  
Rationale: Cystic fibrosis is a heredity disorder and is present at birth. The disorder can be genetically predicted and can be transferred from parents to children through genes. Atrial septal defect is a congenital disorder and is present at birth, but cannot be transferred from one generation to the other. Myositis and macular edema are acquired diseases.

10. a  
Rationale: Polydactyly is the result of faulty development of the embryo and not faulty gene transfer. Congenital disorders are present at birth but are not genetically predicted. This disorder cannot be transferred from one generation to the other. It can be the result of maternal exposure to toxins and infectious agents.

11. c  
Rationale: Mortality is a measure of death resulting from a particular disease or condition. In this case, neonatal mortality indicates the number of neonatal deaths per 1,000 live births of neonates. The other parameters are not standard for comparison.

12. b  
Rationale: Physiotherapy is an example of extended care. It does not involve acute care and is not compulsorily done on hospital premises. The hospital providing surgical facilities is a tertiary care center. After being discharged from tertiary care, the client joins a physiotherapy unit for extended care.

13. a  
Rationale: The scenario is an example of team nursing. In team nursing, a team leader assigns the nursing task and supervises the care given. It is different from functional nursing, during which a nurse is responsible only for the assigned task. It is also different from primary nursing, because there are many nursing staff members responsible for client care. Nurse-managed care has a nurse manager responsible for assessing and planning client care according to the outcomes predicted.

14. b  
Rationale: The hospital makes the profit. The client is insured through a capitation scheme, which provides a preset fee per member to the health care provider regardless of whether the member requires services. If a client is discharged earlier, the hospital keeps the difference.

15. c  
Rationale: The client is referred to the medical specialist as a secondary level of health care. The family physician represents the primary care level; he or she is the first contact of the client with the health service. If, after the initial examination, the physician believes that the client requires specialist care, he or she can refer clients to specialized care facilities. These facilities are a secondary level of health care.

16. b  
Rationale: Mortality is a measure of deaths resulting from any disease or condition. Statistics that note that 440,000 people who die from cigarette smoking-attributable illnesses indicate death resulting from smoking-related illnesses; therefore, this is a measure of mortality. Lung cancer accounting for 1% of all cigarette smoking-attributable illnesses indicates morbidity of illnesses as a result of cigarette smoking. The statement that cigarette smoking results in 5.6 million potential lives lost per year demonstrates the affect of smoking on health. A loss of $75 billion in direct medical costs results from smoking-attributable illnesses, representing a health care cost burden.

17. b, c, d, a  
Rationale: Pain in the wound is the first priority of nursing care. The first step should be alleviation of pain and closing the open wound to prevent infection. The second step should be to calm the client and alleviate his anxiety and apprehension related to the treatment. The client may avoid social interactions as a result of burns on the face;
therefore, the client’s social needs should be met. The need of self-esteem is also not met in the client, because he feels dependent on others.

18. b, c, e
RATIONALE: Influenza, measles, and conjunctivitis are acute disorders and have a short duration. Diabetes mellitus and hypertension are chronic diseases. The onset of these diseases is gradual, and the course of the disease runs longer, sometimes for one’s whole life.

19. c
RATIONALE: The team leader is responsible for overall care provided to clients in the nursing unit. The team leader assigns tasks, supervises the nursing staff, and evaluates the care provided by them. The team leader helps maintain a team spirit to provide efficient nursing care. The leader may assist other nursing staff in their assigned tasks, but the nurse is responsible for overall care.

20. c
RATIONALE: The conference is the most important part of team nursing. Conferences may cover a variety of subjects, but are planned with certain goals in mind, such as determining the best approaches to each client’s health problems, increasing team members’ knowledge, and promoting a cooperative spirit among nursing personnel.

CHAPTER 5

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Neurotransmitters
2. Postsynaptic
3. Neuropeptide
4. Serotonin
5. Norepinephrine
6. Spinal cord
7. Cortex
8. Subcortex
9. Hypothalamus
10. Pituitary

Activity B
1. The figure shows the central nervous system.
2. The functions of each component of the central nervous system are the cortex, the subcortex, and the reticular activating system (RAS). The cortex is considered the higher functioning portion of the brain. It enables people to think abstractly, use and understand language, accumulate and store memories, and make decisions about information received. The cortex also influences other primitive areas of the brain located in the subcortex.

The subcortical structures are primarily responsible for regulating and maintaining physiologic activities that promote survival. Examples include regulation of breathing, heart contraction, blood pressure, body temperature, sleep, appetite, and stimulation and inhibition of hormone production.

The RAS, an area of the brain through which a network of nerves passes, is the communication link between body and mind. Information about a person’s internal and external environment is funneled through the RAS to the cortex on both conscious and unconscious levels. The cortex processes the information and generates behavioral and physiologic responses via activation by the hypothalamus.

Activity C
1. B
2. C
3. A

Activity D

LWBK1057-Ans-p1-101.indd   12
19/01/12   1:28 AM
Activity E

1. **Sympathetic Nervous System**  | **Parasympathetic Nervous System**  
---|---
The sympathetic nervous system prepares the body for fight or flight when a situation occurs that the mind perceives as dangerous.  | The parasympathetic nervous system restores equilibrium after danger is no longer apparent.  
It accelerates the physiologic functions that ensure survival through enhanced strength or rapid escape.  | It inhibits the physiologic stimulation created by the sympathetic nervous system.  
An example in which the sympathetic nervous system takes precedence is the increase of blood pressure and heartbeat when a person is faced with a dangerous situation.  | An example in which the parasympathetic nervous system takes precedence is when animals being chased by predators simulate the appearance of death to save their lives.  

2. A feedback loop is the mechanism for controlling hormone production. Feedback can be negative or positive.

3. When internal or external changes overwhelm homeostatic adaptation, stress results. Stress is the physiologic and behavioral responses to disequilibrium. It has physical, emotional, and cognitive effects.

4. The three stages of stress are the alarm stage, the stage of resistance, and stage of exhaustion. During the alarm stage, at the immediate onset of a stress response, storage vesicles within the sympathetic nervous system neurons rapidly release norepinephrine. Shortly thereafter, the adrenal glands secrete additional norepinephrine and epinephrine. These stimulating neurotransmitters and neurohormones prepare the person for a fight-or-flight response. Almost simultaneously, the hypothalamus releases corticotropin-releasing factor, which triggers the pituitary gland to secrete adrenocorticotropic hormone. The result is the release of cortisol, a stress hormone, from the adrenal cortex. Cortisol plays various important roles in responding to a stressor, such as raising blood glucose as a reserve for meeting increased energy requirements.

The stage of resistance is characterized by restoration to normalcy. Neuroendocrine hormones, although temporarily excessive, endeavor to compensate for the physiologic changes of the alarm stage. The usual outcome is a return to homeostasis. If stress is protracted, however, resistance efforts remain activated. Consequently, one or more organs or physiologic processes may eventually lead to increased vulnerability for stress-related disorders or progression to the stage of exhaustion.

Physiologic exhaustion occurs when one or more adaptive/resistive mechanisms can no longer protect the person experiencing a stressor. The once-beneficial mechanisms now become destructive. For example, the effects of stress-related neurohormones suppress the immune system. As a result, there are reduced natural killer cells, which attack viruses and cancer cells, and decreased secretory immunoglobulin A, an antibody involved in immune defense. These changes put the person at risk for frequent or severe infections or cancer. Additional disruptions to other organs include reduced beneficial bowel microorganisms and increased bowel pathogens. As resistance dwindles, there is physical and mental deterioration, illness, and death.

5. Coping strategies are stress-reducing activities selected consciously that help people deal with stress-provoking events or situations. They can be therapeutic and non-therapeutic. Therapeutic coping strategies usually help the person to acquire insight, gain confidence to confront reality, and develop emotional maturity. Examples of coping strategies include seeking professional assistance in a crisis, using problem-solving techniques, demonstrating assertive behavior, practicing progressive relaxation, and turning to a comforting other or higher power. Maladaptation results when people use non-therapeutic coping strategies such as mind- and mood-altering substances, hostility and aggression, excessive sleep, avoidance of conflict, and abandonment of social activities.

6. Stress-related illness can be prevented or minimized at three levels. Primary prevention involves eliminating the potential for illness before it occurs. An example is teaching principles of nutrition and methods to maintain normal weight and blood pressure to adolescents. Secondary prevention includes screening for risk factors and providing a means for early diagnosis of disease. An example is regularly measuring the blood pressure of a client with a family history of hypertension. Tertiary prevention minimizes the consequences of a disorder through aggressive rehabilitation or appropriate management of the disease. An example is frequently turning, positioning, and exercising a client who has had a stroke to help restore functional ability.
SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. The nurse should implement stress reduction and management techniques, and promote the client’s physiologic adaptive responses.
2. The nurse should ensure that the client understands all stress-related health problems. The nurse should take care when communicating with the client and explain the principles of nutrition and methods to maintain normal weight and blood pressure to the client. The nurse should also regularly measure the blood sugar of the client if he has a family history of hypertension.

SECTION IV: PRACTICING FOR NCLEX

Activity H
1. b  
**RATIONALE:** The primary level of stress prevention involves eliminating the potential for illness before it occurs. The nurse, in this case, teaches the client the methods to maintain normal blood pressure to rule out the probability of disease. Monitoring the client’s blood pressure, and prescribing diet, exercise, and medicines are techniques for secondary and tertiary prevention.

2. a  
**RATIONALE:** Alternative thinking techniques facilitate a change in a person’s perceptions from negative to positive thinking and help reframe a situation. Reframing helps a person to analyze a stressful situation from various perspectives and ultimately conclude that the situation is not as bad as it once seemed. Alternative behavior helps a person take actions to control a stressful situation. Alternative lifestyles and adaptive activities help a person adopt different lifestyles and take part in activities such as exercise to come out of a stressful situation.

3. a  
**RATIONALE:** The secondary level of stress prevention includes screening for risk factors and providing a means for early diagnosis of disease. The nurse, in this case, monitors the client’s blood pressure regularly to diagnose the disease early. Teaching the client the methods to maintain normal blood pressure, to rule out the probability of disease, is primary prevention. Prescribing diet, exercise, and medicines are techniques for tertiary prevention.

4. a  
**RATIONALE:** The client is resorting to non-therapeutic coping strategies to deal with his stress. This has resulted in maladaptation, and the client’s mood is altering. Therapeutic coping strategies usually help a person to acquire insight and maturity. Coping mechanisms are unconscious tactics to defend the ego.

5. b  
**RATIONALE:** Alternative behavior helps a person take actions to control a stressful situation. The nurse advises the client to adopt an alternative behavior by interacting with supportive people and taking control of the situation. Alternative lifestyles and adaptive activities help a person adopt different lifestyles and take part in activities such as exercise to come out of a stressful situation. Alternative thinking techniques facilitate a change in a person’s perceptions, from negative to positive thinking, and helps reframe a situation.

6. b  
**RATIONALE:** The nurse should know that serotonin stabilizes mood, induces sleep, and regulates temperature. This would help the client with insomnia. Norepinephrine heightens arousal and increases energy, dopamine promotes coordinated movement, and endorphins help relieve pain.

7. a  
**RATIONALE:** Body massages trigger the release of endorphins, which help relieve pain and promote a sense of well-being. The release of acetylcholine promotes coordinated movement, whereas gamma-aminobutyric acid inhibits the excitatory neurotransmitters. Substance P, when released, transmits the pain sensation in the body.

8. c  
**RATIONALE:** The nurse should advise the client to adopt alternative behavior and be more assertive at the workplace. Changing her job or accepting her current situation will not help her cope with stress. Only changing her behavior will help her cope with all problematic situations. The client could undergo therapy, but that would not reduce the stress immediately.

9. b  
**RATIONALE:** The boy is in a state of alarm after the death of his mother, which explains the high blood pressure and irregular heart beat. The stages
of resistance and exhaustion are the next stages of stress, during which the body tries to cope with stress and reach a stage of homeostasis. The boy has yet to reach homeostasis at this point.

10. a
RATIONALE: Therapeutic intervention would be most effective for the client whose spouse has died, because the client needs emotional support. For the other situations, the client can adapt himself to his new surroundings and also try to come out of stress by trying to make changes in his living arrangements, get a new job, and improve his financial situation.

11. c
RATIONALE: Because the elderly client is lonely after losing his spouse, he has gone into depression as a result of his loneliness. By advising him to get a pet for company and listing to uplifting music, the nurse is advising the client to adopt an alternative lifestyle. If the nurse needed to change the client’s perception of the situation, she would have advised an alternative way of thinking. If she wanted the client to take control of his life, she would have advised the client to alter his behavior or perform adaptive activities.

12. d
RATIONALE: The first task that the nurse needs to do is to understand why the client is stressed. Only after analyzing the causes for stress should the nurse attempt to treat the client by administering medicines and implementing therapy.

13. a
RATIONALE: The client has been in a state of stress for a long time and has already gone through the alarm and resistance stages of stress. The client is now in the exhaustion stage of stress, during which the effects of stress-related neurohormones suppress the immune system. However, the client is not in a state of homeostasis or balance.

14. a, c, d
RATIONALE: Stress reduction and management techniques include undergoing therapies, adopting alternative behavior and lifestyles, and stimulating the senses. All these help in reducing stress in a person. Advising the client to accept his duties and situations and to take medication to counter stress would not help the client to reduce his stress levels.

15. c, b, e, a, d
RATIONALE: The first task that the nurse needs to perform is to identify the factors that are causing stress to the client. The nurse then needs to identify how the client responds to the stress and try to reduce or eliminate the stressors. The nurse should then prevent other stressors and advise the client to follow stress reduction and stress management techniques.

16. b, c, a, e, d
RATIONALE: At the immediate onset of the alarm stage of stress, the storage vesicles within the sym pathetic nervous system neurons rapidly release norepinephrine. Shortly thereafter, the adrenal glands secrete additional norepinephrine and epinephrine. These stimulating neurotransmitters and neurohormones prepare the person for a fight-or-flight response. Almost simultaneously, the hypothalamus releases corticotropin-releasing factor, which triggers the pituitary gland to secrete adrenocorticotropic hormone. The result is the release of cortisol, a stress hormone, from the adrenal cortex.

CHAPTER 6

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Minority
2. Mediterranean
3. Subcultures
4. Generalization
5. Ethnocentrism
6. Lactase
7. Folk
8. Shaman
9. Hyperpigmentation
10. Bilingualism

Activity B
1. The figure shows a keloid (irregular, elevated, thick scars).
2. Keloids (irregular, elevated, thick scars) are common among dark-skinned people. They are thought to form from a genetic tendency to produce excessive transforming growth factor beta, a substance that promotes fibroblast proliferation during tissue repair.

Activity C

Activity D
1. Culture refers to the values, beliefs, and practices of a particular group. It incorporates the attitudes and customs learned through socialization with others. It includes, but is not limited to, language, communication style, traditions, religion, art, music, dress, health beliefs, and health practices. A group’s culture is passed from one generation to the next.
2. The term minority is used when referring to those people who, collectively, differ from the dominant group in terms of cultural characteristics such as language, physical characteristics like skin color, or both. Minority does not necessarily imply that there are fewer group members in comparison with others in the society. Rather, it refers to the group’s status in regard to power and control.
3. Generalization is the supposition that a person shares cultural characteristics with others of a similar background. Generalization is different from stereotyping. Stereotyping is a negative attitude that prevents a person from seeing and treating another person as unique, whereas generalizing suggests possible commonalities that may or may not be individually valid. Assuming that all people who affiliate themselves with a particular group behave alike or hold the same beliefs is always incorrect. Diversity exists even within cultural groups.

4. Ethnocentrism, the belief that one’s own ethnicity is superior to all others, also interferes with intercultural relationships. Ethnocentrism is manifested by treating anyone “different” as deviant and undesirable. This form of cultural intolerance was the basis for the Holocaust, during which the Nazis attempted to carry out genocide, the planned extinction of an entire ethnic group. Ethnocentrism continues to play a role in the ethnic rivalries between Shiites, Sunnis, and Kurds in Iraq; Arabs and Jews in the Middle East; Tutsis and Hutus in East Central Africa; Islamic Arabs in the Sudan; indigenous African tribes in Darfur; and other regions where culturally diverse groups live in close proximity.

5. There are four major subcultures that exist in the United States. In addition to Anglo-Americans, there are African Americans, Latinos, Asian Americans, and Native Americans. The term African Americans is used to identify those whose ancestral origin is Africa. It is sometimes used interchangeably with black Americans. Latinos are sometimes referred to as Hispanics, a term coined by the U.S. Census Bureau, or Chicanos when speaking of people from Mexico. Asian Americans are those who come from China, Japan, Korea, the Philippines, Thailand, Cambodia, Laos, and Vietnam; these make up the third subculture. Native Americans are from Indian nations found in North America, including the Eskimos and Aleuts. They include approximately 2.3 million American Indians and Alaskan natives belonging to 545 federally recognized tribes in the United States.

---

**Activity E**

\[
\begin{array}{cccccc}
C & E & L & U & C & T \_ \_ \\
A & R & H & A & T & A & N & C & I & N & I & E \\
N & D & C & O & E & I & S & P & I & R & I & T & U & L & O & Y
\end{array}
\]

---

**SECTION III: APPLYING YOUR KNOWLEDGE**

**Activity G**

1. The nurse should keep the following points in mind while interviewing the client:
   - Native Americans tend to be private and may hesitate to share personal information with strangers. They may interpret questioning as prying or meddling.
   - The nurse should be patient when awaiting an answer and listen carefully, because people of this culture may consider impatience disrespectful.
   - Because Native Americans traditionally preserved their heritage through oral rather than written history, they may be skeptical of nurses who write down what they say. If possible, the nurse should write notes after, rather than during, the interview.
   - Native Americans believe that lingering eye contact is an invasion of privacy or a sign of disrespect.

2. The nurse can demonstrate culturally sensitive nursing care by applying the following recommendations:
   - Learn to speak a second language.
   - Use culturally sensitive techniques to improve interactions such as sitting in the client's comfort zone and making appropriate eye contact.
   - Become familiar with physical differences among ethnic groups.
   - Perform physical assessments, especially of the skin, using techniques that provide accurate data.
   - Learn or ask clients about cultural beliefs concerning health, illness, and techniques for healing.
   - Consult the client on ways to solve health problems.
   - Never verbally or non-verbally ridicule a cultural belief or practice.
   - Integrate helpful or harmless cultural practices within the plan of care.
   - Modify or gradually change unsafe practices.
   - Avoid removing religious medals or clothes that hold symbolic meaning for the client. If they must be removed, keep them safe and replace them as soon as possible.
   - Provide customarily eaten food.
   - Advocate routine screening for diseases to which clients are genetically or culturally prone.
   - Facilitate rituals by a person the client identifies as a healer within his or her belief system.
   - Apologize if cultural traditions or beliefs are violated.
SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b  
RATIONALE: While interviewing the Latino client, the nurse should go slowly when asking questions because many Latinos have difficulty with English, and they may be embarrassed to stop the nurse and ask her to repeat herself. The nurse may sit close to the client if the client is comfortable with it. The nurse should not use too much medical terminology, because the client may face problems understanding it. Latino men may be poor at emotionally expressing themselves because of their cultural beliefs.

2. c  
RATIONALE: Keeping in mind that Asian Americans feel threatened by physical closeness, the nurse should explain to the client the purpose of her care and her physical closeness, which should not be mistaken as a threat. The nurse should not leave the client if the client feels uneasy. Leaving the room without any explanation would make the client more uneasy. The nurse should not instruct the client to feed himself, because he is not capable of doing it alone.

3. d  
RATIONALE: The nurse should ask the client to use non-dairy creamers, which are lactose free, instead of cream. The nurse could ask the client to drink LactAid, because lactose is preconverted into other absorbable sugars in this product. The nurse should also suggest the client use kosher food, which can be identified by the word pareve on the label. The client should avoid having milk, dairy products, and packaged food such as bread, cereals, puddings, chocolate, and caramels that have milk as one of the ingredients in it.

4. b  
RATIONALE: The nurse should consider it normal in a dark-skinned person. The brown discoloration is the result of shedding of the dead skin. The client does not need to be bathed again. It is not a sign of poor hygiene, so educating the client about personal hygiene is not appropriate. Brown discoloration is not a sign of a disease condition.

5. d  
RATIONALE: The nurse should consider the dark-blue spots on the lower back of the child normal in this ethnicity. These spots are called Mongolian spots and are hyperpigmented areas on the lower back of the infant. Informing the police is not appropriate, because the spots are not a sign of injury or abuse. They also do not need to be shown to the physician. Mongolian spots will not produce pain when pressure is applied.

6. a  
RATIONALE: The symptoms experienced by the client indicate a lactase deficiency. A lactase deficiency causes intolerance to dairy products. G-6-PD is an enzyme that helps red blood cells to metabolize glucose. When a person consumes alcohol, a process of chemical reactions involving enzymes, one of which is ADH, eventually breaks down the alcohol into acetic acid and carbon dioxide. The symptoms of the client are not thyroid deficiency.

7. c  
RATIONALE: The nurse should consider keloids normal in dark-skinned people. Keloids are irregular, elevated, thick scars found commonly among dark-skinned clients. They are thought to form from a genetic tendency to produce excessive transforming growth factor beta, a substance that promotes fibroblast proliferation during tissue repair. The nurse should not consider it pathologic or inform the physician about it. Ordering a biochemical test is not relevant in this case.

8. a, b, e  
RATIONALE: The male nurse should provide an explanation to the client to relieve the client’s anxiety. The nurse may seek permission from the client’s husband and allow him to be present in the room during the procedure. This act may alleviate the insecurity of the client and her husband. Keeping a female attendant in the room may not be liked by the client, because she may not want to expose her body in front of others. Instructing the husband to do the procedure is not an appropriate option because it does not ensure the correctness of the procedure.

9. a, b, c  
RATIONALE: African American clients have been victims of discrimination. Therefore, to make the client comfortable the nurse should address clients by their last names and follow up thoroughly with requests. The nurse should respect the client’s privacy and not maintain eye contact during communication. African Americans believe that lingering eye contact is an invasion of privacy or a sign of disrespect. The nurse should ask open-ended rather than direct questions until trust has been established with the client.

10. b, c, d  
RATIONALE: To comb the curly hair of an African American client, the nurse should use a wide-toothed comb or pick. The nurse should apply a moisturizing cream or gel or can wet the hair with water before combing. It makes combing easy and the hair more manageable. However, asking the client to assist the nurse to comb her hair or letting the hair remain in its current state is unethical on the nurse’s part.
CHAPTER 7

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Relationship
2. Empathy
3. Collaborator
4. Delegator
5. Therapeutic
6. Introductory
7. Non-verbal
8. Paralanguage
9. Listening
10. Terminating

Activity B
1. Therapeutic verbal communication refers to using words and gestures to accomplish a particular objective. It is extremely important, especially when the nurse is exploring problems with the client or encouraging expression of feelings.
2. Active listening is as important during communication as speaking. Giving attention to what clients say provides a stimulus for meaningful interaction. It is important to avoid giving signals that indicate boredom, impatience, or the pretense of listening. For example, looking out a window or interrupting is a sign of disinterest. When communicating with most people, it is best to position oneself at the person's level and make frequent eye contact unless their culture dictates otherwise.

Activity C
1. B
2. E
3. D
4. C
5. A

Activity D
1 → 4 → 3 → 2

Activity E
1. In providing effective care to the client, the nurse performs four basic roles: caregiver, educator, collaborator, and delegator. A caregiver is one who performs health-related activities that a sick person cannot perform independently. Caregivers provide physical and emotional services to restore or maintain functional independence. Being an educator is a necessity in today's complex health care arena. Nurses provide health teaching pertinent to each client's needs and knowledge base. The nurse also acts as a collaborator. The most obvious example of collaboration occurs between the nurse responsible for managing care and those to whom he or she delegates care. Before the nurse performs the role of delegator, he or she must know what tasks are legal and appropriate for particular health care workers to perform.
2. The nurse–client relationship can also be called a therapeutic relationship because the desired outcome of the association is almost always moving toward restored health. A therapeutic relationship is client centered, with a focus on goal achievement. It is also time limited; the relationship ends when goals are achieved.
3. Nurse–client relationships are ordinarily brief. They begin when people seek services that will maintain or restore health, or prevent disease. They end when clients can achieve their health-related goals independently. This type of relationship generally is described as having three phases: introductory, working, and terminating.
4. Many factors affect the ability to communicate by speech or in writing. Examples include the following:
   • Attention and concentration
   • Language compatibility
   • Verbal skills
   • Hearing and visual acuity
   • Motor functions involving the throat, tongue, and teeth
   • Sensory distractions
   • Interpersonal attitudes
   • Literacy
   • Cultural similarities
5. Non-verbal communication is the exchange of information without using words. It involves what is not said. The manner in which a person conveys verbal information affects its meaning. A person has less control over non-verbal than over verbal communication. Words can be chosen with care, but a facial expression is harder to control. As a result, people often communicate messages more accurately through non-verbal communication.

Activity F

INTRODUCTORY

KRIENG

PROXEMICS

TVV

SILENCE

CRRA

BAL
SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The client is grieving at the loss of his limb and is emotionally unstable. At this stage, the best nursing response is to allow the client to express his emotions. It is never appropriate to probe and pry; rather, it may be advantageous to wait and be patient. If the client is angry and crying, allow the client to display his feelings without fear of retaliation or censure; this contributes to a therapeutic relationship. It is not unusual for reticent clients to share their feelings and concerns after they conclude that the nurse is sincere and trustworthy.

2. The nurse should help the client deal with the loss of his limb. The nurse may show him other clients who have lost limbs to diabetes and are still optimistic (support groups). The nurse could show the client various kinds of prostheses if he wishes to have one.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b

RATIONALE: A client who is recovering from a cerebrovascular accident has many limitations of activity and resultant dependency, which could make the client angry and irritable. The nurse should use supportive statements to keep the client going. Ignoring the client’s behavior may be disregarding his feelings. Increasing family visits likewise may not be a good idea, because the family is also grieving and their visits would again de-motivate the client. It is non-therapeutic to boast about the nurse’s contribution.

2. d

RATIONALE: The nurse should ask the client if he is feeling tired and frustrated with the recovery from surgery. The nurse should show empathy toward the client and encourage him to verbalize his feelings. It helps the client to express his feelings, which leads to problem solving. The nurse should not show her disapproval by telling him that he would keep on vomiting if he does not insert the tube. By suggesting calling the physician, the nurse seems to be defensive, which blocks therapeutic communication. Telling the client that he would feel better with a nasogastric tube is giving false reassurance. All these are barriers to effective communication.

3. c

RATIONALE: The nurse uses therapeutic communication to encourage the client to express his feelings. The nurse listens to the client and uses clarifying and focusing to assist the client in expressing feelings. The nurse should not give false reassurance by stating that he may improve with surgery. Additionally, the nurse should not try to relate the client’s condition to another client’s condition. By suggesting calling the physician, the nurse seems to be defensive, which blocks therapeutic communication.

4. a

RATIONALE: Asking the parents first to read the pamphlet and then to ask questions if they have any doubts would be the most appropriate response because it enables the parents to become informed and then make their decision. The nurse should provide appropriate materials and answer their questions. The nurse should not give her personal opinion by saying that the physician is the best person to help, and then describing her own experience.

5. c

RATIONALE: The nurse should address the parents’ feelings and encourage them to verbalize their feelings of anxiety. Telling the parents about the baby’s condition may generate anxiety in the parents. Also, talking about the highly specialized equipment in the nursing unit is inappropriate and may block further communication. Finally, the nurse should not generalize by saying that the condition is common in babies.

6. d

RATIONALE: The nurse should gain the group’s confidence by conveying the rule of confidentiality, which helps the nurse to develop a trusting relationship. Giving a formal introduction may not generate interest in the group. Filling out a survey questionnaire at the end of the session would not be an incentive for the group to attend the session. Telling the group that they may share their experience will indicate that there is no confidence of the discussion and may not encourage students to participate.

7. b

RATIONALE: The nurse’s response should reflect the client’s feelings to provide him insight to his condition. For this, the nurse asks open-ended questions to encourage the client to explain and explore his feelings. Reflection is one of the therapeutic communication techniques. The nurse should try to divert the client’s attention from the family. The nurse should not be judgmental and tell the client that he is pessimistic; doing so would negatively affect the therapeutic relationship. Asking the client to share his feelings with the family may not be appropriate at this time.

8. b

RATIONALE: The nurse should ask the client whether he wants to speak to his physician. The nurse uses reflection to validate the client’s remarks and focus on the client’s desire to talk to the physician. The nurse should not get angry at the client, because this is a non-therapeutic response. Telling the client that the physician has placed the client in the nurse’s care would reinforce the client’s behavior.
9. a  
**RATIONALE:** The nurse’s response should be open-ended so that it gives scope to the client to verbalize and express her feelings. The client may then elaborate on what she said. Telling the client that she always does right and everything will be good will block the communication and stop the conversation. This would not encourage the client to explore further.

10. b  
**RATIONALE:** Asking the client what he means would be the most appropriate way to assess the client’s further thoughts. It would be helpful to the client to share his personal thoughts. The nurse should avoid giving false reassurance, which is inappropriate and puts an end to the communication. Also, the nurse should avoid closed-ended questions, which have little role in facilitating communication.

11. d  
**RATIONALE:** The nurse should encourage the mother to speak by asking open-ended questions and providing an opportunity for the mother to express her feelings. The nurse should avoid giving false reassurance that a seizure will not occur and can be prevented. Telling the mother not to worry may block further communication.

12. b  
**RATIONALE:** The nurse should explore whether the client feels comfortable talking to the physician. The nurse should not sound accusing or irritated because it may hinder further communications if the nurse disagrees with the client.

13. a  
**RATIONALE:** The nurse should facilitate communication by asking open-ended questions and encouraging the client to discuss his concerns and feelings. Unnecessary reasoning and complimenting may block communication, thus preventing problem solving.

14. c  
**RATIONALE:** By commenting that the client sounds discouraged, the nurse may encourage the client to talk. The nurse uses reflection technique on the client to help him evaluate himself. The nurse should encourage further expression of emotions. Additionally, the nurse should not give false reassurance. By asking the client what he was thinking, the nurse may sound demanding and the client may not express his feelings. The nurse should avoid statements that devalue the client’s concerns.

15. b  
**RATIONALE:** Asking the client if she is worried that the disease condition would extend into the wedding is the most appropriate statement and encourages the client to express her concerns and feelings. This is an example of therapeutic communication. The nurse should not make promises that cannot be kept. Telling the client that the disease condition could be the result of pre-wedding tension is correct, but inappropriate at this time.

---

**CHAPTER 8**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Motivation  
2. Dietary  
3. Literacy  
4. Individualized  
5. Readiness  
6. Learning  
7. Informal  
8. Age  
9. Net  
10. Functionally

**Activity B**

1. The figure describes the cognitive domain. The cognitive domain is a style of processing information by listening or reading facts and descriptions.

2. There are three styles of learning, including the cognitive domain. The other two styles are the affective domain, which is a style of processing that appeal to a person’s feelings, beliefs, or values; and the psychomotor domain, which is a style of processing that focuses on learning by doing.

**Activity C**

1. C  
2. A  
3. B

**Activity D**

```
5 -> 3 -> 4 -> 1 -> 2
```

**Activity E**

1. The four stages of learning are
   - Recognition of what’s been taught
   - Recall or description of information to others
   - Explanation or application of information
   - Independent use of new learning

2. To implement effective teaching, the nurse should determine the client’s
   - Preferred learning style
   - Age and developmental level
   - Capacity to learn
   - Motivation
   - Learning readiness
   - Learning needs

3. Learning styles mean how a person prefers to acquire knowledge. Learning styles fall within three general domains: cognitive, affective, and psychomotor. The cognitive domain is a style of processing information by listening or reading facts and descriptions. The affective domain is a style of processing that appeals to a person’s feelings, beliefs, or
values. The psychomotor domain is a style of processing that focuses on learning by doing.

4. There are three major categories of teaching learners of different age groups: pedagogy, androgogy, and gerogy. Pedagogy is the science of teaching children or those with a cognitive ability comparable with children. Androgogy includes the principles of teaching adult learners. Gerogy includes the techniques that enhance learning among older adults.

5. There are three types of age groups: Generation X, Generation Y, and Net Generation. Generation X refers to those born between 1961 and 1981. Generation Y refers to young adults who graduated from college during the late 1990s. The Net Generation refers to those born after 1981. They are also called cyberkids. These groups share many of the following learning characteristics:
   - They are technologically literate, having grown up with computers.
   - They crave stimulation and quick responses.
   - They expect immediate answers and feedback.
   - They become bored with memorizing information and doing repetitive tasks.
   - They like a variety of instructional methods from which they can choose.
   - They respond best when they find the information to be relevant.
   - They prefer visualizations, simulations, and other methods of participatory learning.

6. Functionally illiterate people possess minimal literacy skills, which means they can sign their name and perform simple mathematical tasks (e.g., make change) but read at or below a ninth-grade level. For example, functionally illiterate people are those who cannot comprehend written instructions on prescription bottles and who are less likely to use screening procedures, follow medical regimens, keep appointments, or seek help early during the course of a disease. Functional illiteracy may be the consequence of a learning disability, not a below-average intellectual capacity.

Activity F

<table>
<thead>
<tr>
<th>FORMAL</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>ILLITERATE</td>
<td>O R</td>
</tr>
<tr>
<td>PEDAGOGY</td>
<td>K O</td>
</tr>
<tr>
<td>GEROGOGY</td>
<td>G D</td>
</tr>
</tbody>
</table>

Activity G

SECTION III: APPLYING YOUR KNOWLEDGE

**Activity G**

1. Nurses can ask the following questions to assess the learning needs of the client:
   - What does being healthy mean to you?
   - What things in your life interfere with being healthy?
   - What don’t you understand as fully as you would like?
   - What activities do you need help with?
   - What do you hope to accomplish before being discharged?
   - How can we help you at this time?

2. Providing the client with adequate support materials, encouraging the client to self-administer the medications, and providing tips to the client for applying knowledge are good practices to be followed to ensure that the health teaching is complete before the discharge of the client.

Activity H

SECTION IV: PRACTICING FOR NCLEX

**Activity H**

1. a
   **RATIONALE:** Because the nurse helps the client in self-administration of medications, the client is made to learn a task by performing it. By giving the client a pamphlet to clear nasal debris, or showing how to measure body temperature, or explaining to the client how to use a nebulizer, the nurse is not making the client perform the task to learn the correct way of doing it.

2. b
   **RATIONALE:** The affective domain is a style of processing that appeals to a person’s feelings, beliefs, or values and therefore will be most effective because the client is low on motivation and feeling that he cannot be cured. The cognitive domain is a style of processing information by listening or reading facts and descriptions. The psychomotor domain is a style of processing that focuses on learning by doing. The interpersonal domain is a style of processing that focuses on learning through social relationships. These learning styles will not suit this client.

3. a
   **RATIONALE:** The cognitive domain is a style of processing information by watching, listening, or reading facts and descriptions, and will be most effective for the client who likes watching videos and demonstrations and is an avid reader. The affective, psychomotor, and interpersonal domains would not be suitable learning styles for this client. The affective domain is a style of processing that appeals to a person’s feelings, beliefs, or values. The psychomotor domain is a style of processing that focuses on learning by doing. The interpersonal domain is a style of processing that focuses on learning through social relationships.
4. c  
**RATIONALE:** Teaching the client the self-administration of insulin is a part of the psychomotor domain, which is a style of processing that focuses on learning by doing. The cognitive domain is a style of processing information by listening or reading facts and descriptions. The affective domain is a style of processing that appeals to a person’s feelings, beliefs, or values. The interpersonal domain is a style of processing that focuses on learning through social relationships.

5. b  
**RATIONALE:** A child will be more interested if the nurse uses colorful materials while teaching. Showing enthusiasm, varying tone and pitch, and using the client’s name frequently are helpful but are more effective for adult clients than children.

6. d  
**RATIONALE:** Assessing previous learning and literacy abilities is helpful in teaching an adult client. Limiting the teaching session to no longer than 15 to 20 minutes and offering praise and encouragement for accomplishments helps in teaching children. Focusing attention is a method that is helpful for older clients.

7. b  
**RATIONALE:** For an older client, the teaching session should be implemented when the client is most alert and comfortable. Involving the client helps more for a child or younger adult learners. Using diagrams is best suited for children; motivation helps a young adult client to learn.

8. a  
**RATIONALE:** Large print will help the client to read the pamphlets without stressing his eyes. Do not speak in a louder tone unless the client has a hearing impairment. Using flash cards is more helpful to a client with sensory impairment, and select black print on white paper for clarity instead of red print on white paper.

9. c  
**RATIONALE:** Learning that builds from simple to complex is the best. So when teaching an adult client, the nurse should begin from the basic concepts. Collaborating with the client on content and dividing information into manageable amounts are actions to be performed during the planning phase. Determining the client’s learning style should be done at the beginning, before implementing the teaching.

10. c  
**RATIONALE:** It is better to involve the client actively by encouraging feedback and handling of equipment because adult learners prefer active rather than passive learning situations. This takes place when the teaching is implemented. Assessment, planning, and evaluation do not include this involvement.

11. b  
**RATIONALE:** The affective domain is a style of processing that appeals to a person’s feelings, beliefs, or values, and contains supporting, accepting, refusing, and defending. The cognitive domain is a style of processing information by listening or reading facts and descriptions. The psychomotor domain is a style of processing that focuses on learning by doing. The interpersonal domain is a style of processing that focuses on learning through social relationships. The client’s behavior indicates that he does not fall into any of these learning styles.

12. a  
**RATIONALE:** The client in this case is a child. Children respond better when they are praised and rewarded for accomplishments. Adults, elderly adults, and those of the Net Generation are more concerned about the relevance of information than being rewarded and praised.

13. a  
**RATIONALE:** In general, these groups share learning characteristics, such as they crave stimulation and quick responses, they become bored with memorizing information and doing repetitive tasks, they like a variety of instructional methods from which they can choose, and they prefer visualizations, simulations, and other methods of participatory learning.

14. c  
**RATIONALE:** The client is in an older adult. In older adults, attention is affected by low energy level, fatigue, and anxiety. Children have a short attention span; however, adults and those of the Net Generation tend to have longer attention spans.

15. d  
**RATIONALE:** Asking the client about her needs and what she wishes to accomplish after the training helps the nurse to assess the learning needs of the client. The preferred learning style, capacity to learn, and learning readiness cannot be determined by knowing what the client hopes to accomplish at the end of the training.

16. a, c, d  
**RATIONALE:** A pedagogic learner lacks experience, prefers rote learning, and responds to competition. An androgogic learner is physically mature whereas a gerogogic learner is a crisis learner.

17. a, b, d  
**RATIONALE:** A gerogogic learner has vast experience, has self-centered learning, and responds to family encouragement. A pedagogic learner needs direction and supervision, and an androgogic learner has long-term retention.

18. b, e f  
**RATIONALE:** An androgogic learner prefers simulation, is physically mature, and has long-term retention. A gerogogic learner has vast experience and responds to family encouragement. A pedagogic learner needs direction and support.
19. b, e, f

**RATIONALE:** Young clients have short attention spans; therefore, they learn better during short sessions instead of long ones. Using colorful materials and offering praise and encouragement for accomplishments will motivate them and keep them interested. Assessing their previous learning, being enthusiastic, varying tone and pitch, and addressing the client frequently will help in teaching adults.

**CHAPTER 9**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Narrative
2. Computerized
3. Military
4. Abnormal
5. Health
6. Reimbursement
7. Focus
8. Checklists
9. Beneficial
10. Encrypted

**Activity B**

1. The figure shows nurses exchanging reports on their clients during a change of shift.
2. A change-of-shift report is a discussion between a nursing spokesperson from the shift that is ending and personnel coming on duty. It includes a summary of each client’s condition and current status of care. This helps the nurse on the next shift to provide uninterrupted care to their clients.

**Activity C**


**Activity D**

![Diagram]

**Activity E**

1. Medical records are written collections of information about a person’s health, the care provided by health practitioners, and the client’s progress. They also are referred to as health records or client records. Besides serving as a permanent health record, the medical record of a client provides a means of sharing information among health care workers, thus ensuring client safety and continuity of care. Occasionally, medical records are also used to investigate quality of care in a health agency, to demonstrate compliance with national accreditation standards, to promote reimbursement from insurance companies, to facilitate health education and research, and to provide evidence during malpractice lawsuits.

2. JCAHO requires the following documentation evidence to justify accreditation:
   - Initial assessment and reassessments of physical, psychological, social, environmental, and self-care; education; and discharge planning
   - Identification of nursing diagnoses or client needs
   - Planned nursing interventions or nursing standards of care for meeting the client’s nursing care needs
   - Nursing care provided
   - A client’s response to interventions and outcomes of care including pain management, discharge planning activities, and the client’s and/or significant other’s ability to manage continuing care needs

   If documentation is substandard, JCAHO may withdraw or withhold accreditation.

3. The medical record may consist of various agency-approved paper forms, or the forms may be stored on the hard drive of a computerized record. The hard-copy paper forms are placed in a chart (binder or folder that promotes the orderly collection, storage, and safekeeping of a person’s medical records). The paper forms in the chart are color coded or separated by tabbed sheets. Each person who writes in the client’s medical record is responsible for the information he or she records and can be summoned as a witness to testify concerning what has been written.

4. When documenting a medical record the following points should be kept in mind:
   - Each person who writes in the client’s medical record is responsible for the information he or she records and can be summoned as a witness to testify concerning what has been written.
   - Any writing that cannot be clearly read or that is vague, scribbled through, whited out, written over, or erased makes for a poor legal defense.

5. Although the medical record serves as an ongoing source of information about the client’s status, nurses use other methods of communication to promote continuity of care and collaboration among the health personnel involved in the client’s care. These methods are in written or verbal form. The written form of communication includes the nursing care plan, the nursing Kardex, checklists, and flow sheets. The verbal form includes change-of-shift reports, client assignments, team conferences, rounds, and telephone calls.
Activity F

FOCUS

A  H
B  E
C  B
R  K
E  L
V  I
I  S
A  U
D  I
T  O
R  X
P  E
N

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The nurse should ensure that confidential data on the computers are well protected. Some of the methods to ensure the protection of electronic data are

- Assigning an access number and password to authorized personnel who use a computer for health records. These are kept secret and are changed regularly.
- Using automatic save, using a screen saver, or returning to a menu if data have been displayed for a specific period.
- Issuing a plastic card or key that authorized personnel use to retrieve information.
- Locking out client information except to those who have been authorized through a fingerprint or voice activation device.
- Blocking the type of information that personnel in various departments can retrieve. For example, laboratory employees can obtain information from the medical orders, but they cannot view information in the client's personal history.
- Storing the time and location from which the client's record is accessed in case there is an allegation concerning a breach in confidentiality.
- Encrypting any client information transmitted via the Internet.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b

RATIONALE: The nurse is using the narrative charting method to record the medical records of the client. Narrative charting involves writing information about the client and client care in chronologic order, which resembles a log or journal. SOAP charting, PIE charting, or focus charting do not contain much written information or lengthy narratives. The SOAP charting method demonstrates interdisciplinary cooperation because everyone involved in the care of a client makes entries in the same location in the chart. Focus charting is a modified form of SOAP charting. The PIE charting style prompts the nurse to address specific content in a charted progress note.

2. a

RATIONALE: The nurse would need to enter the password to access the computerized medical record. Data are saved and password protected so that it is not easily accessible to everyone. The user name, employee ID, or name will not help the nurse to access the details from the computer.

3. a

RATIONALE: A medical record can be used without the client's permission for sharing information among the client's health care personnel. Medical records serve as a permanent health record, which also provide a means of sharing information among health care workers, thus ensuring client safety and continuity of care. A medical record cannot be used to share information with personnel involved in research, with the client's relatives, or insurance agencies without client's permission.

4. c

RATIONALE: The nursing Kardex is used to obtain information on the health care provided to clients and serves as legal evidence during malpractice lawsuits. The client's nurse, other staff, or the client's physician cannot serve as legal evidence for malpractice lawsuits.

5. b

RATIONALE: The nurse should check the client's medical records to determine when the last pain-relieving drug was administered. The nurse should not rely on the client's statement regarding the administration of the last dose of medication for pain. The nurse should not provide medication as requested by the client. The nurse cannot make a decision regarding the need for medication by checking for the severity of pain experienced by the client.

6. d

RATIONALE: JCAHO is a private association that has established criteria reflecting high standards for institutional health care. Representatives of JCAHO periodically inspect health care agencies to determine whether they demonstrate evidence of quality care. Representatives are not in the clinic to discuss any employee's health problem or to discuss the career growth plan of the staff. They are also not present to inspect the facilities. JCAHO representatives are present to inspect the quality of care given to the clients.
7. b  
**RATIONALE:** A health record is particularly useful for the client because it helps the client in verifying his or her health status. It also helps when he or she has to apply for an employment or disability application. Verifying care through quality assurance programs, meeting standards of care set by the government, and helping in providing safe and effective care helps the health care agency meet its regulatory requirements, not the client.

8. a  
**RATIONALE:** The reimbursement of medical expenses incurred by the client can be denied if health care personnel signatures are missing. The other possible reasons for refusal could be that the document was inconsistent or the expenses were undocumented. Sharing the documents with the family or researchers, or the presence of abbreviated instructions cannot be a reason to refuse reimbursement.

9. b  
**RATIONALE:** The client’s medical record has been organized in the source-oriented recording method. This type of record contains separate forms on which physicians, nurses, dietitians, physical therapists, and so on make written entries about their own specific activities in relation to the client’s care. The problem-oriented record is organized according to the client’s health problems. PIE charting is a method of recording the client’s progress under the headings of problem, intervention, and evaluation. Focus charting follows a DAR model.

10. a  
**RATIONALE:** The clinic is using the problem-oriented method to organize the data. The problem-oriented record is organized according to the client’s health problems. In this type of record, the information is compiled and arranged to emphasize goal-directed care, to promote recording of pertinent information, and to facilitate communication among health care professionals. In the source-oriented record, data are organized according to the source of documented information. Narrative charting involves writing information about the client and client care in chronologic order.

11. b  
**RATIONALE:** The nurse is using the SOAP charting method, in which everyone involved in the care of a client makes entries in the same location in the chart. Documentation following SOAP charting has four components. Narrative, focus, and PIE charting are not used in this case. Narrative charting involves writing information about the client and client care in chronologic order. Focus charting follows a DAR model, whereas PIE charting is a method of recording the client’s progress under the headings of problem, intervention, and evaluation.

12. a  
**RATIONALE:** When nurses use the PIE charting method, they document assessments on a separate form (not on one form) and give the client’s problem a corresponding number. They use the numbers subsequently in the progress notes when referring to interventions and the client’s responses. Problem-oriented records organize data according to the client’s health problems. The SOAP charting technique is used to make entries in the same location in the chart.

13. a, c, e  
**RATIONALE:** The health agency requires the identification of nursing diagnoses or client needs, planned nursing interventions or nursing standards of care for meeting the client’s nursing care needs, and client response to interventions and outcomes of care, including pain management, to justify accreditation. There is no fixed rule that the number of people working in the health agency should be more than 50. There is also no rule stating that the latest equipment should be used in the agency.

14. a, b, d, e  
**RATIONALE:** Computerized charting has many advantages, such as the information is always legible, it automatically records the date and time of the documentation, the abbreviations and terms are consistent with agency-approved lists, and it saves time because it eliminates delays in obtaining the chart. The major disadvantage includes the initial expense of purchasing a computer system. Electronic data also require less storage space and are quickly retrievable.

15. a  
**RATIONALE:** The abbreviation “a.c.” means before meals. The medication needs to be administered before the client eats a meal. The abbreviation “p.c.” means after meals, “p.o.” means by mouth, “HS” means hour of sleep or bedtime.

16. a  
**RATIONALE:** The traditional time is based on two 12-hour revolutions on a clock, which is identified with the hour and minute, followed by a.m. or p.m. The client, in this case, had his last medication at 1400 HR. To convert to traditional time, subtract 1200 HR from 1400 HR, which is 200 HR or 02:00 p.m. Converting 1400 HR to traditional time does not result in midnight, 04:00 p.m., or 01:40 p.m. Military time is based on 24-hour clock. It uses a different four-digit number for each hour and minute of the day. The first two digits indicate the hour within the 24-hour period and the last two digits indicate minutes.
CHAPTER 10

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Handwashing
2. Microorganisms
3. Non-pathogens
4. Fimbriae
5. Infections
6. Systemic
7. Cestodes
8. Acetic
9. Sterile

Activity B
AC
Cocci
B
Bacilli
Spirochetes

1. The figure shows round (cocci), rod-shaped (bacilli), and spiral (spirochetes) bacteria.
2. There are two types of bacteria. Aerobic bacteria require oxygen to live, whereas anaerobic bacteria exist without oxygen.
3. The chemical actions of antibacterials, which consist of antibiotics and sulfonamides, alter the metabolic processes of bacteria but not viruses. They damage or destroy bacterial cell walls or the mechanisms that bacteria need to grow. They also, however, destroy normal bacterial flora.

Activity C
1. D
2. C
3. E
4. B
5. A

Activity D
2 4 5 3 1 6

Activity E
1. Factors that cause infection or an infectious disease in the human body include:
   • The type and number of microorganism present in the body
   • The characteristics of the microorganism (such as its virulence)
   • The person’s state of health
2. There can be three types of viruses. Some can remain dormant in a human and reactivate sporadically, causing recurrence of an infectious disorder, such as herpes simplex virus. Some are minor and self-limiting, and terminate with or without medical treatment, such as the common cold. Some others are more serious or fatal, such as rabies, poliomyelitis, hepatitis, and AIDS.
3. Rickettsiae resemble bacteria. Like viruses, however, they cannot survive outside another living species. Consequently, an intermediate life form such as fleas, ticks, lice, or mites transmits rickettsial diseases to humans.
4. Protozoans are classified according to their ability to move. Some use ameboid motion, by which they extend their cell walls and their intracellular contents flow forward. Others move by cilia (hairlike projections) or flagella (whiplike appendages). Some cannot move independently at all.
5. Mycoplasmas lack a cell wall. They are referred to as pleomorphic because they assume various shapes.
6. Biologic defense mechanisms are anatomic or physiologic methods that stop microorganisms from causing an infectious disorder. The two types of biologic defense mechanisms are mechanical and chemical. Mechanical defense mechanisms are physical barriers that prevent microorganisms from entering the body or expel them before they multiply. Examples include intact skin and mucous membranes, reflexes such as sneezing and coughing, and infection-fighting blood cells called phagocytes or macrophages. Chemical defense mechanisms destroy or incapacitate microorganisms through natural biologic substances. Examples include lysozymes, gastric acid, and antibodies.

Activity F

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. To break the chain of infection, a nurse should acknowledge and follow the measures or principles of medical asepsis presented here:
   • Microorganisms exist everywhere except on sterilized equipment.
• Frequent handwashing and maintaining intact skin are the best methods for reducing the transmission of microorganisms.
• Blood, body fluids, cells, and tissues are considered major reservoirs of microorganisms.
• Personal protective equipment, such as gloves, gowns, masks, goggles, and hair and shoe covers, serves as a barrier to microbial transmission.
• A clean environment reduces microorganisms.
• Certain areas—the floor, toilets, and insides of sinks—are more contaminated than others; therefore, cleaning should be done from cleaner to dirtier areas.

2. Antimicrobial agents are chemicals that destroy or suppress the growth of infectious microorganisms.

3. The nurse should use antimicrobial agents such as antiseptics, disinfectants, and anti-infective drugs. Antiseptics, also known as bacteriostatic agents, inhibit the growth of but do not kill microorganisms. Some are also used as cleaning agents. Disinfectants, also called germicides and bactericides, destroy active microorganisms but not spores. They are used to kill and remove microorganisms from equipment, walls, and floors. Anti-infective drugs are used to combat infections.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b  
   RATIONALE: The nurse explains that the advantages of alcohol hand rubs are that they provide the fastest and greatest reduction in microbial counts on the skin. Other advantages include the fact that they are more accessible because they do not require sinks or water, which increases compliance because they are easier to perform, reduce cost by eliminating paper towels and waste management, and are less irritating and drying than soap because they contain emollients. Disinfectants destroy active microorganisms but not spores. Antivirals do not destroy the infecting viruses; rather, they control viral replication (copying) or release from the infected cells.

2. b  
   RATIONALE: When decontaminating with an alcohol-based hand rub, the nurse should apply about a nickel- to a quarter-size volume of the product to the palm of one hand or the amount recommended by the manufacturer. Dipping hands in the product for 15 seconds, applying anti-infection drugs to the product, or removing the product from the clean utility room are not proper interventions in the process of hand antisepsis.

3. c  
   RATIONALE: The nurse should suggest that the client avoid sharing soaps, towels, and washcloths with other family members. Antiseptics, also known as bacteriostatic agents, inhibit the growth of but do not kill microorganisms. There is no antiviral lotion available that will kill the microorganisms. Sterilized instruments are required at the time of treatment or operation, not during home care.

4. c  
   RATIONALE: The nurse should follow a surgical scrub because this medical aseptic practice is a type of skin and nail antisepsis that is performed prior to donning sterile gloves and garments when the nurse is actively involved in an operative or obstetric procedure. Handwashing involves scrubbing the hands with soap, water, and friction, whereas hand antisepsis means the removal and destruction of transient microorganisms without soap and water. Both of these are medical aseptic practices. However, a sterile technique is a surgical aseptic practice performed on medical equipment to avoid contaminating microbe-free items.

5. c  
   RATIONALE: The nurse should check that housekeepers follow concurrent disinfection by cleaning the less soiled areas before the grossly dirty ones, wet mop floors and damp dust furniture to avoid distributing microorganisms on dust and air currents, discard solutions used for mopping frequently in a “flushable” hopper, and never place clean items on the floor. Scrubbing the mattress and the insides of drawers and bedside stands is a part of the terminal disinfection process, which is more thorough than concurrent disinfection and consists of measures to clean the client environment after discharge. Contaminated equipment needs to be boiled for 15 minutes at 212°F (100°C) or longer in places at higher altitudes to sterilize items used in the home and not for medical asepsis.

6. d  
   RATIONALE: Ideally, the nurse should use dry heat or hot air sterilization to destroy microorganisms. Using this technique, temperatures of 330 to 340°F (165–170°C) are maintained for at least 3 hours. This is a good technique for sterilizing sharp instruments and reusable syringes because moist heat damages cutting edges and the ground surfaces of glass. Dry heat also prevents rusting of objects that are not made of stainless steel. Ultraviolet radiation can kill bacteria, especially the organism that transmits tuberculosis, but its efficiency depends on circulating organisms by air currents from lower areas of a room to wall- or ceiling-mounted units. Boiling water is a convenient way to sterilize items used in the home. Free-flowing steam is less reliable than boiling because exposing all the surfaces of some contaminated items to the steam is difficult.

7. b  
   RATIONALE: Boiling water is a convenient way to sterilize items used in at home. To be effective, contaminated equipment needs to be boiled for 15 minutes at 212°F (100°C)—longer in places at

higher altitudes. If you boil the contaminated equipment using any other combination of time and temperature, it will not sterilize the equipment completely and thoroughly.

8. c
**RATIONALE:** For best and fast results, the nurse has to use chemical sterilization using peracetic acid. New methods of using peracetic acid, a combination of acetic acid and hydrogen peroxide, sterilizes equipment as quickly as 12 minutes at 122 to 131°F (50–55°C). The entire process takes approximately 30 minutes from start to finish. Ethylene oxide gas destroys a broad spectrum of microorganisms, including spores and viruses, but requires exposure of contaminated items for 3 hours at 86°F (30°C). These gassed items must be aired for 5 days at room temperature or 8 hours at 248°F (120°C) to remove traces of the gas, which can cause chemical burns. Free-flowing steam is less reliable because exposing all the surfaces of some contaminated items to the steam is difficult. Steam under pressure is the most dependable physical sterilization method for destroying all forms of organisms and spores, but chemical sterilization processes are more reliable for sterilizing heat-sensitive instruments such as endoscopes.

9. d
**RATIONALE:** Nurses who are sensitive to latex can wear a double pair of vinyl gloves when the risk for contact with blood or body fluids is high. Wearing a pair of latex gloves or one pair of vinyl gloves will not help the nurse who is allergic to latex. The nurse should wear a double pair of vinyl gloves, not double pair of latex gloves.

10. b
**RATIONALE:** The nurse should place rubber caps or screw tops upside down on a flat surface or hold it during pouring to avoid contamination. Before each use of a sterile solution, the nurse pours and discards a small amount to wash away airborne microorganisms, including spores and viruses, but requires exposure of contaminated items for 3 hours at 86°F (30°C). These gassed items must be aired for 5 days at room temperature or 8 hours at 248°F (120°C) to remove traces of the gas, which can cause chemical burns. Free-flowing steam is less reliable because exposing all the surfaces of some contaminated items to the steam is difficult. Steam under pressure is the most dependable physical sterilization method for destroying all forms of organisms and spores, but chemical sterilization processes are more reliable for sterilizing heat-sensitive instruments such as endoscopes.

11. c
**RATIONALE:** The nurse should consider the surgical instrument in a dry sterile wrapper safe from contamination. The nurse should remember that health care professionals observe the following principles: Any partially unwrapped sterile package is considered contaminated. The longer the time since sterilization, the more likely it is that the item is no longer sterile. A sterile wrapper, if it becomes wet, wicks microorganisms from its supporting surface, causing contamination.

12. b
**RATIONALE:** Indwelling catheters should be avoided if at all possible because older people have increased susceptibility to urinary tract infections. If an indwelling catheter is necessary, meticulous daily care is required. The tubing should never be placed higher than the bladder to prevent any backflow of urine into the bladder. The tubing, if placed higher than the bladder, will lead to backflow of the urine into the bladder. Keeping the tube at the same level as the bladder will not help with an easy flow of urine.

13. a
**RATIONALE:** Those family members who are 65 years and older should receive an initial dose of the pneumococcal vaccine. Infections are often transmitted to vulnerable older adults through equipment reservoirs such as indwelling urinary catheters, humidifiers, and oxygen equipment, or through incisional sites such as those used for intravenous tubing, parenteral nutrition, or tube feedings. Use of proper aseptic technique is essential to prevent the introduction of microorganisms. Daily assessment for any signs of infection is imperative. All family members need not wear masks. Multivitamin capsules between meals will not prevent the outbreak of infections.

14. a
**RATIONALE:** Prevention of urinary tract infections is best accomplished by prompt attention to perineal hygiene. Women should always clean from the urinary area back toward the rectal area to prevent organisms from the stool entering the bladder. Maintaining intact skin is an excellent first-line defense against nosocomial infections. Using dry tissue or wearing gloves to clean the urinary area will not help prevent infections.

15. b
**RATIONALE:** Clients with burn injuries should be moved first if there is an outbreak of infection at a health care facility. A susceptible host, the last link in the chain of infection, is one whose biologic defense mechanisms are weakened in some way. Ill clients are prime targets for infectious microorganisms because their health is already compromised. The clients who are more susceptible to infections include burn victims, clients who have suffered major trauma, or clients who required invasive procedures such as endoscopy. Clients who are infected with HIV are also at a high risk for infection. Clients who have been admitted for pathologic testing, are waiting for surgery, or have just given birth may not be very susceptible to infection.

16. a, c, d, e
**RATIONALE:** Microorganisms and spores are destroyed physically through radiation or heat, boiling water, free-flowing steam, dry heat, and steam under pressure. A chemical-dipped cloth or airtight packages will not help sterilize the equipment.
17. c, d, e
RATIONALE: Peracetic acid is a combination of acetic acid and hydrogen peroxide. Although early trials demonstrated that peracetic acid is highly corrosive, new methods of buffering it have eliminated this flaw. Peracetic acid sterilizes equipment quickly—12 minutes at 122 to 131°F (50–55°C). The entire process takes approximately 30 minutes from start to finish.

18. b, d, e
RATIONALE: Ethylene oxide gas destroys a broad spectrum of microorganisms, including spores and viruses, when contaminated items are exposed for 3 hours at 86°F (30°C). Gassed items, however, must be aired for 5 days at room temperature or 8 hours at 248°F (120°C) to remove traces of the gas, which can cause chemical burns.

19. a, c, f, e, d, b
RATIONALE: The nurse should unwrap the cloth by supporting the wrapped item in one hand rather than placing it on a solid surface. The nurse then holds each of the four corners to prevent the edges of the wrap from hanging loosely. The nurse places the unwrapped item on the sterile field and discards the cloth cover. The paper cover usually has two loose flaps that extend above the sealed edges. After separating the flaps, the nurse drops the sterile contents onto the sterile field.

20. a
RATIONALE: Dry heat, or hot air sterilization, is similar to baking items in an oven. To destroy microorganisms with dry heat, temperatures of 330 to 340°F (165–170°C) are maintained for at least 3 hours. Dry heat is a good technique for sterilizing sharp instruments and reusable syringes, because moist heat damages cutting edges and the ground surfaces of glass.

CHAPTER 11
SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Admission
2. Addressograph
3. Supervisor
4. Discharge
5. Admission
6. Transferring
7. Three
8. Intermediate
9. Referral
10. Sixty

Activity B
1. A client is having an ID bracelet applied.
2. The element contains information regarding the client’s name, an ID number, and, in some cases, a bar code for computerized scanning purposes.
3. The element is used to identify the client and ensure his safety.

Activity C
1. C
2. B
3. E
4. A
5. D

Activity D

Activity E
1. An addressograph plate identifies the pages within the client’s medical record. Nurses use it to stamp laboratory test request forms, forms that accompany a laboratory specimen, and charge slips for special items such as dressing supplies used in the client’s care.
2. After all admission data are collected, the nurse develops an initial plan for the client’s care. The initial plan generally identifies priority problems and may include the client’s projected needs for teaching and discharge planning.
3. The medical history and physical examination generally include identifying data, reason for seeking care, history of current illness, personal history, past health history, family history, review of body systems, and conclusions.
4. The discharge process generally consists of discharge planning, obtaining a written medical order, completing discharge instructions, notifying the business office, helping the client leave the agency, writing a summary of the client’s condition at discharge, and requesting that the room be cleaned.
5. A transfer process may occur when a client’s condition improves or worsens. Generally, a transfer has some advantage for the client. It may facilitate more specialized care in a life-threatening situation or it may reduce health care costs.
6. An extended care facility is a health care agency that provides long-term care. It is designed for people who do not meet the criteria for hospitalization. Examples of extended care facilities are group homes for assisted living, adult day care centers, senior residential communities, home health care agencies, and hospice organizations.

### Activity F

<table>
<thead>
<tr>
<th>A</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>A</td>
<td>M</td>
</tr>
<tr>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>D</td>
<td>S</td>
</tr>
<tr>
<td>R</td>
<td>S</td>
</tr>
<tr>
<td>E</td>
<td>I</td>
</tr>
<tr>
<td>S</td>
<td>O</td>
</tr>
<tr>
<td>O</td>
<td>G</td>
</tr>
<tr>
<td>R</td>
<td>A</td>
</tr>
<tr>
<td>A</td>
<td>P</td>
</tr>
</tbody>
</table>

### SECTION III: APPLYING YOUR KNOWLEDGE

#### Activity G

1. When transferring a client to a different nursing unit within the health care facility, the nurse does the following:
   - Informs the client and family about the transfer
   - Completes a transfer summary briefly describing the client’s current condition and reason for transfer
   - Speaks with a nurse on the transfer unit to coordinate the transfer
   - Transports the client and his belongings, medications, nursing supplies, and chart to the other unit

2. A transfer summary is a written review of the client’s current status that briefly describes the client’s current condition and reason for transfer.

### SECTION IV: PRACTICING FOR NCLEX

#### Activity H

1. **a**
   - **RATIONALE:** The process of termination of a client’s care from a health care agency is called *discharge*. Sending the client home is not called revert or deferred. Rule out (or the abbreviation R/O) is used to indicate that a certain health condition is suspected, but additional diagnostic data must be obtained before confirmation.

2. **b**
   - **RATIONALE:** Clients with terminal health conditions require special considerations and many details on their care in the discharge plan. Discharge planning usually is simple and routine for clients between the ages of 25 years and 30 years, and clients living with their families or relatives.

3. **d**
   - **RATIONALE:** The signed form releases the doctor and agency from future responsibility for any complications. The form does not contain any information about medications, client contact information, or billing details.

4. **a**
   - **RATIONALE:** If the client refuses to sign, the nurse cannot prevent the client from leaving. The nurse can make a note in the client’s medical record, however, that he or she presented the form to the client and that he subsequently refused to sign it. The form cannot be signed by the nurse or the client’s relatives. The form cannot be signed by the head of the facility.

5. **c**
   - **RATIONALE:** Before the client leaves the agency and after briefing the client on the medication and self-care points, the nurse notifies the business office to complete the billing process. The nurse need not notify the physician, the head of the agency, or the housekeeping staff because they are not involved in the final steps of discharge.

6. **d**
   - **RATIONALE:** To use the health care facility’s transportation van, the client will have to book transportation 24 hours in advance. The transportation van cannot be booked 2, 6, or 12 hours in advance.

7. **a, b, c**
   - **RATIONALE:** A client may be transferred to another health care facility to provide specialized care in life-threatening conditions, to provide care for a change in the client’s condition, and to reduce the health care costs involved. A client cannot be transferred to another health care facility to provide room for another client at the facility. If a client requires long-term care at an extended care facility, the client is not transferred, but is referred to an extended care facility after discharge.

8. **a, b, d**
   - **RATIONALE:** The level of care is determined at admission. Each client is assessed using a standard form developed by the Health Care Financing Association called a *Minimum Data Set for Nursing Home Resident Assessment and Care Screening*. The MDS requires assessment of communication/hearing patterns, vision patterns, oral and nutritional status, continence patterns in the past 14 days, and mood and behavior patterns. The MDS does not require financial status of the client to decide the level of treatment.

9. **c, d, a, b**
   - **RATIONALE:** The nurse should first inform the client and family about the transfer, then complete a transfer summary, briefly describing the client’s current health and reason for transfer. Next, the nurse should speak to the nurse on the transfer unit...
unit to coordinate the transfer. Finally, the nurse should arrange to transport the client and his belongings, medications, nursing supplies, and chart to the other unit.

10. c
Rationale: The nurse should provide the child with toys and books. These will not only calm the child, but will also provide important lessons for him. The nurse does not need to request a colleague's help in feeding or dressing the child. The nurse should not prevent the parents from fussing over the child. Instead, the nurse should ask the parents to assist with feeding and dressing the child.

11. a
Rationale: The nurse should place the client's eyeglasses on the bedside table or drawer and inform him or her where they have been placed. Because they are personal items that may be required very often, the nurse does not need to hand them over to the client's family for safekeeping, or keep them in the facility's safe along with other valuables. The nurse should not tell the client that the facility is not responsible for the client's belongings. Other valuables or possessions may be sent back with the family or kept in the facility's safe.

12. a
Rationale: A client who has just delivered a baby would need to be transferred to another unit. The client would move into a post-partum care room. A client who is capable of going home to self-care, the client who returns after leaving the facility without information, or the client who is planning to leave the facility against medical advice will not be transferred to another unit. A client who is capable of going home to self-care is discharged from the facility. A client who returns after leaving the facility without information is readmitted to the facility as a new admission. A client who might leave the facility against medical advice is made to wear special transmitters that alert personnel if the client tries to leave, so staff can intervene.

CHAPTER 12
SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Pyrexia
2. Fahrenheit
3. Hypothalamus
4. Piloerection
5. Circadian
6. Emotions
7. Axilla
8. Electronic
9. Doppler
10. Korotkoff

Activity B
1. The equipment in the figure is a Doppler stethoscope.
2. A Doppler stethoscope helps to detect sounds created by the velocity of blood moving through a blood vessel.
3. The equipment in the figure is a digital thermometer.
4. A digital thermometer looks similar to a glass thermometer and can be used at oral, axillary, and rectal sites. It has a sensing tip at the end of the stem, an on/off button, and a display area that lights up during use.

Activity C

Activity D
3 1 4 2

Activity E
1. Systolic pressure is the pressure within the arterial system when the heart contracts. It is higher than diastolic pressure.
2. If the client's temperature is above or below normal, the nurse should
   • Record and report the temperature
   • Implement appropriate nursing and medical interventions
   • Reassess the client frequently
3. Objective assessment data include vital signs (body temperature, pulse rate, respiratory rate, and blood pressure) that indicate how well or how poorly the client's body is functioning.
4. Body temperature increases slightly in women of childbearing age during ovulation as a result of hormonal changes that affect metabolism or tissue injury and repair after release of an ovum (egg).
5. Emotions affect the metabolic rate by triggering hormonal changes through the sympathetic and parasympathetic pathways of the autonomic nervous system. People who tend to be consistently anxious and nervous are likely to have slightly increased body temperatures. Conversely, people who are apathetic or depressed are prone to have slightly lower body temperatures.
6. A paper chemical thermometer or plastic strip with chemically treated dots is used to assess the temperature of clients who require isolation precautions for infectious diseases.

Activity F

A H
T Y M P A N I C Y
T O P
I R E
B R A D Y P N E A R
Y T
R H
F E B R I L E
T R
I M
C I
S A

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The nurse should insert the thermometer in the ear—which is, more specifically, the tympanic membrane—to get the core body temperature. The ear is the peripheral site that most closely reflects core body temperature.

2. To evaluate trends in body temperature, the nurse should document the assessment site as O for oral, R for rectal, AX for axillary, and T for tympanic membrane. The nurse should also take the temperature by the same route each time.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. c  RATIONALE: The chance of survival of a client is diminished when body temperatures exceed 110°F (43.3°C) or fall below 84°F (28.8°C). Temperatures above 105.8°F (41°C) and below 93.2°F (34°C) indicate impairment of the hypothalamic regulatory center.

2. b  RATIONALE: The increase in the client's temperature could be the result of the amount and type of food the client consumed during lunch. This is known as thermogenesis. When a person consumes food, the body requires energy to digest, absorb, transport, metabolize, and store nutrients. Circadian rhythms are physiologic changes that are seen in people who work night shifts, whereas tachypnea is a rapid respiratory rate that may not lead to an increase in temperature. Medicines used generally do not lead to an increase in body temperature.

3. c  RATIONALE: Ephedrine, a stimulant used in the treatment for asthma, could have led to an increase in the client's body temperature. Stimulant drugs, like those containing dextroamphetamine (Dexedrine) or ephedrine, increase metabolic rate and body temperature. Aspirin, acetaminophen, and ibuprofen directly lower body temperature instead of increasing it.

4. d  RATIONALE: The nurse should preferably measure the temperature of the infant from the axilla, because infants can be injured internally with thermometers and because they lose heat through their skin at a greater rate than other age groups. The axilla and the groin, areas where there is skin-to-skin contact, are preferred sites for temperature assessment in this age group. The nurse should not measure infant temperature from oral, rectal, or ear sites.

5. c  RATIONALE: Body temperature increases slightly in women of childbearing age during ovulation. This probably results from hormonal changes affecting metabolism or tissue injury and repair after release of an ovum (egg). Normal perspiration, or lack of it, affects temperature in infants and older adults only. People who are depressed are prone to have slightly lower body temperatures. Drugs such as aspirin lower body temperature by acting on the hypothalamus.

6. b  RATIONALE: The client's pulse should be recorded as thready because it disappears with the slightest bit of pressure. A normal or strong pulse can be felt with mild pressure over the artery. A bounding or full pulse produces a pronounced pulsation that does not easily disappear with pressure.

7. d  RATIONALE: Impaired muscle coordination is a common symptom of hypothermia. A client with hyperthermia is at extreme risk of brain damage or death from complications associated with increased metabolic demand. The breathing rhythm and pulse rate both drop to below normal and do not become irregular.

8. b  RATIONALE: Antipyretics (drugs that reduce fever), such as aspirin, would be helpful for the adult client whose body temperature is 103.4°F. It is typically not used for children. However, fluids or rest is required if the fever is below 102°F (38.9°C) and the client does not have a chronic medical condition. Physical cooling measures such as a cold cloth are used for temperatures between 104 and 105.8°F (40–40.6°C).

9. a  RATIONALE: In the case of dyspnea, the nurse should note how much and what types of activities bring on dyspnea in the client. Eating habits and sleeping hours should be noted, but it will give accurate results only if noted along with the duration and time of the activity. The nurse need not note the regularity with which dyspnea occurs in a client.

10. a  
**RATIONALE:** When using an aneroid manometer to measure blood pressure, the nurse should check that the needle of the gauge is positioned at zero to record the accurate and correct measurement. The gauge reading need not be positioned according to the client’s body temperature. An aneroid manometer is not connected to an electric outlet, nor does it use an inflatable bladder.

11. d, a, b, c, e  
**RATIONALE:** When a Doppler ultrasound device is used to detect the movement of blood, the nurse first applies conductive gel over the arterial site. The nurse then moves the probe at an angle over the skin until a pulsating sound is heard. The pulsating sounds are then counted. The nurse documents the assessment site and the rate, followed by the abbreviation D to indicate use of a Doppler device.

12. a, b, c  
**RATIONALE:** The nurse should use an assessment site other than the brachial artery when the client’s arms are missing or both breasts have been removed, or when the client has had a vascular surgery. Hypothermia or when the client is moderately hypothermic do not determine the assessment site for measuring the blood pressure of a client.

13. b, c, d  
**RATIONALE:** A client could have a low blood pressure when sleeping at night, when in the prone position, or when the client is female. Blood pressure tends to be lowest after midnight, when a client is sleeping. Women tend to have lower blood pressure than men of the same age. A person has lower blood pressure when lying down than when sitting or standing, although the difference in most people is insignificant. Blood pressure tends to increase with age as a result of arteriosclerosis (a process in which arteries lose their elasticity and become more rigid) and atherosclerosis (a process in which the arteries become narrowed with fat deposits). However, blood pressure increases during exercise and activity.

14. c, d, a, b, e  
**RATIONALE:** The blood pressure of an older adult is assessed in each arm when collecting a baseline assessment and documenting subsequent trends. Also, older adults need to have their blood pressure assessed while lying and sitting to detect the possibility of postural hypotension. Begin with assessing the blood pressure with the client in a supine position; deflate and leave the blood pressure cuff in place. Have the older adult assume a sitting position and check the pressure. Deflate and leave the cuff in place; assist the client to stand and immediately check the pressure. Record each reading from the same arm, observing for a decrease on sitting or standing.

15. d  
**RATIONALE:** The nurse is listening to phase IV of Korotkoff’s. This phase is characterized by a muffled, less distinct sound that is softer with a blowing quality. Phase I is characterized by the first appearance of faint, clear, repetitive, tapping sounds that gradually intensify for at least two consecutive beats. Phase II is characterized by muffled or swishing sounds that are softer and longer than phase I. Phase III is characterized by a return of distinct, crisp, and louder blood sounds.

**CHAPTER 13**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Objective  
2. Ophthalmoscope  
3. Audiologist  
4. Lordosis  
5. Edema  
6. Cerumen  
7. Jaeger  
8. Rinne  
9. Turgor  
10. Weber

**Activity B**

1. The figure shows taste assessment.  
2. Assessment of taste is facilitated by placing substances on the tongue and asking clients to identify them with their eyes closed.  
3. To ensure valid results, the nurse instructs the client to sip water between assessments.  
4. The figure shows assessment of the muscle strength of the lower extremities.  
5. The nurse assesses all four extremities separately to determine muscle strength. He or she asks the client to grasp, squeeze, and release his or her fingers. As the nurse pulls and pushes on the forearm and
upper arm, he or she instructs the client to resist. To test strength in the lower extremities, the nurse has the client push and pull against resistance.

**Activity C**

1. C  
2. A  
3. E  
4. B  
5. D

**Activity D**

5  3  6  1  2  4

**Activity E**

1. A physical assessment is done for the following reasons:  
   • To evaluate the client’s current physical condition  
   • To detect early signs of developing health problems  
   • To establish a baseline for future comparisons  
   • To evaluate the client’s responses to medical and nursing interventions

2. Clients are examined in a special examination room or at the bedside. The examination area should have easy access to a restroom; a door or curtain that ensures privacy; adequate warmth for client comfort; a padded, adjustable table or bed; sufficient room for moving to either side of the client; adequate lighting; facilities for hand hygiene; a clean counter or surface for placing examination equipment; and a lined receptacle for soiled articles.

3. It is important for the nurse to document the client’s weight and height, because they provide more reliable data than a subjective assessment of body size. The recorded measurements help to assess trends in future weight loss or gain. Dosages of certain drugs are calculated on the basis of the client’s weight and height.

4. The nurse assesses the scalp hair, eyebrows, and eyelashes during assessment of a client’s hair. The nurse notes the color, texture, and presence or absence of hair in unusual locations for gender or age. He or she also inspects the hair for debris, such as blood in a client with head trauma; nits; or scales from scalp lesions. As the physical assessment progresses, the nurse also observes characteristics of body hair.

5. It is important for the nurse to document any unusual characteristics of the nails or surrounding tissues, because changes in the shape and thickness of the fingernails and toenails are often signs of chronic cardiopulmonary disease or fungal infections.

6. For a basic physical assessment, a nurse requires gloves, examination gown, cloth or paper drapes, scale, stethoscope, sphygmomanometer, thermometer, penlight or flashlight, tongue blade, assessment form, and a pen.

**SECTION III: APPLYING YOUR KNOWLEDGE**

**Activity G**

1. The abdomen is always inspected and then auscultated before using palpation or percussion techniques. Touching or manipulating the abdomen can alter bowel sounds, producing invalid findings.

2. The nurse checks the abdominal girth daily by using a tape measure around the largest diameter. To ensure that he or she always measures from the same location, the nurse makes guide marks on the skin with an indelible pen.

3. The nurse should ask the client to examine the testes monthly during bathing or showering and to adhere to the following procedure:  
   • Elevate the penis with one hand.  
   • Gently roll each testicle within the scrotum between the thumb and the index finger.  
   • Feel each testicle vertically and horizontally.  
   • Check for any unusual lumps  
   • Continue palpation following the spermatic cord from the testicle to where it ascends into the abdomen.  
   • Report any unusual findings to a physician as soon as possible.

**SECTION IV: PRACTICING FOR NCLEX**

**Activity H**

1. c  
**RATIONALE:** The lesions should be documented as wheals. Wheals are lesions on the skin that are elevated, with an irregular border and no free fluid. Macules are skin lesions that are flat, round, colored, and nonpalpable. Papules are elevated, palpable, and solid lesions on the skin. Vesicles are elevated, round lesions filled with serum.

2. a  
**RATIONALE:** The nurse should assess the client for skin turgor in the area over the chest. The area at the back of the hand, the area on the forearm, and the area on the lower leg are not good assessment locations because the skin in these areas tends to loosen with age.
3. d  
**RATIONALE:** The nurse should document these sounds as crackles. Crackles are intermittent, high-pitched, popping sounds heard in distant areas of the lungs primarily during inspiration. Rubs are grating, leathery sounds caused by two dry pleural surfaces moving over each other. Wheezes are whistling or squeaking sounds caused by air moving through a narrowed passage; they may be audible without a stethoscope. Gurgles are low pitched, continuous, and bubbling, and are heard in larger airways; they are more prominent during expiration.

4. b  
**RATIONALE:** The nurse should assess the appearance of raised sputum and the characteristics of any cough if adventitious sounds are heard when assessing the lung sounds of the client to complement the assessment of lung sounds. The nurse need not assist the client to a supine position; the client is assisted to a sitting position to facilitate auscultating the anterior, posterior, and lateral aspects of the chest with minimal client exertion. The nurse should not move the diaphragm from the base of the lung to the top during auscultation; the diaphragm is moved from side to side, from the apices to the bottom of the lungs. The nurse should listen for one complete ventilation at each area auscultated, not just one inspiration or expiration.

5. c  
**RATIONALE:** The nurse is using the technique of palpation to assess the client. Palpation involves the use of the fingertips, the back of the hand, or the palm of the hand. Inspection involves examining the body parts, looking for specific normal and abnormal characteristics. Percussion is striking or tapping part of the client’s body with the fingertips to produce vibratory sounds that aid in determining the location, size, and density of underlying structures. Auscultation is the technique of listening to body sounds; it is used frequently, most often to assess the heart, lungs, and abdomen.

6. a  
**RATIONALE:** The nurse should check to see that the scale is calibrated at zero to ensure accuracy. The client should be asked to remove his or her shoes and stand barefoot on a paper towel placed on the scale. The nurse should not provide light slippers for this purpose. The paper towel helps to reduce contact with microorganisms, and standing barefoot facilitates measuring body weight. The nurse should move the lighter, not heavier, weight across the calibrations for individual pounds and ounces until the bar balances in the center of the scale. The nurse should position the heavier, not lighter, weight in a calibrated groove of the scale arm to provide a rough approximation of the gross body weight.

7. a, b, e  
**RATIONALE:** The nurse should perform an in-depth objective mental status assessment for clients with head injury, clients with psychiatric diagnoses, and clients who took an over-dose of drugs to ensure that the mental status of these clients is not altered. Clients with impaired visual acuity or clients who are being treated with NSAIDs need not undergo an in-depth objective mental status assessment.

8. b  
**RATIONALE:** When examining the child’s ear, the nurse should pull the ear down and back to straighten the ear canal for optimal visualization. The vibrating tuning fork is placed in the center of the client’s head or on the mastoid area behind the ear to assess hearing. The nurse moves the skin behind and in front of the ears as well as underlying cartilage, not the external ear, to determine any tenderness. The nurse should shine a penlight or other light source within each ear to illuminate the ear canal. Positioning the client in front of a diffused source of light does not help to illuminate the ear canal.

9. d  
**RATIONALE:** The nurse should document the finding as ecchymosis, which is a purplish patch caused by trauma to soft tissue of the skin. Pallor is paleness of the skin; regardless of one’s race, it is indicative of anemia or blood loss. Erythema is redness of the skin, possible causes of which could be superficial burns, local inflammation, or carbon monoxide poisoning. Cyanosis is bluish coloring of the skin caused by low tissue oxygenation.

10. c  
**RATIONALE:** The nurse should ask the client to squeeze the nipple gently to determine whether there is any clear or bloody discharge. The nurse should ask the client to perform monthly breast self-examinations about 1 week after her menstrual period, not once every 2 months. The nurse should ask the client to place her hand on the side to be examined—behind the head and not alongside. The entire examination is not performed when lying down; it is partly done when standing in front of a mirror.

11. b  
**RATIONALE:** The nurse should document the edema as 2+ pitting edema, because it depresses up to 4 mm and has a fairly normal contour. Pitting edema of 1+ is a slight indentation of 2 mm, with normal contours. Pitting edema of 3+ is a deep pit of 6 mm, which remains several seconds after pressing, and the swelling is obvious by general inspection. Pitting edema of 4+ is a deep pit of 8 mm; it remains for a prolonged time after pressing, possibly minutes.

12. c  
**RATIONALE:** The nurse should stroke the skin at various areas with a cotton ball to assess the client’s
ability to identify fine touch. The nurse places the stem of a vibrating tuning fork against the wrist to test the client’s ability to sense vibration. The client is touched with pointed and curved ends of the safety pin to determine whether he or she can discriminate between sharp and dull sensations. The nurse touches the skin of the client at various areas with warm and cold containers to identify whether the client is able to identify the differences in the temperature.

13. c  
**RATIONALE:** The nurse should document the palpable mass as ovoid, because it resembles an egg, and hard, because it feels firm to the touch. If the mass is shaped like a ball, it is documented as round. A mass that feels bumpy to the touch is documented as having a nodular consistency.

14. a  
**RATIONALE:** The nurse should warm the diaphragm of the stethoscope before the procedure to promote comfort and prevent shock when the cold surface touches the abdomen. If no bowel sounds are heard initially, the nurse should listen for 2 to 5 minutes, not just 1 minute. The nurse should listen for bowel sounds in all four quadrants, not just one upper and one lower quadrant. The nurse should explain the procedure to the client before the assessment, and avoid talking during the assessment to facilitate a quiet environment and accurate assessment.

15. a  
**RATIONALE:** The “lub” sound louder at the mitral area, also called the S1 sound, is a normal heart sound. S3, which sounds like “lub-dub-dub,” is much more pronounced than a split-second sound; it is an abnormal heart sound. S4, which sounds like “lub-lub-dub,” is another abnormal heart sound, heard just before S1. The soft “dub” sound over the aortic area is also an abnormal sound. The normal “dub” sound is the second heart sound, S2, which can be heard in the mitral area; it is louder—not softer—over the aortic area.

**CHAPTER 14**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Voluntariness
2. Lithotomy
3. Specimens
4. Roentgenogram
5. Iodine
6. Fluoroscopy
7. Endoscopy
8. Anesthesia
9. Constipation
10. Echography

**Activity B**

1. The figure shows a nurse arranging supplies and equipment in an endoscopic examination room.
2. The nurse should perform the following before the examination:
   - Cover the examination table with a sheet or paper dispensed from a roll.
   - Arrange a lined receptacle nearby for disposal of soiled items.
   - Ensure that sterile items remain wrapped or covered until just before their use.
   - Ensure that instruments that require electric power, batteries, or lights are functioning properly.
3. The figure shows a client wearing lead thyroid collar, apron, and skirt.
4. The items are used to shield vulnerable body parts or fetus during radiography.

**Activity C**


**Activity D**

2 1 5 3 4

**Activity E**

1. A diagnostic examination is a procedure that involves physical inspection of body structures and evidence of their functions.
2. A culture is incubation of microorganisms performed by collecting body fluid or substances suspected of containing infectious microorganisms, growing the living microorganisms in a nutritive substance, and examining their characteristics with a microscope.
3. A contrast medium is a substance that adds density to a body organ or cavity such as barium sulfate or iodine. It makes hollow body areas appear more distinct when imaged on X-ray film.
4. A lumbar puncture involves inserting a needle between lumbar vertebrae in the spine but below the spinal cord itself. The physician advances the tip of the needle until it is beneath the middle layer of the membrane surrounding the spinal cord. The physician then measures the spinal fluid pressure and withdraws a small amount of fluid.
5. A nurse’s report may include information whether the examination has been completed, the client’s reactions during and immediately after the procedure, and any delayed reactions.
6. When attending to a client the nurse should take the following care:
   - Assist the client to a position of comfort and recheck vital signs to verify that the client’s condition is stable.
   - Clean any substances from the client that caused soiling.
• Offer a hospitalized client a clean gown or direct outpatients to dress in their own clothing.
• Escort clients to their rooms or to the discharge area when it is safe to do so, and provide instructions for follow-up care.

Activity F

P A P
P E E
L C V
S I M S
C U L T U R E
H O T S P O T

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The nurse should ask the following questions to the client before examination:
   • Inquire about a woman's menstrual and obstetric history
   • Find out whether the woman is pregnant or breast-feeding
   • Ask about the client's allergy history because iodine is commonly used in radionuclide examinations, and the client may be allergic to it.
2. The nurse should provide the client the following instructions after the examination:
   • Inform the client that he or she will be radioactive for a brief period (usually less than 24 hours), but body fluids (such as urine, stool, and emesis) can be safely flushed away.
   • Instruct premenopausal women to use effective birth control for the short period during which radiation continues to be present.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. c
   RATIONALE: To examine the client's prostate gland the nurse should assist the client to get into the genupectoral position. The dorsal recumbent position can be used for vaginal examination whereas the lithotomy position is used during rectal examinations. The Sims' position is used for rectal temperature assessment. These positions may not be suitable for a prostate gland examination. However, a modified standing position can also be used for prostate gland examination.
2. a
   RATIONALE: The client is supposed to take a Pap smear test. A Pap smear test screens for abnormal cervical cells, the status of reproductive hormone activity, and normal or infectious microorganisms within the vagina or uterus. Both radiography and fluoroscopy are used to test bones, chest, and other such structures. Endoscopy is the visual examination of internal structures. These tests are not conducted for inspecting the vagina and cervix.

3. d
   RATIONALE: The nurse should withhold the client's food and fluids for at least 6 hours before any procedure in which an endoscope is inserted into the upper airway or upper gastrointestinal tract to prevent aspiration. The test will not show the correct result if food and fluids are withheld for less than 6 hours.
4. a
   RATIONALE: Endoscopic examinations that produce discomfort or anxiety are performed under a light, short-acting form of anesthesia sometimes referred to as conscious sedation. When conscious sedation is used, clients may have no memory of having had the test even though they communicate and interact with staff during its performance. Conscious sedation will not affect the client's breathing nor will the client be under heavy sedation. This type of sedation also does not cause a sore throat.
5. b
   RATIONALE: One of the most important preprocedural steps before an endoscopic examination is to confirm that bowel preparation using laxatives and enemas has been completed. For an endoscopic procedure, clients are not allowed to have food or fluids for the past 6 hours. Checking the swallow, cough, and gag reflexes is a postprocedural check.
6. b
   RATIONALE: In addition to a written account of the client's examination, the nurse should report significant information to other nursing team members. This may include the fact that the examination was completed, the client's reactions during and immediately after the procedure, and any delayed reactions. The place and technique to transport the specimen, the details of the test performed, and the type and quantity of the specimen are some of the points covered in the written account of information.
7. a
   RATIONALE: When assisting a client who has to undergo a paracentesis procedure, the nurse should encourage the client to empty his or her bladder just before the procedure because an empty bladder prevents accidental puncture of the bladder. The nurse places a client in the sitting position to pool the abdominal fluids in the lower areas of the abdomen and displaces the intestine posteriorly. The nurse holds the container of local anesthetic so that the physician can withdraw a sufficient amount to avoid contaminating the physician's sterile gloves.
8. b  
**RATIONALE:** To examine the anal region of the client, the nurse should help the client position him- or herself in the Sims’ position. The client will have to lie on his or her left side with the chest leaning forward, the right knee bent toward the head, the right arm forward, and the left arm extended behind the body. The dorsal recumbent position and the knee–chest position is used to facilitate gynecologic (female reproductive) and urologic examinations. The modified standing position is used primarily for examining the prostate gland in men. These positions, however, may not be suitable for examining the anal regions of the client.  

9. a  
**RATIONALE:** Before a client undergoes a radiographic examination, the nurse needs to ensure that the client removes any metal elements from his or her body, which includes hooks and eyes on a blouse. Metal produces a dense image that may be confused with a tissue abnormality. Endoscopy is a visual examination of internal structures, which is performed using optical scopes whereas ECG is the examination of the electrical activity in the heart. Paracentesis helps in withdrawing fluid from the abdominal cavity. None of these examinations are affected by the presence of metal elements in the client’s body.  

10. c  
**RATIONALE:** During the pelvic examination the nurse folds back the drape just before the examination begins to expose the genitalia while minimizing client exposure. The nurse, however, covers the client with a cotton drape to maintain modesty and privacy, and introduces the physician to the client to reduce any anxious feelings. The nurse directs the examining light from behind the physician’s shoulder toward the vaginal opening to illuminate the area to facilitate inspection.  

11. a  
**RATIONALE:** Electroencephalography (or EEG) is an examination of the energy emitted by the brain. A client who has to undergo a sleep-deprived EEG is required to stay awake after midnight before the examination. Electrocardiography (or ECG or EKG) is an examination of the electrical activity in the heart. Electromyography (or EMG) is an examination of the energy produced by the stimulated muscles. These procedures, however, do not require the client to stay awake after midnight before taking the test.  

12. d  
**RATIONALE:** A paracentesis is performed to relieve abdominal pressure and to improve breathing, which generally becomes labored when fluid crowds the lungs. The lumbar puncture is a procedure that involves inserting a needle between lum- ...

---

the client to stop the medication is not a nurse's responsibility.

17. b, d, e  
RATIONALE: Older adults, especially those who are medically frail, may not be able to tolerate the withholding of food or fluids for long periods before tests or examinations take place. The nurse should provide a bedside commode and hands-on assistance for older adults, especially those with impaired mobility, when they are undergoing preparation for gastrointestinal examinations. After a diagnostic examination, the nurse should offer older adults food, fluid, and a period of rest before they resume physically taxing activities. Suggesting the client fast 8 or 12 hours before the test is not a good idea and it will not help an older client in any way.

18. a, b, e  
RATIONALE: The first step that the nurse takes when caring for the specimen and to ensure their accurate analysis is to collect the specimen in an appropriate container and label it. The nurse then attaches the proper laboratory request form and ensures that the specimen does not decompose before it can be examined. The nurse delivers the specimen to the laboratory as soon as possible. Changing the container of the specimen or refrigerating it is not advisable.

19. a, d, f, b, e, c  
RATIONALE: While caring for a client who has come to the health agency for tests and examinations, the nurse should first help the client get into a comfortable position. The nurse should then check the client's vital signs to determine whether the client's condition is stable. The nurse then cleans any substances from the client that caused soiling. The nurse should then direct the client to dress in his or her own clothing. When it is safe to do so, the nurse escorts the client to his or her room or to the discharge area and provides instructions for follow-up care.

20. a, b, e  
RATIONALE: In the Sims' position, the client lies on the left side with the chest leaning forward, the right knee bent toward the head, the right arm forward, and the left arm extended behind the body. This type of position is used by clients with restricted joint movements such as that caused by arthritis. The client in a reclining position with the feet in metal supports is used in the lithotomy position. The knee–chest position is when the client rests on the knees and chest with his or her head supported to one side on a small pillow.

CHAPTER 15

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Malnutrition
2. Calories
3. Kilocalorie
4. Lipoproteins
5. Cellulose
6. Minerals
7. Essential
8. Unsaturated
9. Dementia
10. Flatus

Activity B
1. The figure shows a sample of nutritional information.
2. The figure displays the amounts of each nutrient per serving in household measurements.
3. DVs are calculated percentages of set standards for total fat, saturated fat, cholesterol, sodium, carbohydrate, and fiber in a 2,000-calorie diet.

Activity C
1. B
2. A
3. D
4. E
5. C

Activity D
4 → 1 → 3 → 5 → 6 → 2

Activity E
1. The parameters for individual nutritional needs are
   - Age
   - Weight and height
   - Growth periods
   - Activity
   - Health status
2. Water-soluble vitamins (B complex, C) are eliminated with body fluids and thus require daily replacement. Fat-soluble vitamins (A, D, E, and K) are stored in the body as reserves for future needs.
3. Eating habits are influenced by cultural, economic, emotional, and social factors, including
   - Food preferences
   - Established meal patterns
   - Nutritional attitudes and knowledge
   - Income level
   - Time available for food preparation
   - Number of people in the household
   - Access to food markets
   - Food as comfort, celebration, reward
   - Attitude toward body weight
   - Religious beliefs
4. While making a physical assessment of a client, the nurse would assess the following:
   • General appearance
   • Integrity of the mouth
   • Condition of the teeth
   • Ability to chew and swallow
   • Gag reflex
   • Characteristics of skin and hair
   • Joint flexibility
   • Hand strength
   • Attention and concentration

5. While feeding a visually impaired client, the nurse takes the following measures:
   • Places a thick towel across the client’s chest, lap
   • Uses dishes with rims and bowls to prevent spilling
   • Arranges finger foods
   • Describes the location of food on the tray using a clock analogy for the plate
   • Guides the client’s hand to food and utensils
   • When feeding the client, informs the client which kind of food is being offered in each mouthful
   • Devises systems to indicate readiness for more food or drink
   • Keeps a leisurely pace

6. The nutritional status of older adults is affected by:
   • Medical conditions
   • Adverse medication effects
   • Functional impairments
   • Psychosocial conditions such as dementia, depression, and social isolation

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. a RATIONALE: The nurse should recommend animal sources of protein such as poultry. Animal sources provide complete proteins, which contain all the essential amino acids. Plant sources contain incomplete proteins, which contain only some essential amino acids.

2. a RATIONALE: Malnutrition is a condition resulting from a lack of proper nutrients in the diet. Evidence of malnutrition is common among people living in poor, developing countries; however, it also occurs among people living in countries known for their affluence, like the United States. People with eating disorders are at risk. Religious beliefs, family history, and emotional disorders may not be a cause of malnutrition.

3. b RATIONALE: The nurse should recommend vitamin C supplements to make up for the lack of water-soluble vitamins. Vitamin B complex and vitamin C are water-soluble vitamins that are eliminated with body fluids. Therefore, these vitamins need daily replacement. Vitamins A, D, and E are fat-soluble vitamins and are stored in the body as reserves for future needs.

4. b RATIONALE: Obesity is a condition in which a person’s body-mass index equals or exceeds 30 kg/m² or the triceps skinfold measurement exceeds 15 mm. Client A is obese since the client’s body-mass index is 30.2 kg/m².

5. d RATIONALE: The nurse should recommend that the client with a blood clot in his lower left leg include good sources of minerals in his diet to regulate the chemical processes. Minerals are non-caloric substances in food that are essential to all cells and help to regulate many of the body’s chemical processes such as blood clotting and conduction of nerve impulses. Fats are sources of energy whereas proteins are the building blocks of the body. Carbohydrates are also sources of quick energy. They do not, however, regulate the chemical processes in the client’s body.

6. c RATIONALE: DV is a percentage of set standards for total fat, saturated fat, cholesterol, sodium, carbohydrate, and fiber in a 2,000-calorie diet; diets
more or less than 2,000 calories need adjustment to the DV percentage. Excessive cholesterol will give rise to more problems than the other nutrients. Vitamin and mineral requirements are uniform to all consumers because they are independent of calories.

7. c
RATIONALE: Eating habits are influenced by cultural, economic, emotional, and social factors, including food preferences, established meal patterns, religious beliefs, and so on. In this case, the client does not eat any meat or dairy products; therefore, the client is a vegan. Vegetarians do not consume animal products; however, they do eat dairy products. The client works in the city and has access to food markets. Pregnancy probably will not usually influence the eating habits of a client to a great extent. Therefore, the only probable factor that influences the client’s eating habits seems to be veganism.

8. c
RATIONALE: The client’s diet is lacking in protein. A vegan diet is often inadequate in complete protein, calcium, riboflavin, vitamins B12 and D, and iron. A vegan diet does not include animal or animal products, such as meat or dairy products, which may provide fats. Minerals and vitamin C are adequate in vegan diets.

9. a
RATIONALE: Anthropometric data are used to measure body size and composition. They are obtained by measuring the client’s height. The biceps skin thickness, wrist diameter, and chest width are not measured to obtain these data.

10. a
RATIONALE: A dietary history includes all findings about a client’s eating habits, such as the number of meals the client eats, likes and dislikes, time when the client prefers to have meals, and so forth. It does not include findings of the client’s cholesterol level or the nutrient content in the food.

11. c
RATIONALE: Physical assessment of the client would include the skin characteristics of the client. Diet, weight, and height would be included while collecting anthropometric data.

12. d
RATIONALE: When feeding a client who is visually impaired, the nurse should arrange (as much as possible) to have finger food (food that may be eaten with the hands) prepared for the client. Requesting a full liquid or mechanically soft diet; providing small, frequent meals if eating efforts tire the client; and determining whether the client has swallowed food before offering another mouthful are tasks that the nurse should do when feeding a client with dysphagia.

13. a
RATIONALE: A gag reflex in the client implies that the client may have difficulty swallowing.

Dysphagia implies difficulty swallowing and chewing food. Nausea usually precedes vomiting, eructation (or belching) is discharge of gas through the mouth, and xerostomia results from medications and not a gag reflex.

14. d
RATIONALE: A client is considered to be obese if the body-mass index is 30 or more and the triceps skinfold measurement exceeds 15 mm.

15. d
RATIONALE: To lose 1 lb of weight per week, it is recommended that people reduce their food intake by 500 calories per day. A sustained loss of 1 to 2 lb per week is a healthy goal. Therefore, reducing 800 calories from the client’s diet every day will help the client to lose weight safely. Reducing excess calories from the diet will be harmful and will lead to exhaustion and weakness. However, omitting 200 calories per day from the diet may not be sufficient to meet the goal.

16. a, c
RATIONALE: Dementia refers to the deterioration of previous intellectual capacity. To make sure that such clients eat, the nurse should place the tray close to the client and ensure that the client sees another person eating. This will stimulate the client to eat. The nurse should inform the client about the food if the client is visually impaired. Clients with dementia require gentle handling and persistence. When feeding a client with dysphagia, the nurse should provide small, frequent meals if efforts to eat and swallow tire the client.

17. a, d, e, f
RATIONALE: The nurse should prescribe supplements of vitamins A, D, E, and K for a client with a fat-soluble vitamin deficiency. Fat-soluble vitamins (A, D, E, and K) are stored in the body as reserves for future needs. Water-soluble vitamins (B complex, C) are eliminated with body fluids and thus require daily replacement.

18. a, b
RATIONALE: The nurse should increase the quantity of cereals and grains in the client’s diet to make up for the carbohydrate deficiency. Carbohydrates are nutrients that contain molecules of carbon, hydrogen, and oxygen, and are generally found in plant food sources. Carbohydrates, the chief component of most diets, are the body’s primary source for quick energy. Cereals and grains such as rice, wheat and wheat germ, oats, barley, corn and corn meal; fruits and vegetables; and sweeteners are sources of carbohydrates. Egg white, yolk, and meat are sources of protein.

19. a, b, c
RATIONALE: Oral and dental problems are common in older adults and interfere with adequate nutrition. The nurse should encourage older adults to get dental care every 6 months and to practice good dental hygiene daily. In addition, people with a dry mouth should drink adequate
non-caffeinated and non-alcoholic beverages to promote salivation. Increasing caloric intake or using herbal therapies will not help reduce dental pain.

20. b

**RATIONALE:** The body-mass index for the client is calculated to be 28.2. A body-mass index above 25 is considered to be overweight. Therefore, the client is overweight. To calculate the body-mass index, the nurse performs the following steps: (1) divides weight in pounds by 2.2 to get weight in kilograms, (2) divides the height in inches by 39.4 to get height in meters, (3) squares the answer in step 2 by multiplying the number by itself, and (4) divides the weight in kilograms by the square of the height in meters.

**CHAPTER 16**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Infiltration
2. Intracellular
3. Extracellular
4. Interstitial
5. Prions
6. Ions
7. Dehydration
8. Vented
9. Venipuncture
10. Phlebitis

**Activity B**

1. The distribution method shown in the figure is osmosis.
2. During osmosis, water moves through a semipermeable membrane—like those surrounding body cells, capillary walls, and body organs and cavities—from an area where the fluid is more dilute to another area where the fluid is more concentrated.
3. Colloids are undissolved protein substances such as albumin and blood cells within body fluids that do not readily pass through membranes. The presence and quantity of colloids on either side of the semipermeable membrane influence osmosis. Their very presence produces colloidal osmotic pressure (force for attracting water), which influences fluid volume in any given fluid location.

**Activity C**

1. D
2. E
3. A
4. B
5. C

**Activity D**

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

**Activity E**

1. Body fluid is a mixture of water, chemicals called *electrolytes* and *non-electrolytes*, and blood cells. Body water normally is supplied and replenished from drinking liquids, consuming food, and metabolizing nutrients.
2. The donated blood is tested for syphilis, hepatitis, and HIV antibodies to exclude administering blood that may transmit these blood-borne diseases.
3. Electrolytes are chemical compounds, such as sodium and chloride, that are dissolved, absorbed, and distributed in body fluid; they have an electrical charge. They are obtained from dietary sources of food and beverages. They are essential for maintaining cellular, tissue, and organ functions. Electrolytes affect fluid balance and complex chemical activities, such as muscle contraction, and the formation of enzymes, acids, and bases.
4. Type O blood is considered the universal donor because it lacks both A and B blood group markers on its cell membrane. Therefore, type O blood can be given to anyone because it will not trigger an incompatibility reaction when given to recipients with other blood types. Persons with type AB blood are referred to as universal recipients because their red blood cells have proteins compatible with types A, B, and O.
5. Non-electrolytes are chemical compounds that remain bound together when dissolved in a solution and do not conduct electricity. The chemical end products of carbohydrate, protein, and fat metabolism—namely, glucose, amino acids, and fatty acids—provide a continuous supply of non-electrolytes. In the absence of metabolic disease, a stable amount of non-electrolytes circulate in body fluid as long as a person consumes adequate nutrients. Deficiency states occur when body fluid is lost or when the ability to eat is compromised.
6. There are several hundred differences among the proteins in the blood of a donor and the blood of a recipient. They can cause minor or major transfusion reactions. One of the most dangerous differences involves the antigens, or protein structures, on membranes of red blood cells. Antigens determine the characteristic blood group—A, B, AB, and O—and Rh factor. Rh positive means the protein is present; Rh negative means the protein is absent.
Activity F

| K | G |
| I | L |
| D | U |
| P | C |
| T | L |
| E | O |
| T | E |
| E | D |
| L | S |
| E | T | IN S U L I N |

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The client is showing signs of fluid deficit. The nurse should observe the following symptoms in the client:
   - Loss of body weight
   - Severe dehydration
   - Decreased skin turgor
2. The nurse should ensure that the client’s fluid intake on an average is approximately 2,500 mL per day. It can also range from 1,800 to 3,000 mL per day. This will help the client’s body to maintain a match between fluid intake and output.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b
   RATIONALE: The nurse could consider blood type O, Rh negative for the client. Type O blood is considered the universal donor because it lacks both A and B blood group markers on its cell membrane. Therefore, type O blood can be given to anyone because it will not trigger an incompatibility reaction when given to recipients with other blood types. Persons with type AB blood are referred to as universal recipients because their red blood cells have proteins compatible with types A, B, and O, but this type of blood cannot be given to everyone. Rh-positive persons may receive Rh-positive or Rh-negative blood because the latter does not contain the sensitizing protein. Rh-negative persons, however, should not be given Rh-positive blood. So, the client with A, Rh-negative blood cannot be given A, Rh-positive or B, Rh-positive blood types.

2. b
   RATIONALE: The client with diarrhea would require fluid volume assessment. The client has been losing fluid from his body and would require intravenous fluid intake. Other clients who may need fluid volume assessment are those who have undergone surgery, who have intravenous fluids with tube feedings, those with wound drainage or suction equipment, those who have urinary catheters, or those who are undergoing diuretic drug therapy. Clients with tonsillitis, viral infection, or jaundice may not be required to be placed on input-and-output tool immediately, although they may be given other intravenous fluids to help combat their illnesses.

3. c
   RATIONALE: The nurse should note hypovolemia as the possible cause of the client’s condition. Hypovolemia is a low volume in extracellular fluid compartments. If untreated, hypovolemia may result in dehydration, which means a fluid deficit in both extracellular and intracellular compartments. Hypervolemia means a higher-than-normal volume of water in the intravascular fluid compartment and is another example of fluid imbalance. Edema develops when excess fluid is distributed to the interstitial space. Hypoalbuminemia is the result of a deficit of albumin in the blood. These, however, are not responsible for the client’s condition.

4. d
   RATIONALE: The nurse should document the client’s level of dehydration as mild. Mild dehydration is present when there is a 3% to 5% loss of body weight. Moderate dehydration is associated with a 6% to 10% loss of body weight; and severe dehydration, a life-threatening emergency, occurs with a loss of more than 9% to 15% of body weight.

5. a
   RATIONALE: To avoid the fluid and electrolyte imbalances that result from the administration of diuretic medication to elderly clients, the nurse should encourage older adults to drink non-caffeinated beverages because of the diuretic effect of caffeine or to replace the volume of caffeinated beverages by consuming the same volume of non-caffeinated fluids per day. Older adults may need to be encouraged to drink fluids, even at times when they do not feel thirsty, because age-related changes may diminish the sensation of thirst. The nurse should not encourage the client to have more food or caffeinated drinks, or to avoid intake of salt in food.

6. a
   RATIONALE: Dextran 40 would help to increase the client’s blood volume and blood pressure. Dextran 40 (Rheomacrodex) and hetastarch (Hespan) are polysaccharides, which are large, insoluble complex carbohydrate molecules. They attract water
from other fluid compartments and hence increase blood volume and blood pressure. Perfluorocarbons are used to restore oxygen to tissues with impaired circulation, such as the brain after a stroke. Microencapsulated hemoglobin is the product made from recycling outdated red blood cells in donated blood by sealing them within a lipid capsule. Hemosol is used to improve the treatment of disorders that previously required blood transfusions but are not used to increase blood volume and blood pressure.

7. a
**RATIONALE:** The nurse should record the client condition as edema. Edema develops when excess fluid is distributed to interstitial spaces. Edema does not usually occur unless there is a 3-L excess in body fluid. Hypervolemia means a higher-than-normal volume of water in the intravascular fluid compartment. Hypovolemia is a low volume in the extracellular fluid compartments. Hypoalbuminemia is a situation in which there is a deficit of albumin in the blood. These, however, are not related to the client’s condition.

8. b
**RATIONALE:** The nurse should ensure that the client is weighed at the same time daily, in the same clothing, and on the same scale to enable tracking of weight changes indicative of fluid volume fluctuations. There is no fixed rule that the client should wear light clothes, but it is mandatory that the client wear the same clothing when being weighed. The nurse need not weigh the client on different scales to avoid discrepancies. Also, the nurse needs to weigh the client every day and not thrice a week at the same time.

9. c
**RATIONALE:** The nurse should restrict the salt intake in a client with edema. When caring for a client with edema, the nurse should ensure that intake of oral fluids and salt consumption is restricted or limited. Hypovolemia or moderate dehydration is treated by increasing the oral intake, administering intravenous fluid replacements, controlling fluid losses, or a combination of these measures.

10. b
**RATIONALE:** When administering the intravenous solution, the nurse should monitor the client for any circulatory overload. Clients with hypoalbuminemia have a deficit of albumin in their blood. The priority is to restore the circulatory volume by providing intravenous fluids, sometimes in large volumes at rapid rates. The nurse closely monitors clients who receive albumin replacement for signs of circulatory overload. The nurse would not check for dehydration, infuse fluids at smaller volumes at rapid rates, or infuse fluids at smaller volumes at slower rates.

11. d
**RATIONALE:** The deficit of albumin in the blood may cause liver disease, chronic kidney disease, and disorders in which capillary and cellular permeability is altered, such as burns and severe allergic reactions. Dehydration is caused from excess of fluid output compared with fluid intake. Deficit of albumin will not cause heart or peritoneum infection.

12. a
**RATIONALE:** The nurse would observe cyanosis as a symptom of adverse reaction to lipid infusion. Cardiac arrest, gall bladder enlargement, and anemia are not specific symptoms of adverse reactions to lipid infusion.

13. b
**RATIONALE:** An isotonic solution generally is administered to maintain fluid balance in clients who may not be able to eat or drink for a short period. A hypotonic solution is administered to clients with fluid losses in excess of fluid intake. Hypertonic solutions are used when it is necessary to reduce cerebral edema or to expand the circulatory volume rapidly. An isotonic solution is not administered when the client is unable to urinate.

14. c
**RATIONALE:** The nurse knows that Hespan is used to treat a client for hypovolemic shock. Plasma expanders such as dextran 40 (Rheomacrodex) and hetastarch (Hespan) are used as economic and virus-free substitutes for blood and blood products when treating hypovolemic shock. Oxygen, Fluorosol DA, and Hemosol are blood substitutes that may improve the treatment of disorders that previously required blood transfusions.

15. b, d, e
**RATIONALE:** The nurse needs to monitor the client receiving the intravenous solution for phlebitis, dehydration, and thrombus formation. These are complications associated with administration of intravenous solutions. Edema and hypervolemia are disorders resulting from a fluid imbalance.

16. b
**RATIONALE:** During the blood transfusion the nurse should remain with the client for the first 15 minutes because serious transfusion reactions generally occur within the first 5 to 15 minutes of infusion. The nurse should infuse the blood within 4 hours (not 5 hours) after being released from the blood bank. The nurse can gently rotate the blood, but not squeeze and turn the container to avoid damaging intact cells. The nurse should assess the client at 15- to 30-minute intervals during the transfusion.

17. c
**RATIONALE:** The nurse should weigh the wet diapers and subtract the weight of a similar dry item. An estimate of fluid loss is based on the equivalent 1 pound (0.47 kg) = 1 pint (475 mL). It is, however, not equivalent to 0.87 kg = 487 mL, 1.00 kg = 100 mL, or 0.37 kg = 337 mL.
18. a RATIONALE: The nurse uses 15 mL glucose, which is equivalent to 1 tablespoon. One teaspoon of sugar is equivalent to 5 mL sugar. One tablespoon is not equivalent to 20, 10, or 25 mL glucose.

19. b RATIONALE: Fluid volumes are recorded in milliliters. The approximate equivalent for 1 ounce is 30 mL. Therefore, the nurse should give 30 mL glucose to the client and not 10, 20, or 15 mL.

Activity B

1. The figure shows a cross-section of the skin.
2. The functions of the different layers of the skin are as follows:
   • The epidermis contains dead skin cells that form a tough protein called keratin, which protects the layers and structures within the lower portions of the skin.
   • The dermis contains most of the secretory glands.
3. The subcutaneous layer separates the skin from skeletal muscles. It contains fat cells, blood vessels, nerves, and the roots of hair follicles and glands.
4. The subcutaneous layer separates the skin from skeletal muscles. It contains fat cells, blood vessels, nerves, and the roots of hair follicles and glands.

CHAPTER 17
SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A

1. Keratin
2. Mucus
3. Deciduous
4. Caries
5. Cornea
6. Mouth
7. Feet
8. Cerumen
9. Optometrist
10. Subcutaneous
**Activity C**

1. D  
2. B  
3. E  
4. A  
5. C

**Activity D**

5 → 2 → 4 → 1 → 3

**Activity E**

1. Tooth brushing is the preferred technique for providing oral hygiene to unconscious clients. In addition to tooth brushing, the nurse can also moisten and refresh the client’s mouth with oral swabs.

2. A partial bath is washing only those body areas subject to greatest soiling or that are sources of body odor, such as the face, hands, axillae, and perineal area. Partial bathing is done at a sink or with a basin at the bedside.

3. The four main functions of the skin are to
   - Protect inner body structures from injury and infection
   - Regulate body temperature
   - Maintain fluid and chemical balance
   - Provide sensory information such as pain, temperature, touch, and pressure

4. When grooming a client’s hair, the nurse should
   - Brush the hair to increase circulation and distribution of sebum
   - Apply a conditioner or alcohol to loosen tangles

5. When cleaning eyeglasses, the nurse should
   - Hold the eyeglasses by the nose or ear braces
   - Run tepid water over both sides of the lenses (hot water damages plastic lenses)
   - Wash the lenses with soap or detergent
   - Rinse with running tap water
   - Dry with a clean, soft cloth such as a handkerchief
   - Avoid use of paper tissues because some contain wood fibers and pulp can scratch the lenses

**Activity F**

P   C   U   T   I   C   L   E
N   A
T   Q
E   U
H   Y   G   I   E   N   E
U
D   E   R   M   I   S
E
N
T   A   R   T   A   R

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The nurse can suggest the client undergo partial bathing. A partial bath means washing only those body areas subject to greatest soiling or that are sources of body odor: generally the face, hands, axillae, and perineal area. Partial bathing is done at a sink or with a basin at the bedside.

2. When providing perineal care, the nurse must
   - Prevent direct contact between him- or herself and any secretions or excretions by wearing clean gloves
   - Clean so that he or she removes secretions and excretions from less soiled to more soiled areas
   - Use these principles to help prevent the transfer of infectious microorganisms to the nurse and to uncontaminated areas on or within the client

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. a  
   RATIONALE: The nurse removes the artificial eye by depressing the lower eyelid until the lid margin is wide enough to allow the artificial eye to slide free. The nurse uses an ophthalmic suction cup to remove the lens from the eyes. Extending the eyelid will not help the artificial eye to come out. Irrigating the eye socket is a method of cleaning the artificial eye.

2. c  
   RATIONALE: A partial bath is the most suitable for the elderly client with arthritis, because the client cannot move too much and the client also does not perspire much. During a bed bath, the client needs to assist the nurse with some aspects of bathing. With a towel bath, the nurse uses a single need to be covered by a turban or cap to protect the scalp and hair. Chemotherapy might lead to hair loss; therefore, the client need not cut or keep his hair short. The nurse should brush the hair slowly with a wide-tooth comb and should comb starting at the ends of the hair rather than from the crown.

3. a  
   RATIONALE: Removing the lens from the cornea to the sclera by sliding it into position is the easiest and safest way to remove the lens. To remove a hard contact lens, the nurse places the thumb and a finger on the center of the upper and lower lids. The nurse applies slight pressure to the lids while instructing the client to blink, which separates the hard lens from the cornea. Depressing the lower eyelid or using a finger to remove the lens will damage the soft lens and the eyes as well.

4. c  
   RATIONALE: The best temperature for a towel bath is 105 to 110°F and is recommended for people with fever and high body temperature. Other temperatures are lower than the required temperature and may increase the fever.

5. c  
   RATIONALE: Body aid devices will be best suited for the client because they have electrical components enclosed in a case carried somewhere on the body to deliver sound via a wire connected to an ear mold receiver. Use of body aids is most common for those with severe hearing loss or for those who cannot care for a small device. A behind-the-ear device is a very small device that consists of a microphone and amplifier worn behind the ear that delivers sound to an internal receiver. Infrared listening devices resemble earphones attached to a hand-held receiver. Canal Aids fit deep within the ear canal and are largely concealed. Because of their small size, they may be difficult to remove and adjust.

6. b  
   RATIONALE: The nurse should always clean the eyeglasses with a clean, soft handkerchief so that it does not damage the glasses. A woolen cloth or paper tissue can scratch the lenses because it contains wood fibers and pulp. A dryer is not a good option because it ejects hot air, which may crack the lens.

7. a  
   RATIONALE: Because the client has cancer, the hair needs to be covered by a turban or cap to protect the scalp and hair. Chemotherapy might lead to hair loss; therefore, the client need not cut or keep his hair short. The nurse should brush the hair slowly with a wide-tooth comb and should comb starting at the ends of the hair rather than from the crown.

8. d  
   RATIONALE: The nurse should use cotton swabs to keep the client's mouth moist because the client is in coma and there is no secretion of saliva to keep the mouth moist. Wax floss is used by clients who can take care of their oral hygiene independently. The nurse need not use sterile solutions or liquids for oral care because these could predispose clients to pneumonia from aspiration.

9. d  
   RATIONALE: For clients who cannot remove their own dentures, the nurse dons gloves and uses a dry gauze square or a clean facelock to grasp and free the dentures from the mouth. The nurse should clean the dentures with a toothbrush, toothpaste, and cold or tepid water. The nurse should take care to hold the dentures over a plastic basin or towel so they will not break if dropped. The nurse should store the dentures in a covered cup. Plain water is used most often to cover dentures when they are not in the mouth, but some denture wearers add mouthwash or denture cleaner to the water. Antiseptic solution, hot water, or cotton swabs are not used to clean dentures.

10. a  
    RATIONALE: When providing personal hygiene care, the nurse should take care of the client's personal

11. d
   **RATIONALE:** The nurse should request the services of a podiatrist. Clients who have diabetes, impaired circulation, or thick nails are at risk for vascular complications secondary to trauma. The nurse should refrain from cleaning and filing the nails before the client consults a podiatrist. The nurse should clean under the nails with a wooden orange stick or other sturdy but blunt instrument, not with a clean towel.

12. c
   **RATIONALE:** The nurse should advise the client to avoid injuring the feet and instruct the client to wear sturdy slippers. Flip-flops, heeled shoes, or leather slippers should not be used by the client because these may further aggravate the problem.

13. b
   **RATIONALE:** Skin lesions such as senile lentigines show symptoms like brown, flat patches on the face; hands; and forearms. Seborrheic keratoses are benign skin lesions that look like tan-to-black raised areas on the trunk. Scleroderma is caused by collagen deposits on the skin, whereas acne occurs from excess secretion of the sebaceous glands, mostly in young age.

14. b, c, e
   **RATIONALE:** The nurse will give the client a towel bath during which the nurse uses a single large towel to cover and wash a client. The nurse pre-folds and moistens the towel with approximately one half gallon (2 L) water heated to 105 to 110°F (40–43°C) and 1 ounce (30 mL) of no-rinse liquid cleanser. The nurse will then unfold the towel so that it covers the client and will use a separate section to wipe each part of the body, beginning at the feet and moving upward. The nurse folds the soiled areas of the towel to the inside as he or she bathes each area and allows the skin to air-dry for 2 to 3 seconds. After washing the front of the body, the nurse positions the client on the side and repeats the procedure.

15. a, c, d
   **RATIONALE:** The nurse, while grooming the client’s hair, should brush the hair slowly and carefully to avoid damaging it, use a wide-tooth comb, and start at the ends of the hair rather than from the crown downward if the hair is matted or tangled. The nurse should braid the hair rather than tie it in a bun, to help prevent tangles. The nurse should also brush the hair for a longer time to increase circulation and distribution of sebum.

16. c, d, a, b, e
   **RATIONALE:** The nurse cleans glass and plastic lenses by first holding the eyeglasses by the nose or ear braces and running tepid water over both sides of the lenses. The nurse then washes the lenses with soap or detergent and rinses them with running tap water to clean them. Lastly, the nurse dries the glasses with a clean, soft cloth such as a handkerchief.

17. d, b, e, c, a
   **RATIONALE:** Before removing contact lenses, the nurse should obtain an appropriate storage container. The nurse should then elevate the client’s head and place a towel over the client’s chest to prevent loss or damage to the contact lenses. To remove a soft contact lens, the nurse moves the lens from the cornea to the sclera by sliding it into position with a clean, gloved finger. When repositioning the lens, the nurse compresses the lid margins together toward the lens. Compression bends the pliable lens, allowing air to enter beneath it. The air releases the lens from the surface of the eye. The nurse then gently grasps the loosened lens between the thumb and forefinger for removal.

18. a
   **RATIONALE:** The nurse will prefold and moisten the towel with approximately one half gallon or 2 L of water while giving a towel bath to a client. One half gallon of water is not equivalent to 1, 1.5, or 2.5 L water.

## CHAPTER 18

### SECTION II: ASSESSING YOUR UNDERSTANDING

#### Activity A

1. Thermoregulation
2. Paradoxical
3. Parasomnias
4. Stimulants
5. Insomnia
6. Phototherapy
7. Rest
8. Sundown
9. Hypersonnia

#### Activity B

1. The figure shows characteristic ECG wave forms by sleep stage.
2. Sleep is divided into two phases: NREM sleep and REM sleep. These names derive from the periods during sleep when eye movements are either subdued or energetic. NREM sleep is characterized as quiet sleep; REM sleep is characterized as active sleep.
3. A photosensitive light system influences the sleep–wake cycle.
4. Wakefulness corresponds with sunrise and daylight. Cycles of wakefulness followed by sleep are linked...
to a photosensitive system involving the eyes and the pineal gland in the brain. Without bright light, the pineal gland secretes melatonin, the hormone that induces drowsiness and sleep. Light triggers suppression of melatonin secretion. Seasonal affective disorder results from excessive melatonin. To counteract these symptoms, phototherapy is prescribed, which suppresses melatonin by stimulating light receptors in the eye.

Activity C
1. D
2. A
3. B
4. C

Activity D
1. Sleep promotes emotional well-being and enhances various physiologic processes. Sleep is believed to play a role in reducing fatigue, stabilizing mood, improving blood flow to the brain, increasing protein synthesis, maintaining the disease-fighting mechanisms of the immune system, promoting cellular growth and repair, and improving the capacity for learning and memory storage.
2. Progressive relaxation is a therapeutic exercise during which a person actively contracts then relaxes muscle groups to break the worry–tension cycle that interferes with relaxation. Clients can learn to perform progressive relaxation exercises independently using self-suggestion. Some clients eventually omit the muscle contraction phase and go directly to the progressive relaxation of muscle groups.
3. Factors that affect sleep are light, activity, environment, motivation, emotions and moods, food and beverages, illness, and drugs.
4. Nocturnal polysomnography is a diagnostic assessment technique in which a client is monitored for an entire night’s sleep to obtain physiologic data. It generally takes place in a sleep disorder clinic, but it is now possible to conduct the study at the client’s home. A technician monitors a computerized recording system up to 60 feet away. The diagnostic data are compared with the patterns and characteristics of normal sleep cycles to help diagnose sleep disorders.
5. Seasonal affective disorder is characterized by hypersomnia, lack of energy when awake, increased appetite accompanied by cravings for sweets, and weight gain. The symptoms begin during the darker winter months and disappear as daylight hours increase in the spring. In some ways, the disorder resembles the hibernation patterns in bears and other animals.

Activity E

| M | H |
| E | Y |
| M | C | R | O | S | L | E | E | P | P |
| A | O |
| C | A | T | A | P | L | E | X | Y |
| O | I |
| S | N | A |
| B | R | U | X | I | S | M |
| N | N |
| N | R | I | S | E |

SECTION III: APPLYING YOUR KNOWLEDGE

Activity F
1. During the apneic or hypopneic periods, ventilation decreases and blood oxygenation decreases. The accumulation of carbon dioxide and the decrease in oxygen cause brief periods of awakening throughout the night. This disturbs the normal transitions and periods of NREM and REM sleep. Consequently, clients with sleep apnea/hypopnea syndrome feel tired after having slept, or worse, their symptoms may cause a heart attack, stroke, or sudden death from hypoxia of the heart, brain, and other organs.
2. The nurse should implement the following interventions to promote sleep in the client:
   • Suggest that the client sleep in positions other than the supine position
   • Encourage the client to lose weight
   • Ask the client to avoid substances that depress respiration, such as alcohol and sleeping medication
   • In severe cases, provide the client with a special breathing mask that keeps the alveoli inflated at all times.

SECTION IV: PRACTICING FOR NCLEX

Activity G
1. b

RATIONALE: The nurse should keep the stair gates and doors locked when caring for a client with somnambulism. Keeping the client restrained is not a justified action. Keeping a call bell within reach of the client may not help because sleepwalking happens during sleep and the client is not aware of it. Administering sedatives is not an appropriate intervention.
2. c  
**RATIONALE:** The nurse should provide the client with extra pillows. It would help to position the client comfortably as well as elevate the fractured leg. A mattress, blanket, and headboard are important in providing comfort to the client; however, taking into consideration the client’s fractured leg, pillows would be the most suitable option in providing comfort to this client.

3. d  
**RATIONALE:** The headboard in the client’s room can be used to improve the effectiveness of CPR given to the client. Placing the headboard under the client’s upper body allows more effective cardiac compression than possible on a mattress. An over-the-bed table, a side stand, and a bedside chair may not be helpful in CPR.

4. c  
**RATIONALE:** The nurse should place a mattress overlay on the client’s bed to keep the skin intact. Providing extra pillows and a draw sheet does not contribute to the prevention of bedsores. The nurse should not provide a soft mattress because it may strain the muscles and joints.

5. a  
**RATIONALE:** The nurse should elevate the limb with pillows to reduce swelling in the leg. Immobilizing the limb may not reduce the swelling associated with the leg ulcer. Changing the dressing of the wound does not relieve swelling. Restricting fluid intake is not an appropriate intervention in this case.

6. b  
**RATIONALE:** The nurse should place an absorbent pad between the client with urinary incontinence and the bottom sheet. Restricting fluids is not appropriate because it may cause dehydration. Adding an extra draw sheet or bottom sheet may not help to prevent the frequent changing of linens.

7. b  
**RATIONALE:** The nurse should draw the privacy curtain around the client when examining the mastectomy site to maintain the privacy of the client. Providing an explanation for the procedure, placing the client in a comfortable position, and using soft strokes when palpating the site are necessary but do not contribute to maintaining of dignity of the client.

8. a  
**RATIONALE:** To prevent hypoxia in the client, the nurse should provide the client suffering from sleep apnea with a special breathing mask that keeps the alveoli inflated at all times. Physical exercise, drinking milk before sleeping, and back massages promote sleep but do not prevent sleep apnea.

9. c  
**RATIONALE:** The nurse should ask the client to avoid drinking alcohol before going to sleep. Alcohol is a depressant drug that promotes sleep, but it tends to reduce normal REM and deep-sleep stages of NREM sleep. As alcohol is metabolized, stimulating chemicals that were blocked by the sedative effects of the alcohol surge forth from neurons, causing early awakening. Engaging in diversional activities, joining an exercise regimen, or avoiding listening to stimulating music may not affect early awakening.

10. a  
**RATIONALE:** The nurse should administer the diuretic in the morning so that its effect diminishes by the time the client goes to bed. Reducing the dosage of the diuretic may not help because the person would still have to get up to urinate. Catheterization is associated with infection; therefore, it is not an appropriate intervention. Restriction of fluids may cause dehydration in the client.

11. a  
**RATIONALE:** The nurse should suggest that the client avoid driving vehicles. Clients with narcolepsy experience excessive sleepiness during the daytime and are at risk of motor vehicle and occupational hazards. Performing moderate exercise and practicing relaxation techniques are helpful for promoting good sleep, so they are not prohibited. The client can watch non-stimulating television before sleep.

12. d  
**RATIONALE:** The client is experiencing seasonal affective disorder. Phototherapy is the most appropriate therapy for the client in this case. Tranquilizers are not effective for treating seasonal affective disorders. Relaxation and back massage promote good sleep but are not effective treatments for the condition.

13. c  
**RATIONALE:** The appropriate nursing diagnosis that the nurse should record for the client is relocation stress syndrome. Most people sleep best in their usual environment: They develop a preference for a particular pillow, mattress, and blanket. They also tend to adapt to the unique sounds of where they live, such as traffic, trains, and the hum of appliance motors or furnaces. Alterations in the environment or the activities performed before bedtime negatively affect a person’s ability to fall and remain asleep. Impaired bed mobility is an inappropriate diagnosis because the client is not confined to bed. Disturbed sleep pattern is incorrect because the sleep pattern is not impaired. Impaired gas exchange is an inappropriate diagnosis because the client has normal breathing.

14. b  
**RATIONALE:** The nurse should omit stimulatory strokes if the purpose of the back massage is relaxation. Giving circular and firm strokes are part of a back massage. During the massage, the nurse may ask the client to relax, but this is secondary.
15. a, c, e  
RATIONALE: Promoting physical exercise, providing milk before sleeping, and encouraging the client to practice relaxation techniques promotes sleep. Physical exercises increase fatigue and the need for sleep. Milk has a hypnotic effect as a result of the L-tryptophan present in it. Relaxation techniques also promote sleep. Administering sedatives should be used as a last resort and not the first approach.

16. a, b, c  
RATIONALE: The nurse should tell the client to avoid coffee, cola, and chocolates before bedtime to promote sleep. Caffeine, which is a stimulant and causes wakefulness, is present in coffee, tea, chocolate, and most cola drinks. Fish and legumes contain L-tryptophan, which promotes sleep.

CHAPTER 19

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Thermal
2. Asphyxiation
3. Macroshock
4. Restraints
5. Contact
6. Conductor
7. Protocol
8. Osteoporosis
9. Ground
10. Microshock

Activity B
1. The figure shows a decision tree for treating ingested poison.
2. The initial treatment for a victim of suspected poisoning involves maintaining breathing and cardiac function. After that, rescuers attempt to identify what was ingested, how much, and when. Definitive treatment depends on the substance, the client’s condition, and whether the substance is still in the stomach. For ingestions of commercial products containing multiple ingredients, the poison control center is consulted.
3. The figure shows examples of restraint alternatives.
4. Restraints are methods of restricting a person’s freedom of movement, physical activity, or normal access to his or her body. Restraint alternatives are protective or adaptive devices that promote client safety and postural support, but that the client can release independently. Restraint alternatives are generally appropriate for clients who tend to need repositioning to maintain their body alignment or to improve their independence and functional status. Although the use of restraints is intended to prevent falls and other injuries, in many cases their risks outweigh their benefits.

Activity C

Activity D

Activity E
1. Latex reactions are of two types—contact dermatitis and immediate hypersensitivity. Contact dermatitis is a delayed, localized skin reaction that occurs within 6 to 48 hours and lasts several days. Immediate hypersensitivity is an instantaneous or fairly prompt systemic reaction manifested by swelling, itching, respiratory distress, hypotension, and death in severe cases.
2. To prevent thermal burns, stay away from flames and use hot liquids with care. Exits must be identified, lighted, and unlocked. Most fire codes require that public buildings, including hospitals and nursing homes, have a functioning sprinkler system.
3. Carbon monoxide, an odorless gas, is released during the incomplete combustion of carbon products, such as fossil fuels, that are commonly used to heat homes. When inhaled, carbon monoxide binds with hemoglobin and interferes with the oxygenation of cells. Without adequate ventilation, the consequences can be lethal. This is called carbon monoxide poisoning.
4. The following measures should be practiced to prevent drowning:
   • Learn to swim
   • Never swim alone
   • Wear an approved flotation device
   • Do not drink alcohol when participating in water-related sports
   • Notify a law enforcement officer if boaters appear unsafe
5. Restraint alternatives are protective or adaptive devices that promote client safety and postural support, but that the client can release independently. Restraint alternatives are generally appropriate for clients who tend to need repositioning to maintain their body alignment or to improve their independence and functional status. Some examples include seat inserts or gripping materials that prevent sliding, support pillows, seat belts or harnesses with front-releasing Velcro or buckle closures, and commercial or homemade tilt wedges.

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The nurse should not use conventional restraints because the client has a steady gait and there is no risk associated with his ambulation. The nurse can use restraint alternatives and other supplementary measures like assistive ambulatory devices, and use an electronic seat and bed monitors.

2. There are many disadvantages of conventional restraints. Restrained clients become increasingly confused; suffer chronic constipation, incontinence, infections such as pneumonia, and pressure ulcers; and experience a progressive decline in their ability to perform activities of daily living. Restrained clients are more likely to die during their hospital stay than those who are not restrained.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b  
**RATIONALE:** The nurse should provide the client with prefilled containers for separate drugs to ensure that the client does not take the wrong medicines. Instructing the client to see the blister pack, giving the orders in writing, and explaining the drug regimen may not help the elderly client who is experiencing cognitive impairment.

2. c  
**RATIONALE:** The first priority of the nurse should be to assess and maintain the breathing and cardiac function of the child. After that, rescuers should attempt to identify what was ingested, how much, and when. Definitive treatment depends on the substance, the client's condition, and whether the substance is still in the stomach.

3. d  
**RATIONALE:** The nurse should move the client into a quiet room and let the client ventilate his concerns. Moving the client into a quiet room decreases environmental stimulus. Restraint or isolation is not required because the client is not a threat to himself or others. Anxiolytics can be administered, but this is a secondary method.

4. a  
**RATIONALE:** Restraint or isolation is not required because the client is not a threat to himself or others. Anxiolytics can be administered, but this is a secondary method.

5. d  
**RATIONALE:** The nurse should educate the parents to keep the cleaning solutions locked. Toddlers are naturally inquisitive and more mobile than infants. Labeling the solutions may not help because toddlers are inquisitive by nature. Educating the kids is a secondary measure. Not keeping the cleaning solution at home is an inappropriate intervention.

6. b  
**RATIONALE:** Risk for injury is the most appropriate nursing diagnosis for the restrained client. Restrained clients become increasingly confused; suffer chronic constipation, incontinence, infections such as pneumonia, and pressure ulcers; and experience a progressive decline in their ability to perform activities of daily living. Impaired mobility, impaired sensory perception, and altered consciousness are not appropriate for the client.

7. c  
**RATIONALE:** The nurse should emphasize the use of grounded equipment to prevent electrical hazards. The use of grounded equipment reduces the potential for electrical shock. A ground diverts leaking electrical energy to the earth. Grounded equipment is identified by the presence of a three-pronged plug. Unplugging the equipment after use, putting electrical cords under the carpet, and not operating the devices with wet hands are secondary measures.

8. a  
**RATIONALE:** The nurse's priority should be to protect the child from injury. Toddlers are naturally inquisitive and more mobile than infants, and they fail to understand the dangers that accompany climbing. Consequently, they are often the victims of accidental poisoning, falls down stairs or from high chairs, burns, electrocution from exploring outlets or manipulating electric cords, and drowning. Befriending the toddler, adapting, and preparing for the diagnostic test are not a priority.

9. b  
**RATIONALE:** Because the client has improved, the nurse should remove the restraints even if the
restraint order has not expired. Waiting for the physician to inspect the client and revise the order, continuing the restraint until the order is expired, and loosening the restraint to allow limited movement are not appropriate actions because restraints are not justified when the client has improved and is harmless to the client and others.

10. a, b, c
RATIONALE: In the case of carbon monoxide poisoning, the victim should be immediately removed from the site. The victim should be assessed for vital signs and should be administered oxygen. The windows and doors should not be kept closed, but should be opened to promote ventilation. Reorienting the client may not be immediately important.

11. d
RATIONALE: The most appropriate action should be to evacuate the client from the room. According to RACE protocol, the client should be rescued from the room followed by raising the alarm, confining the fire, and extinguishing it.

12. a, c, d
RATIONALE: The tilt wedges, seat belts with Velcro, and harnesses with buckles are restraint alternatives because these devices provide client safety and postural support, and can be released by the client. Vest and elbow restraints are not restraint alternatives.

13. a, b, d
RATIONALE: To prevent accidental drowning, the parents should not allow the child to swim alone, should provide floatation devices, and should keep the swimming pool fenced when the child is unattended. The child should not be allowed to swim with his friend because the risk of drowning is high.

14. b
RATIONALE: The nurse should tell a family member to sit with the client to prevent the client from removing the endotracheal tube. Applying elbow restraints and taking restraint orders from the physician are not appropriate because they are restrictive methods, and the nurse should first use non-restrictive methods of restraining. Applying a waist restraint is a restrictive method and is not useful in restraining the hands.

15. a
RATIONALE: The mode of injury in the child may be a play-related injury, taking into consideration his age. Automobile accidents are more common in adults and adolescents. Falls from beds are most commonly seen in infants, and toddlers have the tendency to fall down stairs.

16. a, b, c
RATIONALE: The nurse should attach an allergy-alert ID bracelet on the client, stock the client’s room with latex-free equipment, and communicate with other personnel to use non-latex equipment to protect the client from exposure to latex. Washing the hands before wearing gloves to provide care to the client does not solve the purpose because the gloves are made of latex. Instructing the client to wash the area in contact with latex immediately may not reduce a latex reaction.

17. b
RATIONALE: The nurse should place moist towels or blankets on the thresholds of doors to prevent smoke from escaping. Closing the door of the room on fire may not prevent the escape of smoke because the smoke can escape from door thresholds. Switching on the fan may be dangerous because it could promote the spreading of the fire. It may be too late to control the fire if the nurse waits for the firemen to come and handle it.

18. d
RATIONALE: The nurse should tell the client to avoid keeping area rugs to help prevent falls. Wearing slippers at home is comfortable, but does not provide appropriate support. Walking with a cane can lead to falls, especially if area rugs are present. Calling for assistance to ambulate may not be feasible all the time.

CHAPTER 20

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Pain
2. Modulation
3. Chronic
4. Rhizotomy
5. Biofeedback
6. Distraction
7. Transduction
8. Nociceptors
9. Non-opioid
10. Acupuncture

Activity B
1. The figure shows patient-controlled analgesia.
2. Patient-controlled analgesia is advantageous to both clients and nurses. Some of the advantages are as follows:
   - Pain relief is rapid because the drug is delivered intravenously.
   - Pain is kept within a constant tolerable level.
   - Less drug is actually used because small doses continuously control the pain.
   - Clients are spared the discomfort of repeated injections.
   - Anxiety is reduced because the client does not wait for the nurse to prepare and administer an injection.
• Side effects are reduced with smaller individual dosages and lower total doses.
• Clients tend to ambulate and move more, reducing the potential for complications from immobility.
• Clients take an active role in their pain management.
• The nurse is free to carry out other nursing responsibilities.

**Activity C**

**Activity D**


```
3 2 4 1
```

**Activity E**

1. Transmission of pain occurs when peripheral nociceptors form synapses with neurons within the spinal cord that carry pain impulses and other sensory information, such as pressure and temperature changes, via fast and slow nerve fibers.
2. Acute pain is a discomfort that can last for a few seconds to less than 6 months. It is associated with tissue trauma, including surgery or some other recent identifiable etiology. Although severe initially, acute pain eases with healing and eventually disappears.
3. Transduction refers to the conversion of chemical information at the cellular level into electrical impulses that move toward the spinal cord.
4. The PENS technique has been successful in research trials on clients with low back pain, pain caused by the spread of cancer to bones, shingles (acute *Herpes zoster* viral infection), and migraine headaches.
5. A placebo is an inactive substance sometimes prescribed as a substitute for an analgesic drug. Placebos can relieve pain in a client, especially when the client has confidence in his or her health care providers. The trust a client has in the nurse or physician probably has more to do with the efficacy of placebos than any other factor.

**Activity F**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>P</td>
<td>E</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>L</td>
<td>P</td>
<td>H</td>
<td>E</td>
<td>N</td>
<td>O</td>
</tr>
<tr>
<td>N</td>
<td>C</td>
<td>I</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>E</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>T</td>
<td>Z</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Y</td>
<td>C</td>
<td>L</td>
<td>O</td>
<td>O</td>
<td>X</td>
</tr>
<tr>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION III: APPLYING YOUR KNOWLEDGE**

**Activity G**

1. When caring for a client in pain, the nurse should check and document the client’s pain every time he or she assesses the client’s temperature, pulse, respiration, and blood pressure. The overall goal of pain assessment is to gather objective data about a client.
2. When caring for clients, especially those who are often underassessed and undertreated, the nurse observes for behavioral signs that are common nonverbal indicators of pain, such as moaning, crying, grimacing, guarded position, increased vital signs, reduced social interactions, irritability, difficulty concentrating, and changes in eating and sleeping patterns.

**SECTION IV: PRACTICING FOR NCLEX**

**Activity H**

1. b  

**RATIONALE:** The nurse should select the oral route for effective absorption of medication for elderly clients. Elderly clients may experience physiologic changes such as decreased gastric acid production, decreased gastrointestinal motility, changes in body fat ratio, and changes in organ function such as decreased liver blood flow and decreased glomerular filtration rate. The nurse should avoid the rectal or nasal route in elderly clients because elderly clients have diminished pain tolerance because they have less energy to cope with pain. Medication may be absorbed more slowly from the intramuscular route in elderly clients, resulting in delayed onset of action, prolonged duration, and altered absorption with potential for toxicity. Dermal, oral, and sublingual routes may be more effective for elderly clients.
2. d
**RATIONALE:** Most non-opioids are very effective at relieving pain caused by inflammation. These drugs relieve pain by altering neurotransmission peripherally at the site of injury. They are not very effective on pain caused by injury, headache, and weak muscles. Botulinum toxin has been approved to treat painful musculoskeletal conditions and various types of headaches.

3. a
**RATIONALE:** The EMG machine (or a pulse oximeter) is a machine that produces a visual or audible signal that correlates with the person’s heart rate, skin temperature, or muscle tension. The client is encouraged to reduce or extinguish the signal using whatever mechanism he or she can—generally by physically relaxing. The feedback from the machine demonstrates to the client how well he or she is accomplishing the goal. The machine does not produce visual or audible signals correlating to a person’s pain, intramuscular tension, age, or body mass index.

4. b
**RATIONALE:** The nurse should ask the client if he or she is able to recollect the name and dosages of the pain medication that the client has taken. The main goal of pain assessment during admission is to gather objective data quickly about a client; hence, the nurse should ask direct and specific questions such as the nature of the pain, whether it changes on medications, and the name and exact dosage of the pain medicine. The nurse should avoid asking close-ended questions such as the client’s ability to do strenuous activities, or whether the client takes medicines in the morning, because they do not add any value to the pain assessment data.

5. b, c, d
**RATIONALE:** Clients with cardiac pacemakers (especially the demand type), clients prone to an irregular heartbeat, clients with previous heart attacks, and pregnant clients are not candidates for TENS. TENS is a non-narcotic, non-invasive method and has no toxic side effects. It is contraindicated in pregnant women because its affect on the unborn fetus has not been determined. Young adults and clients involved in sports activities are not contraindicated from TENS; on the contrary, many sports persons undergo TENS when they are in acute pain.

6. a
**RATIONALE:** The intraspinal analgesic is administered several times per day or as a continuous low-dose infusion. Intraspinal analgesia is a method of relieving pain by instilling a narcotic or local anesthetic via a catheter into the subarachnoid or epidural space of the spinal cord. Intraspinal analgesia relieves pain while producing minimal systemic drug effects. The intraspinal analgesic is not administered once a day in a high-dose infusion, twice a day in a low-dose infusion, or once in 6 months with continuous low-dose infusion because it will not produce the desired effect.

7. d
**RATIONALE:** The nurse should use a face scale to assess the pain in a 3-year-old client. The Wong-Baker faces scale is best suited for children and clients who are culturally diverse or mentally challenged. Children as young as 3 years can use the faces scale. Regardless of the assessment tool used, many clients underrate or minimize their pain intensity. A numeric scale, word scale, and linear scale are the most commonly used tool when assessing adults and people from different cultural backgrounds.

8. a, b, c
**RATIONALE:** The longer chronic pain exists, the more likely it is that people associated with clients in chronic pain will begin to show negative reactions to the client. They may say that they are tired of hearing about the client’s pain, ignore the client’s concerns and complaints, or criticize the client for using drugs as a crutch. They usually do not say that they are eager to know about the client’s pain or are concerned about the client’s pain.

9. d
**RATIONALE:** The client is experiencing neuropathic pain in the amputated limb. Neuropathic pain or functional pain is often experienced days, weeks, or even months after the source of the pain has been treated and resolved. The client is not experiencing somatic pain because somatic pain develops from injury to structures such as muscles, tendons, and joints. In acute pain, the pain lasts for a few seconds to less than 6 months; although severe initially, acute pain eases with healing and eventually disappears. With chronic pain, the discomfort lasts longer than 6 months.

10. a, c, e
**RATIONALE:** The nurse can administer the meperidine, an opioid, to the client through either oral, rectal, transdermal, or parenteral routes. When pain is no longer controlled with a non-opioid, the non-opioid is combined with an opioid. The nurse, however, does not administer the drug through the sublingual or the intramuscular routes.

11. a
**RATIONALE:** The antidepressants may produce their analgesic-enhancing effect by increasing norepinephrine and serotonin levels, augmenting the release of endorphins in the client. The antidepressant will not regulate the inhibitory neurotransmitter gamma-aminobutyric acid because that is done by anticonvulsants. NMDA drugs interfere with the function of nociceptive nerve fibers, perhaps blocking the release of substance P, its nerve-sensitizing properties, and other inflammatory chemicals. Antidepressants do not stimulate the...
ANSWER KEY

12. c, d, e
RATIONALE: Non-drug and non-surgical interventions in pain management include independent nursing education, imagery, distraction, relaxation techniques, and applications of heat or cold. Other interventions, such as TENS, acupuncture and acupressure, PENS, biofeedback, and hypnosis require collaboration with people who have specialized training and expertise. A cordotomy is surgical interruption of pain pathways in the spinal cord. A massage may provide only a temporary relief to the pain.

13. a
RATIONALE: The client’s body may have developed a tolerance to the prescribed medicine dose or frequency of administration. Elderly clients have increased sensitivity to narcotics. Medication may be absorbed more slowly from the intramuscular route in older adults, resulting in delayed onset of action, prolonged duration, and altered absorption with potential for toxicity. The dosage prescribed by the physician or the medicine administered by the nurse is not responsible for the client’s tolerance to the drug.

14. a
RATIONALE: The client has undertreated pain; therefore, apart from obvious behavioral signs like moaning and crying, the nurse should look for other autonomic nervous system responses such as tachycardia, hypertension, dilated pupils, perspiration, pallor, rapid and shallow breathing, urinary retention, reduced bowel motility, and elevated blood glucose levels. Dehydration, reduced glucose level, and convulsions are not responses of the autonomic nervous system.

15. a
RATIONALE: Somatic pain develops from injury to structures such as muscles, tendons, and joints. It does not develop from skin irritation, traumatic head injury, or the effect of opioids and opiate analgesic drugs. Cutaneous pain is discomfort that originates at the skin level and is a commonly experienced sensation resulting from some form of trauma. Acute pain is associated with tissue trauma, including surgery. Opioids and opiate analgesic drugs are narcotic drugs that are prescribed to clients when pain is no longer controlled with nonopioid drugs.

16. b
RATIONALE: The nurse assesses the client’s pain once per shift. Per JCAHO’s pain assessment standards, clients’ choices regarding pain management are respected. The nurse assesses pain whenever he or she considers it appropriate and does so routinely in the following circumstances:
- When the client is admitted
- Whenever the nurse takes vital signs

- Once per shift when pain is an actual or potential problem
- When the client is at rest and when involved in a nursing activity
- After each potentially painful procedure or treatment

17. a, b, d
RATIONALE: Opioids and opiates cause sedation, nausea, constipation, and respiratory depression. Because of an exaggerated fear of causing addiction, narcotics tend to be underprescribed, even if clients can benefit from their use. When they are used, the treatment biases lead some nurses to administer the lowest dosage of a prescribed range or to delay administration until the maximum time between dosages has elapsed. Opioids and opiates do not lead to diarreal and dilated pupils.

18. c
RATIONALE: The nurse should document that the client’s discomfort reduces gradually with medicine. Acute pain lasts for a few seconds to less than 6 months whereas chronic pain discomfort lasts longer than 6 months. It is associated with tissue trauma, including surgery or some other recent identifiable etiology. Cutaneous pain is the discomfort that originates at the skin level. Clients with chronic pain are not as likely to manifest autonomic nervous system responses.

CHAPTER 21

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Ventilation
2. Hypoxemia
3. Orthopneic
4. Deep
5. Flowmeter
6. Humidifier
7. Venturi
8. Tracheostomy
9. Calcification
10. Inspiration

Activity B
1. The figure shows a portable oxygen concentrator that extracts nitrogen and concentrates oxygen to enable clients who require oxygen therapy to travel about or maintain their lifestyle without the need for multiple tanks of oxygen.
2. An oxygen concentrator eliminates the need for a central reservoir of piped oxygen or the use of bulky tanks that must be constantly replaced. This type of oxygen source is used in home health care and long-term care facilities primarily because of its convenience and economy.
Activity C

Activity D

3 → 1 → 4 → 2

Activity E
1. The nurse physically assesses oxygenation by
   • Monitoring the client's respiratory rate
   • Observing the breathing pattern and effort
   • Checking chest symmetry
   • Auscultating lung sounds
Additional assessments include
   • Recording heart rate and blood pressure
   • Determining the client's level of consciousness
   • Observing the color of the skin, mucous membranes, lips, and nailbeds
2. An arterial blood gas assessment is a laboratory test using arterial blood to assess oxygenation, ventilation, and acid–base balance. It measures the partial pressure of oxygen dissolved in plasma (PaO₂), the percentage of hemoglobin saturated with oxygen (SaO₂), the partial pressure of carbon dioxide in plasma (PaCO₂), the pH of blood, and the level of bicarbonate (HCO₃⁻) ions.
3. Pulse oximetry is a non-invasive, transcutaneous technique for periodically or continuously monitoring the oxygen saturation of blood.
4. Oxygen therapy is an intervention for administering more oxygen than present in the atmosphere to prevent or relieve hypoxemia. It requires an oxygen source, a flowmeter, in some cases an oxygen analyzer or humidifier, and an oxygen delivery device.
5. Although an oxygen concentrator is more economical than oxygen supplied in portable tanks, the device increases the client's electric bill. The oxygen concentrator generates heat from its motor and produces an unpleasant odor or taste if the filter is not cleaned weekly. Clients have to keep a secondary source of oxygen ready in case of a power failure.
6. A non-rebreather mask is an oxygen delivery device in which all the exhaled air leaves the mask rather than partially entering the reservoir bag. It is designed to deliver an FiO₂ of 90% to 100%. This type of mask contains one-way valves that allow only oxygen from its source as well as the oxygen in the reservoir bag to be inhaled. No air from the atmosphere is inhaled. All the air that is exhaled is vented from the mask. None enters the reservoir bag.

Activity F

DIAPHRAGMATIC
HYPERCARBIA
RESPiration
EXPIRATION

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. Unless contradicted by their condition, clients with hypoxia are placed in the high Fowler's position. This position eases breathing by allowing the abdominal organs to descend away from the diaphragm. As a result, the lungs have the potential to fill with a greater volume of air. Alternatively, the client may benefit from a variation of Fowler's position called the orthopneic position. This is a seated position with the arms supported on pillows or the armrests of a chair, and the client leans forward over the bedside table or a chair back. The orthopneic position allows room for maximum vertical and lateral chest expansion and provides comfort while resting or sleeping.
2. The nurse could teach the client the following techniques to help him or her breathe efficiently:
   • Deep breathing, which is a technique for maximizing ventilation that involves taking in a large volume of air that fills the alveoli to greater capacity, thus improving gas exchange
   • Pursed-lip breathing, which is a form of controlled ventilation in which the client consciously prolongs the expiration phase of breathing
   • Diaphragmatic breathing, which is breathing that promotes the use of the diaphragm rather than the upper chest muscles
   • Use of a nasal strip, which is adhesive, available for commercial purchase, and used to reduce airflow resistance by widening the breathing passageways of the nose

SECTION IV: PRACTICING FOR NCLEX

Activity H
1. a
   RATIONALE: The arterial blood gas test measures the partial pressure of oxygen dissolved in plasma. The arterial blood gas assessment also assesses oxygenation, ventilation, and acid–base balance. It also measures the percentage of hemoglobin saturated
with oxygen, the partial pressure of carbon dioxide in plasma, the pH of blood, and the level of bicarbonate. During a physical assessment of the client, it measures the blood pressure of the client and monitors the client’s level of consciousness. The pulse oximeter measures the oxygen saturation in the blood.

2. c
   **RATIONALE:** The nurse should teach the client with emphysema the pursed-lip breathing technique, which is a form of controlled ventilation in which the client consciously prolongs the expiration phase of breathing. This helps to eliminate more than the usual amount of carbon dioxide from the lungs. Deep breathing is therapeutic for clients who tend to breathe shallowly, such as those who are inactive or in pain. Incentive spirometry, a technique for deep breathing using a calibrated device, encourages clients to reach a goal-directed volume of inspired air. Adhesive nasal strips are used to reduce airflow resistance by widening the breathing passageways of the nose.

3. a, b, c
   **RATIONALE:** The nurse should inform the client using a liquid oxygen unit that the unit may leak during the warm weather, and frozen moisture may occlude the outlet of the unit. The nurse should also inform the client that the liquid oxygen unit is more expensive than other portable sources. An oxygen concentrator increases the electric bill of the client and may emit a bad taste or odor if the filters are not cleaned weekly.

4. b
   **RATIONALE:** The nurse should use an oxygen analyzer to determine whether the client is getting the prescribed amount of oxygen. An oxygen analyzer measures the percentage of delivered oxygen to determine whether the client is receiving the amount prescribed by the physician. A flowmeter, humidifier, and nasal cannula are not used to determine whether the client is getting the prescribed amount of oxygen. A flowmeter is a gauge used to regulate the amount of oxygen delivered to the client and is attached to the oxygen source. A humidifier is a device that produces small water droplets and may be used during oxygen administration because oxygen dries the mucous membranes. A nasal cannula is a hollow tube with half-inch prongs placed into the client’s nostrils that provides a means of administering low concentrations of oxygen.

5. b
   **RATIONALE:** The nurse should use a face tent for the claustrophobic client with facial burn injuries. A face tent provides oxygen to the nose and mouth without the discomfort of a mask, and the client is less likely to feel claustrophobic. A nasal cannula is used for administering low concentrations of oxygen for clients who are not extremely hypoxic or who have chronic lung diseases. A tracheostomy collar delivers oxygen through an artificial opening. A T-piece fits securely onto a tracheostomy tube or endotracheal tube. It is similar to a tracheostomy collar but is attached directly to the artificial airway. The nasal cannula, tracheostomy collar, or the T-piece cannot be used to deliver oxygen to a client with burns.

6. b
   **RATIONALE:** The nurse should use an oxygen tent to deliver oxygen to the 2-year-old client with symptoms of bronchitis. An oxygen tent is a clear plastic enclosure that provides cooled, humidified oxygen and is useful for children, who are less likely to keep a mask or cannula in place. A nasal catheter is a tube for delivering oxygen that is inserted through the nose into the posterior nares and is used for clients who tend to breathe through the mouth or experience claustrophobia when a mask covers their face. A CPAP mask maintains positive pressure within the airway throughout the respiratory cycle and is used by clients who experience sleep apnea. Some clients who require long-term oxygen therapy may prefer its administration through a transtracheal catheter. However, a nasal catheter, a CPAP mask, and a transtracheal catheter are less likely to be used in this case.

7. a
   **RATIONALE:** When cleaning the opening and the tube of a transtracheal catheter, oxygen should be administered through a nasal cannula. When cleaning the transtracheal catheter, oxygen would not be administered with a Venturi mask, a face tent, or a partial breather mask.

8. d
   **RATIONALE:** The nurse should be aware that oxygen toxicity could occur when the client receives 60% oxygen concentration for 48 hours. Oxygen toxicity causes lung damage, which develops when oxygen concentrations of more than 50% are administered for longer than 48 to 72 hours.

9. b
   **RATIONALE:** The nurse could use hyperbaric oxygen therapy when treating a client with carbon monoxide poisoning. Hyperbaric oxygen therapy helps to generate new tissue at a faster rate; thus, it is used for promoting wound healing. It also is used to treat gangrene associated with diabetes or other conditions of vascular insufficiency. Water-seal chest tube drainage is a technique for evacuating air or blood from the pleural cavity, which helps to restore negative intrapleural pressure and reinflate the lung. A liquid oxygen unit is a device that converts cooled liquid oxygen to a gas by passing it through heated coils. An oxygen concentrator is a machine that collects and concentrates oxygen from room air and stores it for client use.

10. d
    **RATIONALE:** The nurse should understand that the chest walls become stiffer in older clients, thus...
affecting the respiratory system. In older adults, the alveolar walls become thinner and the lungs become less elastic, thus affecting the respiratory system. More breathing from the mouth is a functional change that occurs in older adults.

11. c  
**RATIONALE:** To improve the condition of a client with lowered respiratory function, the nurse should suggest that the client maintain a liberal fluid intake. Unless contraindicated, older adults need encouragement to maintain a liberal fluid intake (to keep mucous membranes moist) and to engage in regular exercise to maintain optimal respiratory function. An adhesive nasal strip reduces airflow resistance by widening nasal breathing passageways, promoting easier breathing. If a simple mask is used to deliver oxygen to the client, the nurse needs to maintain proper skin care.

12. d  
**RATIONALE:** When administering oxygen using a T-piece, the nurse should drain the tube regularly. The moisture that collects within the tubing tends to condense and may enter the airway during position changes if it is not drained periodically. A nurse should remember that a T-piece may not interfere with eating or create a feeling of suffocation, or even deliver an inconsistent amount of oxygen. A simple mask affects eating and creates a feeling of suffocation. The amount of oxygen received using an oxygen tent may be inconsistent.

13. c, a, d, b, e  
**RATIONALE:** During expiration, the respiratory muscles relax, the thoracic cavity decreases, the stretched elastic lung tissue recoils, intrathoracic pressure increases as a result of the compressed pulmonary space, and air moves out of the respiratory tract.

14. b, d, a, c  
**RATIONALE:** The nurse should teach the client to breathe using the pursed-lip technique in the following order: Ask the client to inhale slowly through the nose while counting to three and purse the lips as if to whistle. Then, contract the abdominal muscles and exhale through the pursed lips for a count of six or more.

15. a, b, c  
**RATIONALE:** When administering oxygen to toddlers using an oxygen tent, the nurse should tuck the edges of the tent securely under the mattress, limit the opening of the zippered access port, and monitor the oxygen levels in the tent using an analyzer. When using a face tent, the nurse should remember that the amount of oxygen the client actually receives may be inconsistent with what is prescribed because of environmental losses, and the amount of oxygen delivered may need to be regulated. A client using a simple mask may need skin care because of the effects of trapped moisture.
Activity F

SECTION III: APPLYING YOUR KNOWLEDGE

1. Activity G

1. To avoid the transmission of pathogens, the nurse should ensure that elderly persons, family members in close contact with elderly clients, and all personnel in health care settings should obtain annual immunizations against influenza. Visitors with respiratory infections need to wear a mask or avoid contact with older adults in their homes or long-term care settings until their symptoms have subsided. In addition to the mask, frequent, thorough hand washing can help prevent the transfer of organisms. Health care workers who are ill should take sick leave rather than expose susceptible clients to infectious organisms.

2. Symptoms of infections tend to be more subtle among older adults because elderly clients have a lower normal or baseline temperature (a temperature in the normal range may actually be elevated for an older adult). Infections are more likely to have a rapid course and life-threatening consequences after they become established. Common manifestations of infections in elderly clients include changes in behavior and mental status.

3. Personal protective equipment includes gowns, masks, respirators, goggles or face shields, and gloves. Infection control measures involve the use of one or more items for personal protection. These items are located just outside the client’s room or in an anteroom.

4. Nurses wrap moist items such as soiled dressings so that, during their containment, flying or crawling insects cannot transfer pathogens. Eventually, the bag and its contents are destroyed by incineration, or they are autoclaved. Autoclaved items can be safely disposed of in landfills.

5. Activity H

SECTION IV: PRACTICING FOR NCLEX

1. a  **RATIONALE:** The nurse should place the catheter tubing lower than the client’s bladder. When indwelling catheters are absolutely necessary, the tubing should never be bent or placed higher than the client’s bladder to prevent any backflow of urine into the bladder. Indwelling catheters should be avoided, if at all possible, because elderly clients have increased susceptibility to urinary tract infections. Bladder training is much more desirable, but it is not a measure that nurses need to take when adjusting or fixing catheters. When indwelling catheters are absolutely necessary, they require meticulous daily care.

2. d  **RATIONALE:** When the client returns, the nurse should deposit the soiled linen in the linen hamper in the client’s room, touching only the outside surface of the protective covers. Some agencies also spray or wash the transport vehicle with disinfectant before reuse. There is no need to line the edge of the client’s bed with a clean sheet on the client’s return or spray the X-ray department with disinfectant after the client leaves. Covering the client’s body with a second sheet is done before transporting, not upon his return.

3. a  **RATIONALE:** The Centers for Disease Control and Prevention has relaxed its recommendation concerning double-bagging. Its revised position is that one bag is adequate if the bag is sturdy and the articles are placed in the bag without contaminating the outside of the bag. Otherwise, double-bagging is used. Biodegradable trash includes items such as un consumed beverages, paper tissues, urine, and stool, which are flushed down the toilet. Wearing a non-sterile gown and spraying disinfectant on the contaminated material is not part of the double-bagging technique.

4. b  **RATIONALE:** Gloves should be changed between tasks on the same patient after contact with material because they might contain a high concentration of microorganisms. A nurse will remove the contaminated gown after he or she has finished assessing and cleaning the infected area of the client. Making contact between two contaminated surfaces or two clean surfaces is part of the sequence followed by nurses when removing their personal protective equipment. Nurses perform thorough hand washing before leaving a client’s room and before touching any other client, personnel, environmental surface, or client care items.

5. d  **RATIONALE:** A powered air-purifying respirator is usually used when rescuing victims exposed to
bioterrorist substances or hazardous chemicals, compared with an N-95 respirator, which is individually fitted for each caregiver. An atomizer is a device used to reduce liquid medication to fine particles in the form of a spray or aerosol; it is useful in delivering medication to the lungs, nose, and throat. A drinker respirator is a mechanical respirator in which the body, excluding the head, is encased within a metal tank.

6. b, c, d
RATIONALE: The nurse needs to take airborne precaution, contact precaution, and droplet precaution because the client has chickenpox (varicella) and the common cold. Infectious diseases like smallpox (variola), chickenpox (varicella), and severe acute respiratory syndrome (SARS) require both airborne and contact precautions. Nurses are supposed to take standard and basic precautions at the health care facility on a daily basis.

7. b
RATIONALE: The most appropriate nursing diagnosis for the client is social isolation. Usually, clients with HIV and AIDS have the fear of being rejected by loved ones and are socially ostracized. The nurse should not only care for the client but also try to arrange for a counselor who will understand the client better. Clients with AIDS are at a risk of developing other infections easily, but the nursing diagnoses such as powerlessness and ineffective protection may not be applicable to this client.

8. c
RATIONALE: Double-bagging is an infection control measure in which one bag of contaminated items, such as trash or laundry, is placed within another. This technique requires two people: one to bag the items and deposit it in a second bag held by the other person outside the client’s room. The person holding the second bag prevents contamination by manipulating the bag underneath a folded cuff. Emptying solid waste bags at the end of a shift or disposing off biodegradable and contaminated material in separate bags are not the steps involved in the double-bagging method.

9. a, c, d
RATIONALE: Health care personnel should follow standard precautions whenever there is the potential for contact with blood and all body fluids except sweat, regardless of whether they contain visible blood, non-intact skin, and mucous membranes. The client has an infected wound, not an airborne infectious disease like tuberculosis or SARS; hence, the client’s breath will not transmit the infection.

10. a
RATIONALE: Transmission-based precautions are required for various lengths of time, depending mostly on the nature of the infecting microorganisms. Acute rheumatic fever may be prevented with treatment within 10 days of onset of symptoms. Health care personnel base the decision to use one or a combination of precautions on the mechanism of transmission of the pathogen. Moreover, infections progress through distinct stages and, lastly, also depend on the effective treatment available for the infection.

11. b
RATIONALE: Transmission-based precautions are discontinued when a wound or lesion stops draining, with the exception of standard precautions, when culture findings are negative, or after the initiation of effective therapy. Sometimes, personnel use them throughout a client’s treatment when culture findings are positive, when the client shows drug-resistant strains, or when the blood around a wound dries up.

12. d
RATIONALE: Specimens are delivered to the laboratory in sealed containers in a plastic biohazard bag. Wearing new gloves is part of the standard precautions, whereas leaving an air gap in the container when collecting specimens is not part of precautionary measures. Specimens are not collected and delivered in plastic biohazard bags.

13. a, c, e
RATIONALE: The housekeeping personnel should clean the infectious client’s room last to avoid transferring organisms on the wet mop to other client areas. An instruction card stating that isolation precautions are required should also be posted on the door or nearby at eye level. When caring for clients with infectious diseases, the door to the room should be closed to control air currents and the circulation of dust particles. Any number of visitors can meet the client, provided they comply with the infection control measures. If disposable linen and equipment are not available, the used material should be thoroughly disinfected and sterilized before reuse.

14. b
RATIONALE: Droplet precautions are measures that block pathogens within moist droplets larger than 5 μm. They are used to reduce pathogen transmission from close contact (usually 3 feet or less) between an infected person or a person who is a carrier of a droplet-spread microorganism and others. Microorganisms carried on droplets commonly exit the body during coughing, sneezing, and talking, and during procedures such as airway suctioning and bronchoscopy.

15. a
RATIONALE: Any trash item destroyed by incineration or autoclaved can be safely disposed of in landfills. Syringes, wrapped dressings, and sealed containers are not biodegradable trash. They can transfer pathogens easily; hence, they cannot be disposed of in landfills without incineration or autoclaving.

16. a, b, c
RATIONALE: Long-term care residents and elderly hospitalized clients are at an increased risk for...
pneumonia, influenza, urinary tract and skin infections, and tuberculosis. AIDS is transmitted sexually or through blood transfusion, whereas glanders is a chronic debilitating disease of horses and cats, which is transmissible to humans.

17. b

RATIONALITY: A powered air-purifying respirator is an alternative if a client has not been fitted for an N-95 respirator or has facial hair or a facial deformity that prevents a tight seal with an N-95 respirator. It blows atmospheric air through belt-mounted air-purifying canisters to the face piece via a flexible tube. An ultrasonic nebulizer is a high-frequency humidifier used during inhalation therapy. A nebulizer is a device used to deliver medication to deeper parts of the respiratory tract.

CHAPTER 23

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Disuse
2. Gravity
3. Spasms
4. Ergonomics
5. Trendelenburg
6. Demineralization
7. Transfer
8. Trochanters
9. Ambulation

Activity B
1. The figure shows a good standing posture.
2. A good posture, whether in a standing, sitting, or lying position, distributes gravity through the center of the body. It affects a person’s appearance, stamina, and ability to use the musculoskeletal system efficiently.
3. The figure shows protective boots to avoid foot drop.
4. Foot boards are devices that prevent foot drop by keeping the feet in a functional position.

Activity C
1. C
2. A
3. D
4. B

Activity D
3 → 1 → 5 → 4 → 2

Activity E
1. In a good sitting position, the buttocks and upper thighs become the base of support. Both feet rest on the floor. The knees are bent, with the posterior of the knee free from the edge of the chair to avoid interfering with distal circulation.

2. The use of proper body mechanics increases muscle effectiveness, reduces fatigue, and helps to avoid repetitive strain injuries that result from cumulative trauma to musculoskeletal structures.

3. Health care workers are vulnerable to ergonomic hazards in the workplace as a direct consequence of lifting clients, reaching and lifting with loads far from the body, twisting while lifting, unexpected changes in load demand during the lift, reaching low or high to begin a lift, and moving or carrying a load a significant distance.

4. In an air-fluidized bed, fluid balance in the client may become a problem because of the accelerated evaporation caused by the warm, blowing air. Puncturing or tearing the mattress is also a potential problem.

5. Muscle atrophy, bone demineralization, and constipation are some of the effects of immobility faced by older adults.

SECTION III: APPLYING YOUR KNOWLEDGE

Activity F

Activity G
1. Before planning to turn and move the client, the nurse should assess the client and the situation as follows:
   • Assess for risk factors that may contribute to inactivity.
   • Determine the time of the client’s last position change.
   • Assess his or her own physical, mental, and emotional ability to assist in turning, positioning, or moving.
   • Inspect for drainage tubes and equipment.

2. As part of planning before moving the client, the nurse should consider the following:
   • Explain the procedure to the client.
   • Remove all pillows and current positioning devices.
   • Raise the bed to a suitable working height.
   • Secure two or three additional caregivers, positioning and moving devices as needed.
   • Close the door or draw the bedside curtain.
SECTION IV: PRACTICING FOR NCLEX

Activity H

1. c
   **RATIONALE:** Maintaining the hips at an even level is a component of a good standing posture. A good standing posture includes keeping the feet about 4 to 8 inches (not 2–3 inches) apart from each other, bending the knees slightly to avoid straining the joints, and holding the chest slightly forward, not backward.

2. d
   **RATIONALE:** When working at the computer, the nurse should use wrist rests to keep the wrists in a neutral position. The nurse should work under non-glare lights, not dim lights, which could strain the eyes. The elbows should be flexed no more than 100 to 110 degrees, not 120 degrees. The nurse should use a chair that is high enough so that he or she can place his or her feet firmly on the floor.

3. a, b, c
   **RATIONALE:** When caring for an inactive client, the nurse should raise the bed to the height of the caregiver's elbow to work at a comfortable height to avoid straining the back. The nurse should remove pillows and positioning devices to enable easier movement. The nurse should change the inactive client's position at least every 2 hours to relieve pressure on bony areas of the body. The nurse should turn the client as a complete unit to avoid twisting the spine, rather than turning the upper part of the client's body and then the lower part. The nurse should not lift and drag the client when transferring to a stretcher; instead, the nurse should use a low-friction fabric or gel-filled plastic sheet, roller sheet with handles, or a repositioning sling to slide the client; this will also avoid injuring the client.

4. b
   **RATIONALE:** Placing the client in supine position for long could lead to skin breakdown at the end of the spine because the client is positioned on his back. In the prone position, the client lies on the abdomen, reducing skin breakdown from pressure ulcers. The lateral position is a side-lying position in which the spine is not in touch with the surface of the bed. The Sims' position is a semiprone position in which the client's spine does not encounter pressure.

5. c
   **RATIONALE:** In the Fowler's position, the abdominal organs drop away from the diaphragm, allowing for the exchange of a greater volume of air, which is especially useful for a client with dyspnea. Supine, Sims', and the lateral positions do not promote the exchange of a greater volume of air. In the supine position, the client lies on his back; the Sims' and lateral positions are side-lying positions, which do not make breathing easier.

6. a
   **RATIONALE:** To elevate the upper part of the body, the nurse should use oversized pillows if an adjustable bed is not available. Contour pillows, triangular wedges, and bolsters are ideal for supporting and elevating the head, extremities, and shoulders.

7. a
   **RATIONALE:** The nurse uses hand rolls to prevent contracture of the fingers. Hand rolls are not used to hold the fingers in a tight fist, to keep the fingers and thumb together, or to prevent the wrist from turning outward. A hand roll keeps the thumb positioned slightly away from the hand and at a moderate angle to the fingers. The fingers are kept in a slightly neutral position rather than a tight fist.

8. b
   **RATIONALE:** The nurses should avoid stooping when turning the client by placing the sheet close to the client to ensure good body mechanics when turning the client. Roller sheets are used to slide and roll, rather than to lift, a client. Roller sheets are not placed away from the client; they are placed close to the client when turning the client. After use, the sheets are not kept at the edge of the bed; the sheets are removed and kept dry and free of wrinkles to prevent skin breakdown.

9. d
   **RATIONALE:** The client should be provided with a trapeze to move around in bed. It is especially useful for the client who needs to develop strong arms to use a crutch later. A foot board, a bed board, and a trochanter roll are not used to help the client move around in bed. A foot board is used to prevent outward rotation of the lower leg and foot. A bed board is a rigid structure that provides support. Trochanter rolls are also used to prevent the legs from turning outward.

10. a
   **RATIONALE:** Side rails are appropriate for the bed of an elderly client who has undergone a surgery for joint disease, and fractures of the leg; it is a metal frame that forms a shell over the client's lower legs to keep bed linen off the feet or legs. A transfer handle fits between the mattress and bed frame or box spring and serves as a combination grab bar and handrail to support the client's weight while exiting and returning to bed. A transfer board serves as a supportive bridge between two surfaces such as the bed and a wheelchair, bed and stretcher, wheelchair and car seat, or wheelchair and toilet; it is used to transfer the client.

11. c
   **RATIONALE:** A water mattress requires filling and emptying, although it is done infrequently and is time-consuming. Water mattresses do not distribute water cyclically, contain inflated air sacs,
or drain excretions away from the body. In an alternating air mattress, the wavelike redistribution of air cyclically relieves pressure over bony prominences. A low-air loss bed contains inflated air sacs within the mattress. Excretions and secretions drain away from the body through the beads, thereby preventing skin irritation and maceration from moisture.

12. b  
**RATIONALE:** The use of assistive devices helps the nurse reduce musculoskeletal injuries. The use of assistive devices allows the client to maintain his or her dignity and self-esteem and to relieve anxiety concerning safety, and promotes faster recovery.

13. c  
**RATIONALE:** The nurses should stand facing each other on opposite sides of the bed between the client’s hips and shoulders, not on the same side of the client. The nurses should place the roller sheet beneath the client’s shoulders and buttocks. The nurses should raise the bed to elbow height, rather than lowering it to the position of the waist, to reduce back strain.

14. b  
**RATIONALE:** A functional status of level 4 indicates that the client needs total supervision. A client who needs total assistance has a functional status of level 5. A client who needs an assistive device is given a functional status of level 1, and a client who needs minimal help is given a functional status of level 2.

15. d  
**RATIONALE:** A client with burns, who requires frequent dressing changes and topical applications, should be provided with a circular bed, which allows the client to remain passively immobilized during a position change. An oscillating support bed is best suited for a client who is at high risk for systemic effects of immobility, such as pneumonia and skin breakdown. A foam mattress and gel cushion can be provided to clients with intact skin and minimal risk for breakdown, so the client can change positions spontaneously or with minimal assistance.

**CHAPTER 24**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Exercise  
2. Composition  
3. Submaximal  
4. Target  
5. Metabolic  
6. Aerobic  
7. Active

**Activity B**

1. The figure shows stationary cycling, which is an isometric exercise.
2. Isometric exercises are generally performed against a resistive force. These exercises increase muscle mass, strength, and tone, and define muscle groups.
3. The figure shows a continuous passive motion machine.
4. A continuous passive motion machine is an electrical device used as a supplement or substitute for manual ROM exercise. Machine-assisted ROM is sometimes preferred during the rehabilitation of clients who have experienced burns or who have had knee or hip replacement surgery, because the machine precisely controls the degree of joint movement and can increase it in specific increments throughout recovery.

**Activity C**

1. B  
2. E  
3. D  
4. A  
5. C

**Activity D**

1. Factors such as sedentary lifestyle, health problems, compromised muscle and skeletal function, obesity, advanced age, smoking, and high blood pressure can impair a client’s fitness and stamina.
2. Fitness tests provide an objective measure of a person’s current fitness level and potential for safe exercise. They also help to establish safe parameters for the level and duration of exercise.
3. Recovery index is the guide for determining a person’s fitness level. Examiners calculate the client’s recovery index by taking a 30-second pulse rate 1, 2, and 3 minutes after the test. It is calculated as

\[
\text{recovery index} = \frac{100 \times \text{test duration in seconds}}{2 \times \text{total of three 30-second pulse assessments}}
\]

4. The walk-a-mile test measures the time it takes a person to walk 1 mile. The person is instructed to walk 1 mile on a flat surface as fast as possible. The examiner calculates the time from start to finish and interprets the results.

5. Maximum heart rate is calculated by subtracting a person’s age from 220. Thus, a 20-year-old has a maximum heart rate of 200 bpm, whereas a 50-year-old has a maximum heart rate of 170 bpm.
3. d  RATIONALE: Aerobic exercise is an isotonic exercise that involves rhythmically moving all parts of the body at a moderate to slow speed without hindering the ability to breathe. Body building, weight lifting, and stationary cycling are isometric exercises that improve blood circulation, but do not promote cardiorespiratory function.

4. a, b, d  RATIONALE: The nurse should recommend squeezing a softball, combing the hair, and finger climbing on the vertical surface of a wall to exercise the arm on the surgical side. The nurse need not ask the client to swim or rotate the arm, because the client initially needs to use small groups of muscles that are in a weakened state.

5. c  RATIONALE: An ECG is an assessment that provides reliable results for fitness levels. The walk-a-mile test, step test, and aerobic fitness tests are submaximal fitness tests that are less demanding and do not stress a person to exhaustion. Therefore, the results of submaximal fitness tests are less reliable than the results obtained through ECG testing.

6. a  RATIONALE: Walking is the most ideal exercise for this client, considering his age and diabetic condition. Cycling, running, and jogging are vigorous and strenuous, causing strain on the knee joints, which the client should avoid.

7. c  RATIONALE: The nurse should ask the client to balance periods of physical activity with periods of rest. Older adults should drink plenty of water and eliminate their intake of caffeinated and alcoholic beverages before and during physical activity to avoid depleting fluid volume. The nurse should ask the client to take precautions, such as wearing safe shoes with non-skid soles (not smooth soles) to prevent falls.

8. a  RATIONALE: When the client constantly ignores objects placed on his left side, the nurse confirms unilateral neglect in the client. Ability of the client to differentiate warm and cold on both sides, combing the hair on both sides, and observing objects placed on either side are not signs of unilateral neglect.

9. b, c, d  RATIONALE: When caring for a client who has been ordered a continuous passive motion machine, the nurse should instruct the client on techniques for controlling pain. The nurse should assess vital signs and mobility of the affected extremity to provide a baseline of data for comparison periods of physical activity with periods of rest. Older adults should drink plenty of water and eliminate their intake of caffeinated and alcoholic beverages before and during physical activity to avoid depleting fluid volume. The nurse should ask the client to take precautions, such as wearing safe shoes with non-skid soles (not smooth soles) to prevent falls.
future comparisons. The nurse should provide pain medication before, not after, exercise is completed to control pain before it intensifies with exercise. The nurse should adjust the machine to a lower-than-prescribed rate and degree of flexion to provide gradual progression to prescribed parameters.

10. **d**  
**RATIONALE:** The nurse should always approach the client from the right side, because the client’s perception and attention are limited to the unaffected side. The nurse should suggest the client turn his head from side to side for a panoramic view of the environment, rather than view the environment from one side. The nurse should not place the signal cord on the left-hand side of the client; items of safety should always be placed on the right-hand side of the client. The nurse should have the client locate and touch the left arm and other body structures on the left side to retrain the client’s brain to recognize and integrate parts of himself.

11. **c**  
**RATIONALE:** The nurse is assisting the client in performing circumduction. If the nurse places the arm at the client’s side and bends the forearm toward the shoulder, and then straightens it again, it is called flexion, extension, and hyperextension of the elbow.

12. **d**  
**RATIONALE:** The nurse should ask the client to avoid the use of electric blankets, which could interfere with an accurate interpretation of the test results. The client is required to wear the Holter monitor for 24 hours, not 12 hours. Clients use a treadmill, which measures peripheral oxygen, when recording a stress ECG, not an ambulatory ECG.

13. **d**  
**RATIONALE:** The step test involves about 76 steps per minute. The prescribed platform height for men is 20 inches, and for women it is 16 inches. A step up (or a step down) is considered one step.

14. **b**  
**RATIONALE:** A client with a fitness level of 60 is said to have a below-average fitness classification. A value of less than or equal to 55 indicates poor, between 64 and 56 indicates below average, between 65 and 79 is average, and between 80 and 89 is good.

15. **c**  
**RATIONALE:** The nurse should support the joint being exercised, because supporting reduces discomfort. All pillows and positioning devices should be removed, because they interfere with the exercises. The nurse should move each joint only until there is resistance but no pain; this method exercises each joint to its point of limitation. A systematic, repetitive pattern should be followed, because following a routine prevents overlooking a joint.

---

**CHAPTER 25**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Spica  
2. Sling  
3. Braces  
4. Cylinder  
5. Traction  
6. Fixator  
7. Hip  
9. Counter-pull  
10. Fiberglass

**Activity B**

1. The figure shows vertical and circumferential measurements for cervical collar size.  
2. The procedure is used to determine the proper collar size of the client. The nurse measures the neck circumference and the distance between the shoulder and the chin. The nurse then compares measurements with the size guide suggested by the collar manufacturer.  
3. The figure shows an external fixator.  
4. An external fixator is a metal device inserted into and through one or more broken bones to stabilize fragments during healing. Although the external fixator immobilizes the area of injury, the client is encouraged to be active and mobile.

**Activity C**

1. A  
2. D  
3. B  
4. C
Activity F

MUSCULOSKELETAL

FIBERGLASS

Activity E

1. Plaster of Paris is inexpensive and easy to apply, but it has several disadvantages. It takes 24 to 48 hours to dry and is prone to drying and crackling at the edges. It softens when wet and is heavy.

2. Most clients who require mechanical immobilization have suffered trauma to the musculoskeletal system. Such injuries are painful and heal less rapidly than injuries to the skin or soft tissue. They require a period of inactivity to allow new cells to restore integrity to the damaged structures.

3. A splint is a device that immobilizes and protects an injured body part. Splints are used before or instead of casts or traction. Splints are often applied as a first-aid measure for suspected sprains or fractures.

4. When an indwelling catheter is used at the time of orthopedic surgery, the catheter should be removed as soon as possible after the surgery. Older people are likely to develop incontinence or urinary tract infections when indwelling catheters are used, especially for long periods.

5. Nurses provide care for the pin site to prevent infection. Pin sites are locations where pins, wires, or tongs enter or exit the skin. In conjunction with an external fixator and skeletal traction, pin site care is essential to prevent infection. Insertion of pins impairs skin integrity and provides a port of entry for pathogens.

6. When the cast is removed, the skin usually appears pale and waxy and may contain scales or patches of dead skin. The skin is washed as usual with soapy, warm water, but the semiattached areas of skin are left in place; they are not forcibly removed. Applying lotion to the skin adds moisture and tends to prevent the rough skin edges from catching on clothing. Eventually, the dead skin fragments will slough free.

Activity D

1 → 2 → 3 → 4

Activity G

1. The nurse should wash his or her hands thoroughly or perform an alcohol-based hand rub and then wear clean gloves to reduce the transmission of pathogens. The nurse should then pour a cleaning agent on a cotton tip applicator and clean the skin at the pin site, moving outward in a circular manner so that it prevents moving microorganisms toward the area of open skin.

2. To assess the client, the nurse should review the medical records for trends in the client's temperature, white blood cell count, reports of pain, and the frequency for treating pain so that the data can be used in case of infection. The nurse should also inspect the area around the pin insertion site for redness, swelling, increased tenderness, and drainage to provide data for current and future comparisons. The nurse should also examine the pin for signs of bending or shifting to identify potential problems with maintaining traction and the desired position.

Activity H

1. a

RATIONALE: To reduce pain and swelling, the nurse should elevate the cast on pillows or other supports. The nurse cannot administer pain-relieving medication without the physician's prescription. Providing written instructions on cast care will not reduce the pain or swelling, and placing the bed at a comfortable height to prevent backache is an intervention for a client with pin site insertion.

2. a, c, e

RATIONALE: Inflatable and traction splints such as pneumatic splints, Thomas splints, and Russell's traction are intended for short-term use. They are usually applied just after the injury and are removed shortly after a more thorough assessment of the injury is made. Immobilizers and molded splints are used for longer periods.

3. b

RATIONALE: The nurse should look for trends in the client's temperature, white blood cell count, and reports of pain and frequency of treating pain to determine whether there is any infection. Checking for dry skin or the client's pulse rate is a part of obtaining vital signs. Checking if the pin is bent or shifted identifies problems with maintaining traction and the desired position.

4. b, c

RATIONALE: Molded splints provide prolonged support and limit movement to prevent further injury and pain. They maintain the body part in a functional position to prevent contractures and muscle atrophy during immobility. A cervical collar, not a molded splint, reduces load-bearing force on the...
cervical spine. A cast immobilizes the injured structure. It is placed around an injured body part after it has been restored to the correct anatomic alignment.

5. b
   RATIONALE: When a spica cast is applied to a lower extremity, the cast is trimmed in the anal and genital areas to allow for the elimination of urine and stool. A bivalved cast facilitates bathing and skin care, whereas a body cast is a larger form of a cylinder cast that encircles the trunk of the body instead of an extremity. A cylinder cast encircles an arm or leg and leaves the toes or fingers exposed.

6. a
   RATIONALE: To promote healing of a musculoskeletal injury, the nurse should encourage elderly clients to consume a diet rich in protein, calcium, and zinc. Teach clients who are lactose intolerant to use milk or calcium substitutes. The nurse need not ask the client to avoid vitamin D supplements. Encourage sun exposure for 10 to 30 minutes daily for vitamin D absorption and weight-bearing exercises daily if the older person can tolerate these activities.

7. b
   RATIONALE: When the cast is removed, the skin usually appears pale and waxy, and may contain scales or patches of dead skin. The unexercised muscle is usually smaller and weaker. The joints may have a limited ROM and the flexibility will be less for the first few days. There may be minor, not major, swelling on the affected area after cast removal, which is normal.

8. b
   RATIONALE: Buck's traction and Russell's traction are forms of skin traction in which the pulling effect on the skeletal system is applied by devices, such as a pelvic belt and a cervical halter, to the skin. Manual traction involves the use of hands and muscular strength. Skeletal traction is the pull exerted directly on the skeletal system by attaching wires, pins, or tongs into or through a bone, and an external fixator is used to insert into and through one or more broken bones to stabilize fragments during healing.

9. a
   RATIONALE: Hip fractures are common in elderly persons, especially postmenopausal women, who are not treated for osteoporosis. The fracture may result from weakness of the bone and may lead to a fall, or a fall may cause the fracture of a weakened bone. With aging, bones become brittle and weak, resulting in a longer healing time for fractures. Joints become stiffer, not more flexible, because of decreased synovial fluid.

10. a, b, c
    RATIONALE: An improperly applied or ill-fitting brace can cause discomfort, deformity, and skin ulcerations from friction or prolonged pressure. Ill-fitting braces do not cause muscle contractures. Molded splints maintain the body part in a functional position to prevent contractures and muscle atrophy during immobility. Permanent stiffness is the result of prolonged dependence on cervical collars, not ill-fitting braces.

11. a
    RATIONALE: The nurse should not provide a pillow if the client's head or neck is in traction because it could disturb the pull and counter-pull. Reducing the amount of weights or changing the client's position could interfere with the pulling effect and could cause more damage. A pressure-relieving device is used to prevent skin breakdown if the client is confined to bed for a long duration.

12. b
    RATIONALE: To facilitate circulation, the nurse should avoid more than 90 degrees of flexion, especially when there is an elbow injury. Slipping the flexed arm in the canvas sling will only enclose the forearm, but it will not facilitate circulation. Positioning the apex of the triangular sling under the elbow will facilitate in making a hammock of the arm, whereas positioning the knot at the side of the neck of a triangular sling will reduce pressure and friction.

13. a
    RATIONALE: A cast is removed prematurely if complications develop. In most cases, casts are removed when they need to be changed and reapplied or when the injury has healed sufficiently and the cast is no longer necessary. Cast edges are kept soft to minimize skin irritation, and a bivalved cast is removed when there is a need to provide hygiene to the client.

14. d
    RATIONALE: Clients with a hip spica cannot sit during elimination, so the nurse protects the cast from soiling using plastic wrap and positions the client on a small bedpan known as a fracture pan. Tucking an adult diaper is not possible in a hip spica cast because the cast is trimmed only near the genital and anal areas. Inserting an indwelling catheter is not a good idea because it can lead to urinary tract infection. Providing a bedpan to the client will not be useful because the client will not be able to position himself or herself on the bedpan.

15. c
    RATIONALE: The nurse can assess by seeing that the splint is filled with air to the point at which it can be indented one-half inch (1.3 cm) with the fingertips. The injury should be examined and treated within 30 to 45 minutes after application of the splint; otherwise, circulation may be affected. Asking the client if the splint feels heavy or touching the splint to determine whether it is cold are secondary measures. Pushing a fingertip between the cast and injured part is not correct because the client will experience pressure and pain.
16. c, d, e
RATIONALE: Although narcotic analgesics are effective in relieving musculoskeletal pain, elderly clients are more susceptible to developing adverse effects such as constipation, mental changes, and depressed respirations. Dilated pupils or pale skin are not effects that are seen in elderly clients after the consumption of narcotic analgesics.

17. a
RATIONALE: Nurses should tell the clients not to write anything on the cast because nurses and physicians write important notes on the cast and, in addition, fiberglass casts are porous. Elevating the cast on pillow or support helps to reduce swelling and pain. The nurse should apply an ice pack, not a hot pack, to the cast near the injured area to reduce swelling and control bleeding. The nurse should, in fact, encourage clients to ambulate as soon as possible or exercise in bed because movement prevents complications from immobility.

18. c
RATIONALE: To facilitate skin care and personal hygiene, the nurse should bathe the backs of clients who are in a supine position for a prolonged time. Covering metal pins with cork prevents accidental injury; cleaning the skin around the insertion site with an antimicrobial agent reduces the risk of infection. The nurse should insert padding within the sling if it tends to wrinkle because padding helps cushion, prevents interference with circulation, and reduces the risk of dry skin.

CHAPTER 26
SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Isometric
2. Dangling
3. Cane
4. Forearm
5. Arthritis
6. Sum
7. Prosthetic
8. Platform
9. Depression
10. Axillary

Activity B
1. A walking belt is used to help the client ambulate.
2. A walking belt is applied around the client’s waist. If the client loses his or her balance, the nurse can support him or her and prevent injuries. When helping a client ambulate, the nurse walks alongside the client, holding the walking belt or the client’s own belt and supporting the client’s arm.

Activity C

Activity D

Activity E
1. Some of the techniques that a nurse can teach a client to increase muscular strength and the ability to bear weight include
   • Isometric exercises with the lower limbs
   • Isotonic exercises with the upper arms
   • Dangling at the bedside
   • Using a device called a tilt table
2. The quadriceps muscles include the rectus femoris, vastus intermedius, vastus medialis, and vastus lateralis, which cover the front and side of the thigh. Together, they aid in extending the leg. Exercising the quadriceps muscles, therefore, enables clients to stand and support their body weight.
3. Clients who will use a walker, cane, or crutches need upper arm strength. An exercise regimen to strengthen the upper arms typically includes
   • Flexion and extension of the arms and wrists
   • Raising and lowering weights with the hands
   • Squeezing a ball or spring grip
   • Performing modified hand pushups in bed
4. A tilt table is a device that raises the client from a supine to a standing position. It helps clients adjust to being upright and bearing weight on their feet. Just before using a tilt table, the nurse applies elastic stockings. These stockings help to compress vein walls, thus preventing pooling of blood in the extremities that may trigger fainting.
5. A cane must be the right height for the client. The cane’s handle should be parallel with the client’s hip, providing elbow flexion of approximately 30 degrees. Removing a portion of the lower end can shorten wooden canes. Depressing metal buttons in the telescoping shaft can shorten or lengthen aluminum canes.
6. Clients may return from surgery with an immediate post-operative prosthesis, which is a temporary artificial limb. It consists of a walking pylon, a lightweight tube attached to a shell made of plaster or plastic on the stump, and a rigid foot. A belt with garters keeps the temporary prosthesis in place. The belt is loosened while the client is in bed and is tightened during ambulation.
SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. The nurse should perform the following procedure when applying the prosthetic leg to a client:
   • Cover the prosthetic foot with the stocking and shoe of choice.
   • Apply the nylon sheath, if used, and the appropriate number or ply of stump socks.
   • Place a nylon stocking over the stump socks, allowing a long portion of the toe to extend from the base of the stump.
   • Stand and position the prosthetic limb next to the residual limb.
   • Pull the toe of the nylon stocking through the valve at the base of the socket.
   • Pump the stump up and down as the nylon stocking is completely removed.
   • Replace the plug within the valve opening.
   • Fasten all slings if something other than a suction socket type of prosthesis is used.

2. The nurse is responsible for ensuring that the incision heals and that no complications, such as joint contractures or infection, develop. Complications delay rehabilitation. Contractures interfere with limb and prosthetic alignment, which ultimately affects the client’s ability to walk.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. c
   RATIONALE: To prepare the client for ambulation, the nurse can use a tilt table to help the client stand. Debilitated clients require physical conditioning before they can ambulate again. Some other techniques for increasing muscular strength and the ability to bear weight include performing isometric exercises with the lower limbs, performing isometric exercises with the upper arms, and using a device called a tilt table. A walking belt applied to the waist of the client helps the nurse to provide support when the client is ambulating.

2. b
   RATIONALE: The nurse should teach the client to perform isometric exercises to re-establish her ability to walk. Isometric exercises are used to promote muscle tone and strength, which are inherent in maintaining mobility. Inactive clients and those who have been immobilized in casts or traction may require focused periods of exercise to re-establish their previous ability to walk. Walking belts helps the nurse support the client during ambulation if the client were to lose balance. Dangling helps to normalize blood pressure, which may drop when the client rises from a reclining position. A tilt table is a device that helps a client to adjust to being upright and bearing weight on his or her feet.

3. c
   RATIONALE: The nurse assists the client to dangle to normalize the client’s blood pressure, which may drop when the client rises from a reclining position. The client would be required to perform isometric exercises to improve muscle tone and strength; isotonic exercise would help the client to improve upper arm strength. The nurse would use a tilt table to help the client to bear weight on his or her feet.

4. a
   RATIONALE: The quadriceps muscles aid in supporting body weight. The quadriceps muscles include the rectus femoris, vastus intermedius, vastus medialis, and vastus lateralis, which cover the front and sides of the thigh. Together they aid in extending the leg. Exercising the quadriceps muscles, therefore, enables clients to stand and support their body weight. Gluteal muscles aids in abducting and rotating the leg—functions that are essential for standing. Quadriceps may not necessarily aid the client to walk upright.

5. d
   RATIONALE: The client contracts and relaxes the gluteal muscles in a gluteal setting. A gluteal setting is the contraction and relaxation of the gluteal muscles to strengthen and tone them. To ambulate independently, the client could use the handrails of a parallel bar to practice ambulation. Modified hand pushups in bed would enable the client to strengthen the upper arm. The client dangles or sits at the edge of the bed to normalize blood pressure.

6. c
   RATIONALE: The nurse should place books under the client’s hand in case the bed on which the client is doing her modified pushups is soft. Removing or replacing the mattress with a firmer one or providing a sturdy armchair may not be an appropriate action for this client.

7. b
   RATIONALE: To prevent circulatory problems, the nurse should instruct the client to avoid crossing the legs or keeping the natural knee flexed for a prolonged period. To promote venous circulation, reduce stump edema, and avoid any joint contractures, the nurse should encourage the client to lie
in a supine or prone position periodically during the day. Wearing a nylon sheath beneath the stump sock helps to wick perspiration from the skin toward the sock and reduces friction on the skin; it does not prevent circulatory problems. The nurse should ask the client to dry the socks well before application to prevent any skin breakdown. To prevent overexertion and impaired skin integrity, the nurse should advise the client with a new prosthesis to wear it for short periods initially and then increase the wearing time each day.

8. a  
**RATIONALE:** The nurse lowers the tilt table and returns it back to the horizontal position when symptoms of dizziness and hypotension develop. A tilt table is a device that raises the client from a supine to a standing position. It helps clients adjust to being upright and bearing weight on their feet. After being transferred from the bed or stretcher to the horizontal tilt table, the client is strapped securely to prevent a fall. The feet are positioned against a foot rest. The entire table is then tilted in increments of 15 to 30 degrees until the client is in a vertical position. If symptoms such as dizziness and hypotension develop, the table is lowered or returned to the horizontal position. It is not necessary for the table to be used for more than 10 minutes.

9. a, b, c  
**RATIONALE:** When assisting a client who appears dizzy during ambulation, the nurse should support the client by sliding an arm under the axilla and placing a foot to the side, forming a wide base of support. With the client’s weight braced, the nurse should balance the client on a hip until help arrives, or slide the client down the length of the nurse’s leg to the floor. The nurse need not leave the client on the bed. The nurse should not leave the client alone and go to fetch water for the client because the client appears dizzy and could fall.

10. a  
**RATIONALE:** The nurse should suggest the use of a cane for ambulation for clients who have weakness in one side of the body. Canes are hand-held ambulatory devices made of wood or aluminum. Clients who require considerable support and assistance with balance use a walker. Clients who need brief, temporary assistance with ambulation are likely to use axillary crutches. Forearm crutches generally are used by experienced clients who need permanent assistance with walking.

11. b  
**RATIONALE:** The nurse should use an axillary crutch for the client who has a fractured leg in a cast to help the client ambulate at the health care facility. Axillary crutches have a bar that fits beneath the axilla. Clients who need brief, temporary assistance with ambulation are likely to use axillary crutches. A cane is used for clients who have weakness on one side of the body. Clients who require considerable support and assistance with balance use a walker. Platform crutches are used by clients with arthritis who cannot bear weight with their hands and wrists.

12. a, b, c  
**RATIONALE:** The prosthesis of a client who has been amputated below the knee would include a socket, shank, and ankle/foot system. An above-the-knee prosthesis also includes a knee system. A lightweight tube forms a part of the components of an immediate post-operative prosthesis that is fitted after the amputation.

13. b, a, d, c  
**RATIONALE:** The client should first position himself or herself in front of the chair seat and grip an armrest with one arm while placing the other hand on the walker and using the stronger leg for support. The client then releases the grip on the walker while using the free hand to grasp the opposite armrest and lowering himself or herself into the chair.

14. c, a, b, d  
**RATIONALE:** When a client who uses a walker to ambulate needs to rise from a chair, the client moves to the edge of the chair and repositions the walker. After pushing up on the armrests with both arms until the body weight is centered, the client uses one hand, then the other, to grasp the walker.

15. a  
**RATIONALE:** A paralyzed client with leg braces who uses crutches to ambulate would use the swing-through gait. The three-point partial weight-bearing gait would be used by an amputee who is learning to use a prosthesis. A client with a severe ankle sprain would use the three-point non-weight-bearing gait. Clients who have more strength, coordination, and balance would have a two-point gait.

16. a  
**RATIONALE:** The nurse would observe a four-point gait in the arthritic client who uses crutches to ambulate. A two-point gait is observed in clients who have more strength, coordination, and balance. A three-point partial weight-bearing gait is observed in amputees learning to use a prosthesis, in clients with minor injuries to one leg, or in clients with previous injuries showing signs of healing. A three-point non-weight-bearing gait can be observed in clients with one amputated, injured, or disabled extremity.
CHAPTER 27

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Inpatient
2. Outpatient
3. Autologous
4. Laser
5. Microabrasions
6. Distended
7. Plume
8. Psychosocial
9. Preoperative
10. Reversal

Activity B
1. The figure shows a client performing leg exercises (A) and foot exercises (B).
2. Surgical clients are predisposed to thrombus because they have reduced circulatory volume as a result of preoperative restriction of food and fluids, and blood loss during surgery. Blood tends to pool in the lower extremities of these clients because of their stationary position during surgery and the clients’ reluctance to move afterward. With the use of leg exercises, efforts to reduce circulatory complications begin as soon as the client recovers from anesthesia. The effects of strong medication are not related to thrombus. Antiembolism stockings help to prevent thrombi and emboli by compressing superficial veins and capillaries.

Activity C
1. E
2. A
3. D
4. B
5. C

Activity D
3 → 1 → 4 → 2 → 6 → 5

Activity E
1. The nurse should assess a client’s support system before discharge because, if the client cannot manage his or her post-operative care independently or with the assistance of a supportive family or friends, options relative to extended or skilled nursing care should be explored and discussed. Options for skilled nursing or rehabilitation services may be available for home settings.
2. Nurses should assess the condition of the wound and the characteristics of drainage at least once each shift. They should reinforce or change dressings if they become loose or saturated. Eventually, sutures or staples are removed. Most hospitalized clients are discharged within 3 to 5 days of surgery to continue their recuperation at home.

3. The preoperative period starts when clients, or their families in an emergency, learn that surgery is necessary and ends when clients are transported to the operating room. One major factor affecting the length of the preoperative period is the urgency with which the surgery must be performed.
4. Plume is a substance composed of vaporized tissue, carbon dioxide, and water that may contain intact cells that are released during laser surgery. Plume is accompanied by smoke, an offensive odor, and burning and itching eyes.
5. If an adult client is under the influence of a mind-altering drug such as a narcotic, or is alcohol intoxicated, obtaining consent must be delayed until the drug has been metabolized. However, in a life-threatening emergency, a court may waive the need to obtain written or verbal consent from a client who requires immediate surgery on the basis of substituted judgment—that is, if the court believes that if the client had the capacity to consent, he or she would have done so.
6. The nurse should instruct the client preoperatively to leave valuables at home. If the client forgets or does not follow this instruction, he or she must entrust valuables to a family member. Otherwise, health care agency personnel itemize the valuables, place them in an envelope, and lock them in a designated area. The client signs a receipt and the nurse notes the items’ whereabouts in the client’s medical record.

Activity F

C K
A A G
T N O
H T G
E R G
A N T I E M B O L I S M
E X E
R V E R S E D

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. The nurse can ensure that the client has a clean bowel before the surgery by administering a prescribed enema or a laxative to the client the evening before the surgery. This procedure may be repeated in the morning. If bowel surgery is scheduled, antibiotics may be prescribed to destroy intestinal microorganisms.
2. A clean bowel is important during pelvic surgery because a clean bowel allows for improved visualization of the surgical site and prevents trauma to the intestine or accidental contamination of the abdominal cavity with feces.
SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b  
**RATIONALE:** Surgery for the removal of a superficial cyst is classified as elective surgery because the surgery is planned at the client’s convenience. Failure to remove the cyst will not lead to a catastrophe. It is not classified as optional surgery because this type of surgery is performed at the client’s request. Urgent surgery is necessary and done within 1 or 2 days. Emergency surgery is required immediately for survival.

2. d  
**RATIONALE:** A breast biopsy comes under “diagnostic surgery” because the surgeon removes and studies the tissue to make a diagnosis. Exploratory surgery is performed for more extensive means to diagnose a problem, such as the exploration of unexplained pain in the abdomen. A curative surgery is performed to remove defective tissue to restore function. Cosmetic surgery is performed to correct defects or improve the appearance of a person. Palliative surgery, not a biopsy, is done for the enhancement of function without cure.

3. a, c, e  
**RATIONALE:** The client remains in the outpatient surgical suite for a brief time and is discharged by mid-afternoon or early evening when the client is awake and alert, vital signs are stable, and pain and nausea are controlled, oral fluids are retained, the client voids a sufficient quantity of urine, and the client has received discharge instructions. The client is not discharged when he or she is just out of anesthesia or is able to walk independently.

4. d  
**RATIONALE:** When applying antiembolism stockings to a client, the nurse should turn the stockings inside out before applying because it facilitates threading the stocking over the foot and leg. The nurse should avoid massaging the legs to prevent dislodging a thrombus if one is present. The client’s legs should be elevated, not lowered, for at least 15 minutes before applying the stockings to promote venous circulation. Removing the stockings twice a day and then reapplying them allows for assessment and hygiene.

5. a  
**RATIONALE:** To be a directed donor, the person must be at least 17 years of age. Having a hematocrit level within safe range is a criterion for autologous donation, not directed donation. The person must donate blood 3 to 20 days before the anticipated date of use, and the donor should not have received a blood transfusion within the past 6 months.

6. a, b, d  
**RATIONALE:** The nurse can suggest forced coughing for clients with moist lung sounds, thick sputum, and abdominal or chest incisions. Clients with chronic pain and severe muscle spasms may not always be suitable for forced coughing because forced coughing can be very painful for them.

7. a  
**RATIONALE:** A preoperative checklist is a form that identifies the status of essential presurgical activities and is completed before surgery. It does not identify the type of surgery required to be performed on the client, nor does it prepare the client spiritually, emotionally, and physically before the surgery. The preoperative checklist does not allow the nurse to monitor for complications. Frequent assessment after the operation allows the nurse to monitor the client for complications.

8. a  
**RATIONALE:** The intraoperative period involves transporting the client to a receiving room and then onto the operating room. Assessing whether the client has developed any allergies is done when the nurse is completing the preoperative checklist. Psychosocial preparation of the client is done before surgery; but it is not part of the intraoperative period. The nurse checks for completion of the client’s skin preparation during the preoperative period, not during the intraoperative period.

9. b  
**RATIONALE:** Improper documentation of a client’s history and physical examination is the main point that could be responsible for an incomplete preoperative checklist. Unavailability of surgical equipment, agency policy, and the availability of an anesthesiologist are not things a nurse checks using the preoperative checklist. The nurse does need to check whether the client has removed his or her dentures.

10. a, b, d  
**RATIONALE:** Laser surgery is used as an alternative to many previously conventional surgical techniques such as reattaching the retina, removing skin tattoos, and revascularizing ischemic heart muscle. However, it is not used to replace decayed teeth or adjust dislocated bones. Decayed teeth are usually replaced with artificial teeth or dentures whereas dislocated bones are fixed through mechanical immobilization.

11. d  
**RATIONALE:** The major advantage of regional anesthesia is the decreased risk of respiratory, cardiac, and gastrointestinal complications. Regional anesthesia does not increase but decreases mobility to the specific anesthetized area, and the client does not lose consciousness. Team members must monitor the client for signs of allergic reactions, changes in vital signs, and toxic reactions. In addition, they must protect the anesthetized area while sensation is absent because the client is at risk of injury.

12. c  
**RATIONALE:** The nurse should immediately tilt the client’s head and lift the chin or insert an artificial airway for a client who has developed a complication of airway occlusion. A client is placed in the
Trendelenburg position when in shock. A nasogastric tube is inserted inside the client and then connected to suction if there is lack of motility, not if there is airway occlusion. A client is administered prescribed intravenous fluid if he or she has developed complications of hemorrhage.

13. b  
**RATIONALE:** The nurse should palpate the pedal pulses to validate if arterial blood flow to the foot is present and strong. The nurse should help the client to a position of comfort such (as supine or low Fowler’s) to foster rest and relaxation instead of a lateral position, which could affect the client’s breathing. The air pump should be secured at the bottom of the bed to ensure protection from damage and to prevent injury to the client. The nurse should check that the air tubes are untwisted and not compressed under the client or the wheels of the bed to ensure the unobstructed delivery of air.

14. c  
**RATIONALE:** The nurse should provide discharge instruction to the client as to how he or she should take care of the incision site. Identification of purulent drainage and their characteristics, level of pain, need for analgesia, as well as ensuring a patent airway are initial post-operative assessments checked by the nurse systematically, not by the client.

15. a, d, e  
**RATIONALE:** Before administering preoperative medications, the nurse should check the client’s ID bracelet, ask about drug allergies, obtain vital signs, ask the client to void, and ensure that the surgical consent form has been signed. Allaying the client’s fears and explaining the process of the surgery are interventions related to preparing the client emotionally and spiritually for the surgery.

16. c  
**RATIONALE:** Many older adults may be on anticoagulation therapy, including self-therapy with low-dose aspirin, which has to be addressed as an important preoperative consideration. Elderly clients are susceptible to urinary tract infection and allergies, but these are not part of preoperative considerations. Wound healing in the elderly client may occur more slowly because of age-related skin changes and impaired circulation and oxygenation.

17. b, c, d  
**RATIONALE:** Laser technology requires unique safety precautions. In some cases, prescription glasses with side shields are allowed, but not contact lenses. Because lasers produce heat, fire and electrical safety are paramount. Volatile substances such as alcohol and acetone are not used around lasers because of their flammability. Surgical instruments are coated black to avoid absorbing scattered light that causes them to heat. Sometimes the client’s teeth are covered with plastic or a rubber mouth guard to shield metal fillings. For the same reason, no jewelry is allowed.

18. b  
**RATIONALE:** As part of presurgical skin preparation, the nurse should use electric hair clippers to remove hair from the designated area to prevent microabrasions. Depilatory agents are used around bony prominences like the knuckles or ankles, where razors are ineffective. The nurse should apply a moisturizer to the skin but dry it thoroughly so that moisture is eliminated. Because the nurse is performing presurgical skin preparation, the skin needs to be assessed for lesions, not the hair.

**CHAPTER 28**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Wound  
2. Inflammation  
3. Phagocytosis  
4. Proliferation  
5. Remodeling  
6. Enzymatic  
7. Transparent  
8. Drains  
9. Sutures  
10. Binder

**Activity B**

1. The image is that of a transparent dressing.  
2. The chief advantage of a transparent dressing is that it allows the nurse to assess a wound without removing the dressing. In addition, it is less bulky than gauze dressings and does not require tape because it consists of a single sheet of adhesive material. It commonly is used to cover peripheral and central intravenous insertion sites.

**Activity C**

1. C  
2. A  
3. D  
4. E  
5. B

**Activity D**

3 → 1 → 4 → 2

**Activity E**

1. Inflammation is the physiologic defense, immediately after tissue injury, that lasts for approximately 2 to 5 days. The purpose of inflammation is to:
   - Limit the local damage
   - Remove injured cells and debris
   - Prepare the wound for healing
2. Generally, the integrity of skin and damaged tissue is restored by:
   - Resolution, a process by which damaged cells recover and reestablish their normal function
• Regeneration or cell duplication
• Scar formation, which is the replacement of damaged cells with fibrous scar tissue. Fibrous scar tissue acts as a non-functioning patch. The extent of scar tissue that forms depends on the magnitude of tissue damage and the manner of wound healing.

3. Several factors affect wound healing:
• Type of wound injury
• Expanse or depth of wound
• Quality of circulation
• Amount of wound debris
• Presence of infection
• Status of the client’s health

4. The key to wound healing is adequate blood flow to the injured tissue. Factors that may interfere include compromised circulation; infection; and purulent, bloody, or serous fluid accumulation that prevents skin and tissue approximation. In addition, excessive tension and pulling on wound edges contribute to wound disruption and delay healing. One or several of these factors may be secondary to poor nutrition or impaired inflammatory or immune responses secondary to drugs like corticosteroids and obesity.

5. Two potential surgical wound complications include dehiscence (the separation of wound edges) and evisceration (wound separation with protrusion of organs). These complications are most likely to occur within 7 to 10 days after surgery. They may be caused by an insufficient dietary intake of protein and sources of vitamin C; premature removal of sutures or staples; unusual strain on the incision from severe coughing, sneezing, vomiting, dry heaves, or hiccups; weak tissue or muscular support secondary to obesity; distension of the abdomen from accumulated intestinal gas; or compromised tissue integrity from previous surgical procedures in the same area.

6. A dressing or a cover over a wound is used to
• Keep the wound clean
• Absorb drainage
• Control bleeding
• Protect the wound from further injury
• Hold medication in place
• Maintain a moist environment

Activity F

Activity G

SECTION III: APPLYING YOUR KNOWLEDGE

1. The nurse applies the cold compress to reduce the temperature of the client.
2. Before applying the compress, the nurse soaks it in tap water or medicated solution at the appropriate temperature and then wrings out excess moisture. To maintain the moisture and temperature, a piece of plastic or plastic wrap is used to cover the compress, and the area is secured in a towel. As the compress material cools or warms outside the range of the intended temperature, the nurse removes it and reapplies it if necessary.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. a
   **RATIONALE:** The nurse should document the wound as an incision wound because it is a clean separation of skin and tissue with smooth, even edges.

2. d
   **RATIONALE:** An ulceration is a shallow crater in which skin or mucous membrane is missing.

3. a
   **RATIONALE:** When caring for a client with an open wound, the nurse can describe the inflammation stage of the wound repair process as the physiologic defense immediately after tissue injury. Proliferation is a period during which new cells fill and seal the wound. Proliferation follows the inflammation phase. Resolution is the process by which damaged cells recover and reestablish their normal function; it is part of the proliferation phase. Remodeling is the period during which the wound undergoes changes and maturation. This phase follows the proliferation phase.

4. d
   **RATIONALE:** During the first stage of inflammation, local changes occur. The blood vessels constrict to control blood loss and confine damage. This is followed by the migration of leukocytes and macrophages to the site of injury, after which the body produces more and more white blood cells to take their place. Increased white blood cells, particularly neutrophils and monocytes, suggest an inflammatory and, in some cases, infectious process.
5. b
RATIONALITY: In second-intention healing, the wound edges are widely separated, leading to a more time-consuming and complex reparative process. First-intention healing, also called healing by primary intention, is a reparative process during which the wound edges are directly next to each other. With third-intention healing, the wound edges are widely separated and are later brought together with some type of closure material. However, edges that are near or close to each other do not require closure material.

6. b
RATIONALITY: The nurse should understand that the client is in stage II of pressure ulcer development. A stage II pressure ulcer is red and is accompanied by blistering or a skin tear. Stage I is characterized by intact but reddened skin that remains red and fails to resume its normal color when pressure is relieved. A stage III pressure ulcer has a shallow skin crater that extends to the subcutaneous tissue. It may be accompanied by serous or purulent drainage caused by a wound infection. Stage IV of a pressure ulcer is characterized by deeply ulcerated tissue exposing the muscles and bones.

7. a
RATIONALITY: The nurse should understand that factors such as depression, poor appetite, cognitive impairment, and physical or economic barriers that interfere with adequate nutrition in older adults may impair wound healing. Age-related changes like diminished collagen and blood supply affect wound healing. Decreased subcutaneous tissue could result in increased susceptibility to pressure ulcers and shear-type injuries in older adults.

8. a
RATIONALITY: The nurse should use gauze to care for the scraped knee. Gauze dressings are made of woven cloth fibers that are highly absorbent, making them ideal for covering fresh wounds that are likely to bleed or wounds that exude drainage. A transparent dressing allows the nurse to assess a wound without removing the dressing. Hydrocolloid dressings such as DuoDerm are self-adhesive, opaque, air- and water-occlusive wound coverings. Hydrocolloid dressings help keep the wounds moist. A bandage is a strip or roll of cloth wrapped around a body part to help support the area around the wound.

9. b
RATIONALITY: A transparent dressing allows the nurse to assess the wound (in this case, the intravenous catheter site) without removing the dressing. In addition, it is less bulky than gauze dressings and does not require tape because it consists of a single sheet of adhesive material. A hydrocolloid dressing is an opaque, air- and water-occlusive wound covering that keeps the wound moist, which promotes wound healing. Gauze is ideal for treating fresh wounds that are likely to bleed.

10. a
RATIONALITY: When caring for a wound with a closed drain, the nurse cleans the insertion site in a circular manner. After cleaning, the nurse places a precut drain sponge or gauze, which is open to its center, around the base of the drain. In case of an open drain, a safety pin or a long clip is attached to the drain as it extends from the wound; this prevents the drain from slipping in the tissue. To shorten an open drain, the nurse pulls it from the wound for the specified length. The nurse then repositions the safety pin or clip near the wound to prevent the drain from sliding back internally within the wound.

11. c
RATIONALITY: The nurse should use a Steri-Strip to close the superficial laceration. Adhesive Steri-Strips, also known as butterflies because of their winged appearance, can hold a weak incision together temporarily. Sometimes Steri-Strips are used instead of sutures or staples to close superficial lacerations. A hydrocolloid dressing is an opaque, air- and water-occlusive wound covering that keeps the wound moist, which promotes wound healing. Gauze is ideal for treating fresh wounds that are likely to bleed. A bandage is a strip or roll of cloth wrapped around a body part.

12. a
RATIONALITY: The nurse should use a spiral turn to wrap the fractured arm of the client. A spiral turn partly overlaps a previous turn. The amount of overlapping varies from one-half to three-fourths of the width of the bandage. Spiral turns are used when wrapping cylindrical parts of the body, such as the arms and legs. A figure-of-eight turn is best when bandaging a joint such as the elbow or knee. A spica turn is a variation of the figure-of-eight pattern. It differs in that the wrap includes a portion of the trunk or chest. A recurrent turn is especially beneficial when wrapping the head or the stump of an amputated limb.

13. c
RATIONALITY: The nurse could use the spica turn technique to bandage a client’s chest. A spica turn is a variation of the figure-of-eight pattern. It differs in that the wrap includes a portion of the trunk or chest. A figure-of-eight turn is best when bandaging a joint such as the elbow or knee. Spiral turns are used when wrapping cylindrical parts of the body such as the arms and legs.

14. a
RATIONALITY: The nurse uses the sharp debridement technique to promote healing in clients with extensive necrotic tissue from the healthy area of the wound with sterile scissors, forceps, or other instruments. This method is preferred if the wound is infected because it helps the wound to heal quickly and well. The procedure is done at the bedside or in the operating room if the wound
is extensive. Enzymatic debridement is appropriate for uninfected wounds or for clients who cannot tolerate sharp debridement. Autolytic debridement, or self-dissolution, is a painless, natural physiologic process that allows the body’s enzymes to soften, liquefy, and release devitalized tissue.

15. a

**RATIONALE:** Before performing ear irrigation on the client with a foreign body lodged in his ear, the nurse should conduct a gross inspection of the client’s ear because the foreign body may be a bean, pea, or other dehydrated substance that may swell when irrigated, causing it to become even more tightly fixed. Ear irrigation removes debris from the ear. Ear irrigation is contraindicated if the tympanic membrane is perforated. When performing ear irrigation, the nurse should avoid occluding the ear canal with the tip of the syringe because the pressure of the trapped solution could rupture the eardrum. After the irrigation, the nurse places a cotton ball loosely within the ear to absorb drainage but not to obstruct its flow.

16. d

**RATIONALE:** Diminished immune response from reduced T-lymphocyte cells predisposes older adults to wound infection. Age-related changes like the thinning dermal layer of skin and decreased subcutaneous tissue result in increased susceptibility to pressure ulcers and shear-type injuries in older adults. Diabetes or other conditions that may interfere with circulation increase the older adult’s susceptibility to delayed wound healing and wound infections.

CHAPTER 29

SECTION II: ASSESSING YOUR UNDERSTANDING

**Activity A**

1. Gastrostomy
2. Sump
3. Esophagus
4. Nasointestinal
5. Tungsten
6. Orogastric
7. Lumen
8. Endoscope
9. Bolus
10. Intubation

**Activity B**

1. The figure shows the method of obtaining the NEX measurement.
2. Before inserting a tube, a nurse should obtain the client’s NEX measurement (the length from the nose to the earlobe to the xiphoid process) and mark the tube appropriately. The first mark on the tube is made at the measured distance from the nose to the earlobe. It indicates the distance to the nasal pharynx, a location that places the tip at the back of the throat but above where the gag reflex is stimulated. A second mark is made at the point where the tube reaches the xiphoid process, indicating the depth required to reach the stomach.

3. The figure shows the nasogastric intubation pathway.

4. Because nasogastric tubes remain in place for several days, clients complain of discomfort in the nose and throat. If the tube’s diameter is too large or pressure from the tube is prolonged, tissue irritation or breakdown may occur. Furthermore, gastric tubes tend to dilate the esophageal sphincter, a circular muscle between the esophagus and stomach. The stretched opening may contribute to gastric reflux, especially when the tube is used to administer liquid formula. If gastric reflux occurs, the liquid could enter the airway and interfere with respiratory function.

**Activity C**


**Activity D**

1. Intubation basically means the placement of a tube into a body structure. Intubation is performed on a client to remove gas or fluids, or to administer liquid nourishment.

2. Narrow tubes tend to curl during insertion because they are so flexible. Therefore, some are supplied
with a stylet that helps to straighten and support it during insertion. Almost all have a weighted tip that helps the tube to descend past the stomach. Checking the placement of the distal end is more difficult; these tubes also become obstructed more easily.

3. Usually, nurses insert nasogastric tubes. Additional nursing responsibilities include keeping the tube patent or unobstructed, implementing the prescribed use, and removing the tube when it has accomplished its therapeutic purpose.

4. Tube feedings are used when clients have an intact stomach or intestinal function but are unconscious, have undergone extensive mouth surgery, have difficulty swallowing, or have esophageal or gastric disorders.

5. A bolus feeding is the least desirable because it distends the stomach rapidly, causing gastric discomfort and increased risk of reflux. Some clients experience discomfort from the rapid delivery of this quantity of fluid. Clients who are unconscious or who have delayed gastric emptying are at a greater risk of regurgitation, vomiting, and aspiration with this method of administration.

6. In home and long-term care settings, registered dietitians may be helpful in the ongoing assessment of tube feedings. For older adults living on a fixed income, dietitians can suggest ways to prepare less costly, home-blended formulas that meet the client’s nutritional needs.

Activity F

G T
A A
V M
A P O
G O S
J E J E N O S T O M Y
A O
D M
S T Y L E T Y

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. If an elderly client has developed hyperglycemia, the nurse should instill diluted formula and gradually increase the concentration. Most tube-feeding formulas are highly concentrated; therefore, the hydration status of the older client must be closely monitored. If an elderly client is receiving tube feedings with full-strength formula concentrations, it is important to check capillary blood glucose levels every 4 hours for a 48-hour period until the client’s results are within normal range.

2. Tube-feeding formulas may vary based on the elderly client’s condition. Several lactose-free tube-feeding formulas on the market today may be beneficial to elderly clients who experience malabsorption syndromes. Clients at risk for pressure sores benefit from formulas fortified with zinc, protein, and other nutrients.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. a

RATIONALE: Intermittent feeding involves the gradual instillation of liquid nourishment four to six times a day, whereas a bolus feeding involves the instillation of liquid nourishment four to six times a day in less than 30 minutes. A cyclic feeding is the continuous instillation of liquid nourishment for 8 to 12 hours, and a continuous feeding schedule is the instillation of liquid nutrition without interruption.

2. d

RATIONALE: The nurse should ask the client to exhale when each nostril, in turn, is occluded. The nurse should ask the client to clear nasal debris by blowing into a paper tissue. Presurgical skin preparation is not done to the nose before the insertion of a nasointestinal tube. Asking the client to perform nebulization is not correct because that is done when the client is having respiratory problems. The nurse inspects each nostril for size, shape, and patency only after the client has finished clearing nasal debris by blowing into a paper tissue.

3. c

RATIONALE: Ambulation helps the tube move through the pyloric valve into the small intestine. Moving the client into the Fowler’s position for 2 hours on both sides promotes movement through intestinal curves. Observing the graduated marks on the tube enables monitoring of the tube’s progression and approximate anatomic location. A radiograph is obtained when the tube has reached the prescribed distance.

4. b

RATIONALE: The first step that a nurse should do when removing an intestinal decompression tube is to disconnect the tube from the suction source. Next, the tape that secures the tube to the face is removed and the tube is withdrawn 6 to 10 inches at 10-minute intervals. When the last 18 inches remains, the tube is pulled gently from the nose. A radiograph is obtained to verify the correct placement when it is being inserted in the client, not when it is being removed.

5. c

RATIONALE: The main goal of preintubation assessment is to determine which nostril is most suitable
for inserting the tube. Determining whether there is any nausea and vomiting; the ability to swallow, cough, and gag; or even checking the level of consciousness are different contributing factors of pre-intubation assessment, not the main goal.

6. a
RATIONALE: Gastric sump tubes are used exclusively for removing fluid and gas from the stomach. Nasointestinal tubes, not gastric sump tubes, are used to provide nourishment and to remove gas and liquid contents from the small intestine. Intestinal decompression tubes, not the gastric sump tube, reduce trauma to intestinal tissue.

7. c
RATIONALE: In cyclic feeding, the tube feeding is given to clients during the late evening and sleep because, during the day, clients eat some food orally. As oral intake increases, the volume and duration of the tube feeding gradually are decreased. Hence, tube-feeding the client in the afternoon, early morning, or just after lunch is not a good idea. Cyclic feeding is used to wean clients from tube feedings when continuing to maintain adequate nutrition.

8. d
RATIONALE: As a rule of thumb, the gastric residual should be no more than 100 mL or no more than 20% of the previous hour’s tube-feeding volume. If the gastric residual is more than 100 mL, overfilling the stomach can cause gastric reflux, regurgitation, vomiting, aspiration, and pneumonia.

9. a, b, c
RATIONALE: Enteral nutrition is provided via the stomach or small intestine rather than by the oral route by a liquid tube-feeding formula. Although a nasogastric tube can be used, it is more likely that liquid formula will be administered through a nasointestinal or a transabdominal tube, which is longer in length and smaller in diameter.

10. b
RATIONALE: Before demonstrating the procedure, the nurse should provide detailed written instructions that include the names of the medicine and formula, and names and contact numbers in case of an emergency, among other things. In addition, depending on the client’s self-confidence and competence in self-administering tube feedings, health care providers often make a referral to a home health agency for post-discharge nursing support.

11. a
RATIONALE: To monitor the tube’s progression and approximate anatomic location, the nurse should observe the graduated marks on the tube. Following the markings on the tube before inserting manually will not provide the tube’s anatomic location. Never reinsert the stylet when the tube is in the client because reinsertion might cause trauma to the client and damage to the tube. Ambulation helps the tube to move through the pyloric valve into the small intestine.

12. c
RATIONALE: To maintain patency, it is best to flush feeding tubes with 30 to 60 mL water immediately before and after administering a feeding or medications, every 4 hours if the client is being continuously fed, and after refeeding the gastric residual. Giving ice chips or occasional sips of water to a client who is otherwise not taking food orally promotes tube patency. However, it must be given sparingly, because water is hypotonic and draws electrolytes into the gastric fluid. Cranberry juice and carbonated beverages are used as flushing solutions, although water is best. Formula tends to curl when it comes in contact with cranberry juice, which detracts from the efficacy of this approach.

13. b
RATIONALE: A bolus feeding schedule is the least desirable because it distends the stomach rapidly, causing gastric discomfort and the increased risk of reflux. Intermittent feedings fill the stomach gradually, at a slower rate, thereby reducing the bloated feeling. A cyclic feeding is used to wean the client from tube feedings. A continuous feeding is administered at a rate of approximately 1.5 mL/minute. Continuous feeding creates some inconvenience, because the pump must go wherever the client goes.

14. a, c, e
RATIONALE: The main causes of gastrostomy leaks are a clamped gastrointestinal tube when the feed is infusing, disconnection between the feeding tube and the gastrointestinal tube, and underinflation of the balloon beneath the skin. When a client is administered with tube-feeding formula, the pressure on the abdomen is increased, not reduced, which could lead to gastrostomy leaks. Instillation of highly concentrated nutritional formula does not cause gastrostomy leaks, but leads to hydration.

15. d
RATIONALE: Because the client is complaining of a vomiting feeling, and the nurse has confirmed that the client’s bowel sounds are less than five per minute, the nurse should identify it as risk for aspiration. The client is not discharged or eating independently, so self-care deficit is not applicable. The client does not have any problem with the prescribed nutrition formula or swallowing it, so a nursing diagnosis for imbalanced nutrition and impaired swallowing would be incorrect.

16. c
RATIONALE: To prevent air from entering the tube, the nurse pinches the feeding tube just as the last volume of water is administered. To prevent leaking, the nurse should clamp or unplug the feeding tube. To provide access to formula, the nurse should connect the tubing to a nasogastric or naso-enteral tube. The gradual opening of the clamp on the tubing helps to purge air from the tube.

17. a
RATIONALE: To reduce middle ear inflammation, the nurse should insert a small diameter feeding
tube. Middle ear inflammation is caused by the narrowing or obstruction of the eustachian tube from the presence of a tube in the pharynx. The nurse provides nasal and oral hygiene when the client's oral and nasal mucous membranes are dry. The client's neck is maintained in a neutral position when there is a plugged feeding tube resulting from a kinked tube. Tubing is filled with water when there is air in the stomach, and the client complains of nausea and vomiting.

CHAPTER 30

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Voided
2. Anuria
3. Oliguria
4. Dysuria
5. Catheterization
6. Straight
7. Continuous
8. Incontinence
9. External
10. Bedpan

Activity B
1. The figure shows major structures of the urinary system.
2. The urinary system consists of the kidneys, ureter, bladder, and urethra. These major components, along with some accessory structures such as the ring-shaped muscles called the internal and external sphincters, work together to produce urine, collect it, and excrete it from the body.

Activity C

Activity D
3 1 4 2

Activity E
1. The common disorders associated with polyuria include
   • Diabetes mellitus—an endocrine disorder caused by insufficient insulin
   • Diabetes insipidus—an endocrine disease caused by insufficient antidiuretic hormone
2. A urinary catheter is used for various reasons:
   • To keep incontinent clients dry (catheterization is a last resort that is used only when all other continence measures have been exhausted)
   • To relieve bladder distention when clients cannot void
   • To assess fluid balance accurately
   • To keep the bladder from becoming distended during procedures such as surgery
   • To measure residual urine
   • To obtaining sterile urine specimens
   • To instill medication within the bladder
3. Application of the catheter correctly and managing care appropriately can prevent potential problems that may accompany the use of a condom catheter, such as
   • Restriction of blood flow to the skin and tissues of the penis, resulting from a tight sheath
   • Skin breakdown resulting from the accumulation of moisture beneath the sheath
   • Leakage
4. Older adults are likely to experience urinary urgency and frequency because of normal physiologic changes such as diminished bladder capacity and degenerative changes in the cerebral cortex.
5. Many resources are available to assist older adults in evaluating and treating incontinence, such as the following:
   • Health care facilities offer special incontinence clinics and physical therapy departments to teach pelvic muscle exercises.
   • Biofeedback has been used to strengthen bladder control.
6. Oliguria indicates the inadequate elimination of urine. Sometimes oliguria is a sign that the bladder is being only partially emptied during voiding. Residual urine, or more than 50 mL urine that remains in the bladder after voiding, can support the growth of microorganisms, leading to infection. In addition, urinary stasis or lack of movement can cause dissolved substances such as calcium to precipitate, leading to urinary stones.
Activity F

G
L
Y
C
O
C
S
T
F
U
M
O
R
R
L
A
D
A
Y
E

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. When a closed drainage system is used to collect urine from the catheter, the nurse should do the following:
   • Coil excess tubing on the bed and keep the section from the bed to the collection bag vertical, because dependent loops in the tubing interfere with gravity flow.
   • Ensure that the tubing is not compressed and the drainage is not obstructed. The tubing may be placed over the client’s thigh.
   • Position the drainage system lower than the bladder to avoid a backflow of urine.
   • Suspend the drainage bag from the wheelchair below the level of the bladder.
   • Secure the drainage bag to the lower part of an intravenous pole or allow the client to carry the bag by hand when ambulating.
2. To reduce the potential for the drainage system to become a reservoir of pathogens, the entire drainage system is replaced whenever the catheter is changed, and is replaced at least every 2 weeks in clients with a urinary tract infection.

SECTION IV: PRACTICING FOR NCLEX

Activity H
1. c, a, d, b
   RATIONALE: Urination takes place several times each day. The need to urinate becomes apparent when the bladder distends with approximately 150 to 300 mL of urine. The distention with urine causes increased fluid pressure, stimulating stretch receptors in the bladder wall and creating a desire to empty it of urine.
2. b
   RATIONALE: To avoid the clean-catch specimen from being contaminated by microorganisms or substances other than those in the urine, the

external structure through which the urine passes must be cleaned. Collecting the sample in a clean container over a period of 24 hours or using a catheter to collect the sample may not prevent the contamination of the urine. A void specimen is collected in a clean container, a 24-hour specimen is collected over a period of 24 hours, and a catheter is used to collect a catheter specimen.
3. c
   RATIONALE: Diuretic medication could have led to the increase in urinary volume of the client. The other common causes that could have led to an increase in urine volume are high fluid intake and endocrine diseases. Gallbladder disease would affect the color of the urine, making it appear brown in color; infection would cause the urine to appear cloudy. Kidney dysfunction would lead to a decrease in the volume of urine, not an increase.
4. a
   RATIONALE: Stasis could cause the client’s urine to appear cloudy. The presence of blood would cause the urine to appear reddish brown in color, whereas water-soluble dyes would cause the urine to appear orange, green, or blue. Dehydration would cause the client’s urine to appear dark amber in color.
5. c
   RATIONALE: The nurse could use the term proteinuria to document urine containing plasma proteins. Hematuria is the term used for urine containing blood. The presence of pus in the urine can be termed as pyuria. Albuminuria is term used for urine containing albumin, a plasma protein.
6. d
   RATIONALE: Dysuria is difficult or uncomfortable voiding and is a common symptom of trauma to the urethra or a bladder infection. Anuria means the absence of urine, whereas oliguria indicates the inadequate elimination of urine. Polyuria means greater-than-normal urinary volume.
7. a
   RATIONALE: The presence of urinary stones is a common problem faced by clients with oliguria. Oliguria indicates an inadequate elimination of urine. Residual urine in the bladder after voiding can support the growth of microorganisms, leading to infection. Urinary stasis can lead to precipitation of dissolved substances such as calcium, leading to urinary stones. Common disorders associated with polyuria include diabetes mellitus and diabetes insipidus. In aging men, an enlarging prostate gland, which encircles the urethra, interferes with complete bladder emptying.
8. d
   RATIONALE: The nurse should use a urinal, which is a cylindrical container for collecting urine, for a client who is confined to the bed. Clients who can ambulate should be assisted to the bathroom to use the toilet. Clients who are weak or who cannot

walk to the bathroom may use a commode.
Clients confined to bed use a urinal or bedpan.

9. b, c, d
RATIONALE: A urinary catheter is used for a client with urinary incontinence to keep the client dry, to measure residual urine, and to instill medication into the bladder. The other reasons for the use of a urinary catheter are to relieve bladder distention when clients cannot void, to keep the bladder from becoming distended during procedures such as surgery, and to obtain sterile urine specimens. Continence training to restore control of urination involves teaching the client to refrain from urinating until an appropriate time and place. Inserting a retention catheter is the least desirable approach to managing incontinence because it is the leading cause of urinary tract infections.

10. c
RATIONALE: A urine bag is a bag attached by adhesive backing to the skin surrounding the genitals. It is more often used to collect urine specimens from infants. A straight catheter is a urine drainage tube inserted but not left in place, whereas a retention catheter is a urine drainage tube that is left in place over a period of time. A condom catheter is a flexible sheath that is rolled around the penis.

11. b
RATIONALE: The nurse should suggest that weight reduction is a possible nursing intervention for the client who complains of loss of small urination when she laughs or sneezes. The client’s incontinence can be classified as stress incontinence. The nurse should suggest a clothing modification for clients who are unable to control urination lost because of inaccessibility of a toilet or a compromised ability to use one. The nurse should suggest absorbent undergarments as an intervention for clients who are unable to control urination lost because of inaccessibility of a toilet or a compromised ability to use one. The nurse should suggest absorbent undergarments as an intervention for clients who are unable to control urination lost because of inaccessibility of a toilet or a compromised ability to use one. The nurse should suggest absorbent undergarments as an intervention for clients who are unable to control urination lost because of inaccessibility of a toilet or a compromised ability to use one. The nurse should suggest absorbent undergarments as an intervention for clients who are unable to control urination lost because of inaccessibility of a toilet or a compromised ability to use one.

12. d
RATIONALE: Bladder irritation secondary to infection is the possible cause for the client’s condition. Loss of perineal and sphincter tone is the possible cause for the loss of small amount of urine when intra-abdominal pressure increases. Damage to motor and sensory tracts in the lower spinal cord is the cause for spontaneous loss of urine when the bladder is stretched with urine but without prior perception of a need to void. Loss of urine without any identifiable pattern or warning could be caused by altered consciousness secondary to head injury.

13. a
RATIONALE: When providing catheter care, the nurse washes the meatus and a nearby section of the catheter to reduce microorganism colonization. The nurse should don clean gloves and wash the meatus, the catheter where it meets meatus, the genitalia, and the perineum with warm, soapy water to remove gross secretions and transient microorganisms. The nurse places a pad under the hips of a female client and beneath the penis of a male client to protect the bed linen from becoming wet or soiled. The nurse should wash his or her hands or perform an alcohol-based hand rub because it reduces the potential for transmitting microorganisms.

14. b, d, a, c, e
RATIONALE: A closed system is irrigated without separating the catheter from the drainage tubing. To do so, the catheter or drainage tubing must have a self-sealing port. After cleaning the port with an alcohol swab, the nurse pierces the port with an 18- or 19-gauge 1.5-inch needle. The nurse then attaches the needle to a 30- to 60-mL syringe containing sterile irrigation solution. The nurse pinches or clamps the tubing beneath the port and instills the solution. He or she releases the tubing for drainage. The nurse records the volume of irrigant as fluid intake or subtracts it from the urine output to maintain an accurate intake and output record.

15. a, c, e, b, d
RATIONALE: The steps involved in providing continuous irrigation are as follows. The nurse hangs the sterile solution on the intravenous pole and then purges the air from the tubing. The nurse then connects the tubing to the catheter port for irrigation and regulates the rate of infusion according to the medical records. The nurse then monitors the appearance of the urine and the volume of the drainage system.

16. c
RATIONALE: Chronic residual urine is likely to increase the risk of urinary tract infection in elderly clients. Diminished bladder capacity and relaxation of pelvic floor muscle tone is likely to cause the client to experience urinary urgency. Enlargement of the prostate, a common problem among older men, can totally obstruct urinary outflow and make catheterization difficult or impossible.

17. a
RATIONALE: Double voiding means a client voids then waits for a few more minutes to allow any residual urine to be voided. Clients who have been prescribed diuretic therapy should access the toilet within 30 to 120 minutes after the administration of the medication. Teaching older adults to structure activities with planned toilet breaks every 60 to 90 minutes results in less urine in the bladder and, thus, diminishes urge incontinence. Routine toilet schedules every 90 to 120 minutes must be offered to clients who become incontinent from a lack of assistance.
18. d
RATIONALE: Before providing a bedpan to a client who has been confined to the bed, the nurse palpates the lower abdomen for signs of bladder distention because it indicates bladder fullness. Before placing the bedpan, the nurse warms it by running warm water over it to demonstrate concern for the client’s comfort. When placing the bedpan, the nurse should raise the top linen enough to determine the location of the client’s hips and buttocks because this prevents unnecessary exposure. Placing the adjustable bed in the high position promotes the use of good body mechanics.

19. a
RATIONALE: Dehydration causes the client’s urine to appear dark amber in color. Liver disease would cause the urine to appear brown, whereas blood would make the urine appear reddish brown. Water-soluble dyes cause the urine to appear orange, green, or blue.

CHAPTER 31

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Peristalsis
2. Stool
3. Constipation
4. Fiber
5. Iatrogenic
6. Impaction
7. Flatulence
8. Retention
9. Secondary
10. Water

Activity B
1. The figure shows a nurse removing a fecal impaction.
2. This procedure is required when a client has fecal impaction caused by a large, hardened mass of stool that interferes with defecation, making it impossible for the client to pass feces voluntarily.

Activity C
1. B
2. C
3. D
4. E
5. A

Activity D
3 → 1 → 4 → 2 → 5

Activity E
1. Clients with musculoskeletal disorders, such as arthritis of the hands, may face the problem of not being able to care for an ostomy appliance or perform colostomy irrigations. In such a situation, an occupational or enterostomal therapist can offer suggestions for promoting self-care.
2. Defecation or bowel elimination is the act of expelling feces from the body with the help of all structures of the gastrointestinal tract, especially the components of the large intestine, which must function in a coordinated manner.
3. A comprehensive assessment of bowel elimination involves collecting data about the client's elimination patterns or bowel habits and the actual characteristics of the feces.
4. Clients often have temporary or chronic problems with bowel elimination and intestinal function such as constipation, fecal impaction, flatulence, diarrhea, and fecal incontinence.
5. Pseudoconstipation occurs when the clients believe that they are constipated even though they are not. Pseudoconstipation may occur in people who are extremely concerned about having a daily bowel movement.
6. Diarrhea is the urgent passage of watery stool and is commonly accompanied by abdominal cramping. Simple diarrhea usually begins suddenly and lasts for a short period.

Activity F
EMOTIONS
S
COLOSTOMY
S
ILEOSTOMY
A
EXCORIATION
E
LUBRICANTS

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. The nurse should recommend a diet that is high in fiber, such as raw fruits and vegetables, whole grains, seeds, and nuts. Dietary fiber, which becomes undigested cellulose, is important because it attracts water within the bowel, resulting in bulkier stool that is more quickly and easily eliminated. The incidence of constipation tends to be high among those whose dietary habits lack adequate fiber.
2. Constipation is accompanied by various signs and symptoms, such as complaints of abdominal fullness or bloating, abdominal distention, complaints of rectal fullness or pressure, pain on defecation, decreased frequency of bowel movements, inability to pass stool, and changes in stool characteristics, such as oozing liquid stool or hard small stool.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. a, b, d
   **RATIONALE:** Abnormal stools usually appear black, clay-colored, yellow, and green. Whenever stool appears abnormal, a sample is saved in a covered container for the physician’s inspection. All shades of brown are considered normal.

2. a
   **RATIONALE:** To remove a fecal impaction, the nurse needs to lubricate his or her finger and then insert it inside the rectum of the client. Placing the client in a Sims’ position facilitates access to the rectum, but it does not ease the insertion of the finger into the rectum. Lubricating the rectal tube or warming the cleansing solution is not required here because it done when inserting a rectal tube and performing an enema respectively.

3. b
   **RATIONALE:** Clients with fecal impaction can experience rectal pain as a result of unsuccessful efforts to evacuate the lower bowel. Forceful muscular contractions of peristalsis in higher bowel areas do not lead to rectal pain but do lead to the passing of liquid stool. An insufficient intake of liquids, high fiber, and retained barium from an intestinal radiographic procedure results in constipation.

4. c
   **RATIONALE:** The nurse should insert a well lubricated rectal tube inside the client so that the gas can escape through it and provide immediate relief to the client. Administering a cleansing enema and insertion of a rectal suppository is done when the client is constipated as a result of blocked stool. Although prune juice is high in fiber, it will not help in this case because it will only make the client feel more bloated and uncomfortable.

5. b
   **RATIONALE:** To get more accurate findings when testing a client’s stool for occult blood, the nurse should cover the entire test space with the stool. Taking the sample from the center of the stool provides more diagnostic value. Placing two drops of chemical reagent onto the test space promotes a chemical reaction. Applying a thin smear of stool onto the test area ensures thorough contact with the chemical reagent.

6. a, b, d
   **RATIONALE:** The power pudding recipe consists of 1 cup wheat bran, 1 cup applesauce, and 1 cup prune juice all mixed thoroughly and refrigerated. Elderly clients may be taught to incorporate a natural laxative into their diet. Elderly clients can begin with 1 tablespoon per day and increase the amount by small increments daily until ease of bowel movement is achieved. Water and milk are not included in the power pudding recipe.

7. c
   **RATIONALE:** Fluid intake influences the moisture content of the stool. Bowel motility is altered by a person’s emotions, not fluid intake. The type of food consumed by a person influences the color, odor, volume, and consistency of stool and fecal velocity.

8. d
   **RATIONALE:** To facilitate digital manipulation of the stool, the nurse should insert the lubricated finger to the level of the hardened mass of stool. Moving the finger slowly and carefully facilitates the removal or voluntary passage. Placing the client in Sims’ position facilitates access to the rectum but does not facilitate digital manipulation of the stool. Lubricating and inserting the finger periodically provides rest and restores patency to the lower bowel.

9. a
   **RATIONALE:** To purge air from the tubing, the nurse should open the clamp and fill the tubing with the cleansing solution and then reclamp the tubing. Holding the solution container 20 inches above the client’s anus does not remove air from the tubing, but does facilitate gravity flow. Lubricating the tip of the tube generously eases insertion. Instilling the solution gradually over 5 to 10 minutes does not purge the air from the tubing, but it does fill the rectum with the solution.

10. a, b, c
    **RATIONALE:** To promote hydration and avoid dry stool, the nurse should encourage the client to drink at least 8 to 10 glasses of oral fluid per day. Prune juice is high in fiber and promotes bulk in the stool. Apple juice contains pectin, which also adds bulk to the stool. A client is advised to eat bananas and cottage cheese if he or she has diarrhea.

11. b
    **RATIONALE:** Nurses must administer them cautiously to clients with intestinal disorders such as colitis because large-volume enemas may rupture the bowel or cause other secondary complications. Large-volume cleansing enemas may cause discomfort because they distend the lower bowel. Hypertonic saline enemas draw fluid from body tissues into the bowel. Normal soap and water cleansing enemas irritate the local tissue. A large-volume cleansing enema does not increase the fecal velocity of the stool; the type of food consumed by the client affects the fecal velocity.

12. d
    **RATIONALE:** An oil retention enema should be held within the large intestine for a specified period,
usually at least half an hour. Retaining the cleansing enema inside a client for 5 or 10 minutes may result in premature defecation and defeats the purpose of retaining the oil. It is not necessary to retain the enema for an hour.

13. c  
**RATIONALE:** Elderly clients can develop healthier bowel elimination habits through the use of bulk-forming products containing psyllium or polycarbophil, which are more effective and less irritating than other types of laxatives. Increasing dosage and overusing laxatives or having a long-standing habit of laxative abuse could actually lead to constipation. Nurses inform elderly clients who use mineral oil to prevent or relieve constipation that prolonged use interferes with absorption of fat-soluble vitamins A, D, E, and K.

14. a  
**RATIONALE:** Some clients with an impaction pass liquid stool, which they may misinterpret as diarrhea. Clients with an impaction need not necessarily have foul breath, weight loss, or poor physical reflexes. Clients with fecal impaction usually report a frequent desire to defecate but an inability to do so. Rectal pain may result from unsuccessful efforts to evacuate the lower bowel.

15. b, d, e  
**RATIONALE:** Diarrhea may result from emotional stress, dietary indiscretions, laxative abuse, or bowel disorders. Diarrhea is a means of eliminating an irritating substance such as tainted food or intestinal pathogens. Poor or inadequate fluid intake and physical inactivity do not necessarily lead to diarrhea.

16. a  
**RATIONALE:** When the digital removal of an impaction is required in elderly clients, a gentle procedure should be used to prevent bleeding and tissue trauma. Elderly clients may have benign lesions such as hemorrhoids or polyps in their lower bowel, which may interfere with the passage of stool. The nurse does not remove the impaction gently to preserve client dignity and self-esteem or to provide privacy and prevent soiling. A healthy bowel elimination habit can be developed in elderly clients, not with gentle removal of impaction, but instead with the use of bulk-forming products containing psyllium or polycarbophil.

**CHAPTER 32**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Chemical  
2. Scored  
3. Verbal  
4. Decreased

5. Mental  
6. Speech  
7. Generic  
8. Gastrointestinal  
9. Stock  
10. Password

**Activity B**

1. The figure shows unit dose medication.  
2. A unit dose supply, a self-contained packet that holds one tablet or capsule, is most common in acute care hospitals that stock drugs for individual clients several times in one day.

**Activity C**

1. D  
2. A  
3. E  
4. C  
5. B

**Activity D**

1. The frequency of drug administration refers to how often and how regularly the medication is to be given. Frequency of administration is written using standard abbreviations of Latin origin.  
2. All medication orders have seven components: the client’s name, date and time the order is written, drug name, dose to be administered, route of administration, frequency of administration, and signature of the person ordering the drug. If any one of these components is absent, the nurse must withhold the drug until he or she has obtained the missing information.  
3. Health teaching is especially important before discharge because the client often receives prescriptions for oral medications. Providing health teaching helps to ensure that clients administer their own medications safely and remain compliant. Compliance means that the client follows instructions for medication administration. Even clients who purchase over-the-counter medications may benefit from instruction.  
4. Nurses can give medications while a client is receiving tube feedings, but they instill the medications separately—that is, they do not add the medications to the formula. This is done for two reasons. First, some drugs may physically interact with the components in the formula, causing it to curdle or otherwise change its consistency. Also, a slow infusion would alter the drug’s dose and rate of absorption.  
5. Health agencies are using computerized medication documentation, which involves scanning bar codes on the medication container, the medication administration record (MAR), and the client’s ID bracelet, before administering each drug. The computer validates that the nurse is about to give the right dose of the right drug, through the right route, at the right time, and to the right client. The computer also documents the drug’s administration based on a password provided by the nurse.

6. As soon as the nurse recognizes a medication error, he or she checks the client’s condition and reports the mistake to the prescriber and supervising nurse immediately. Health care agencies have a form for reporting medication errors called an incident sheet or accident sheet. The incident sheet is not a part of the client’s permanent record nor does the nurse make any reference in the chart to the fact that he or she has completed an incident sheet.

Activity E


SECTION III: APPLYING YOUR KNOWLEDGE

Activity F

1. If an older person has difficulty comprehending information about medication routines, the nurse should include a second responsible person in the discharge instructions to ensure client safety. A referral for skilled nursing visits is appropriate for home-bound older adults who need additional instructions about medication routines after discharge.

2. Education regarding medications must include a visual description of the drug; action, dose, and time of administration; instruction whether food or liquid should accompany administration; a list of potential side effects; and a telephone number for a health care provider to contact should side effects occur.

SECTION IV: PRACTICING FOR NCLEX

Activity G

1. d

RATIONAL: The nurse is permitted to write a medication order if he or she is legally designated to do so by state statutes. However, the nurse needs to be an advance practice nurse. A nurse would not be permitted to write a medication order if he or she is a registered nurse or has a baccalaureate degree. A nurse needs to be legally permitted by the state statute, not the health care facility, to write a medication order.

2. a, c, d

RATIONAL: A medication order should contain the following seven components: the client’s name, date and time the order is written, drug name, dose to be administered, route of administration, frequency of administration, and signature of the person ordering the drug. The age of the client and the name of the nurse need not be present on the order.

3. c

RATIONAL: The chemical name of a drug that is not protected by the company’s trademark is known as a generic name, which is written in lowercase letters. Each drug has a trade name that the pharmaceutical company that made the drug uses. A trade name is sometimes called a brand or proprietary name.

4. a

RATIONAL: The oral route means administration of the drug by swallowing or installation through an enteral tube. The topical route is the administration of the drug by applying it to the skin or mucous membranes. The inhalant route is the administration of a drug through an aerosol. The parenteral route means the administration of drugs through an injection.

5. b

RATIONAL: A scored tablet could be used to administer half a tablet to the client per the medication order of the physician. A scored tablet is a solid drug manufactured with a groove in the center. It is convenient when only part of the tablet needs to administered. Enteric-coated tablets are solid drugs that cannot be broken or crushed; these drugs are coated with a substance that dissolves beyond the stomach. Some capsules also contain beads or pellets of drugs for sustained release—in other words, drugs that dissolve at timed intervals.

6. d

RATIONAL: The physician would use the standard abbreviation q.i.d. to indicate that the drug needs to be administered four times a day. The abbreviation q4h indicates that the drug needs to be administered every 4 hours, b.i.d. means twice a day, and t.i.d. indicates that the drug needs to be administered three times a day.

7. c

RATIONAL: Per the physician’s medication order, the drug has to be administered “qh,” or on an hourly basis. If the drug needs to be administered immediately, this is indicated by the abbreviation Stat. If it needs to be administered every day, this is represented by the abbreviation qd. Administration of the medication twice a day is indicated by the abbreviation b.i.d.

8. a, b, e

RATIONAL: To ensure accuracy of the medication order when dictated over the telephone, the nurse should ask the physician to repeat the dosage of the drug, spell out the drug name for confirmation, and
have a second nurse listen simultaneously over an extension. The nurse should write “T.O.,” not “V.O.,” at the end of the order to indicate that the order was telephonic. The order should be written directly on the client’s medical record, not a note pad, to avoid errors in memory or repetition.

9. a
RATIONALE: An individual supply of medication is a container with enough of the prescribed drug for several days or weeks and is common in long-term care facilities such as nursing homes. A unit dose supply is a self-contained packet that holds one tablet or capsule. It is most common in acute care hospitals that stock drugs for individual clients several times in one day. A stock supply remains on the nursing unit for use in an emergency or so that a nurse can give a drug without delay. Some facilities use automated medication-dispensing systems, which usually contain frequently used medications for that unit, any as-needed medications, controlled drugs, and emergency medications.

10. a, c, e
RATIONALE: When administering narcotic drugs, the nurse should have an accurate account of their use, record each narcotic used from the stock supply, and count each narcotic drug at the change of every shift. Narcotics are controlled substances, meaning that federal laws regulate their possession and administration. Nurses count narcotics at each change of shift. One nurse counts the number in the supply while another checks the record of their administration or amounts that have been wasted. Both counts must agree, with inconsistencies accounted for as soon as possible. An individual supply is placed in a container with enough of the prescribed drug for several days or weeks and is common in long-term care facilities such as nursing homes. A stock supply remains on the nursing unit for use in an emergency or so that a nurse can give a drug without delay.

11. a
RATIONALE: The nurse should calculate the drug dosage accurately to avoid medication error before, during, or after administration of the drug. Some of the other precautions include ensuring the five rights of medication administration, preparing medications carefully, and recording their administration. The nurse does need to verify the dosage calculation by a second nurse or ask the physician to mention the dosage in the medication order itself. The nurse also needs to count the number of narcotic drugs in the supply, but these answers do not apply to avoiding a medication error.

12. b
RATIONALE: Per the physician’s medication order, the nurse needs to administer 2.5 mL of the drug to the client at the health care facility. The nurse uses a formula to calculate the amount of drug to administer [desired dose/dose on hand (supplied dose) (quantity)] and applies the formula to the information provided in the medication order: 250 mg/500 mg (5 mL = 2.5 mL).

13. d
RATIONALE: Before administering the drug to the client, the nurse compares the MAR with the medical record to prevent any medication errors. Before administration, the nurse reviews the client’s drug, allergy, and medical history to avoid potential complications. The nurse should consult a current drug reference concerning the drug’s action, side effects, contraindications, and administration information to ensure appropriate administration based on a thorough knowledge base. The nurse should plan to administer the medications within 30 to 60 minutes of their scheduled time because it demonstrates timely administration and compliance with the medical order.

14. a
RATIONALE: When administering drugs through an enteral tube, the nurse interrupts the tube feeding for 15 to 30 minutes before and after administration of the drug, which should be given on an empty stomach, to facilitate the drug’s therapeutic action or absorption. Piercing the end of the sealed gelatin capsule and squeezing out the liquid medication facilitates access to the medication. The nurse opens the shell of a capsule to release the powdered content to facilitate mixing into a liquid form. The nurse adds 15 to 60 mL water to a thick liquid medication to dilute the medication and facilitate instillation.

15. a, c, d
RATIONALE: The nurse should include the following in the client’s education: a visual description of the drug; the action, dose, and time of administration; instructions regarding whether food or liquid should accompany administration; a list of potential side effects; and a telephone number for a health care provider to contact should side effects occur. However, the nurse need not include the name of the health care facility where the client can receive treatment or the client’s insurance number should the client require emergency treatment.

CHAPTER 33
SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A

1. Inunction
2. Transdermal
3. Paste
4. Bronchodilators
5. Otic
6. Sublingual
7. Yeast
8. Inhalant
9. Aerosol
10. Suppositories
Activity B
1. The figure shows an inhaler.
2. Inhalers are hand-held devices for delivering medication into the respiratory passages. They consist of a canister containing the medication and a holder with a mouthpiece through which the aerosol is inhaled.

Activity C

Activity D
   4   2   5   3   1

Activity E
1. Skin patches are drugs bonded to an adhesive bandage and applied to the skin. Several drugs are now prepared in patch form, including nitroglycerin, scopolamine, and estrogen. Nicotine withdrawal therapy and contraceptive drugs also are available as skin patches.
2. An otic application is a drug instilled in the outer ear. It usually is administered to moisten impacted cerumen or to instill medications to treat a local bacterial or fungal infection.
3. Nurses warn clients who use over-the-counter decongestant nasal sprays that, if they use the medication too frequently or administer more than the recommended amount, a rebound effect—the swelling of the nasal mucosa—can occur within a short time of drug administration.
4. When giving sublingual or buccal administrations, nurses instruct clients not to chew or swallow the medication. Eating and smoking also are contraindicated during the brief time needed for the medication to dissolve.
5. The inhalant method of medication administration is effective because the lungs provide an extensive area from which the circulatory system can quickly absorb the drug.
6. There are two types of inhalers:
   • A turbo inhaler is a propeller-driven device that spins and suspends a finely powdered medication. The propellers are activated during inhalation.
   • A metered-dose inhaler, much more common, is a canister that contains medication under pressure. The inhaler is placed into a holder containing a mouthpiece. When the container is compressed, a measured volume (metered dose) of aerosolized drug is released.

Activity G
1. Ophthalmic medications are supplied either in liquid form and instilled as drops or as ointments applied along the lower lid margin. The nurse should ask the client to blink (rather than rub) the eyes to distribute the drug over the surface of the eye. The eye is a delicate structure susceptible to infection and injury, just like any other tissue. Therefore, nurses take care to keep the applicator tip of the medication container sterile.

Activity H
1. a  RATIONALE: When caring for a client who has been prescribed hydrocortisone, the nurse should clean the area with soap and water before applying the inunction to promote absorption. The inunction should be applied with the fingertips, a cotton ball, or a gauze square, not with the palm. The inunction should be warmed, not cooled, if it is applied to a sensitive area by holding it in the hand or placing the sealed container in warm water. The inunction should be rubbed into the skin rather than applying it lightly.
2. c  RATIONALE: The nurse should ask the client to lubricate the applicator tip with water-soluble jelly before application. The nurse should ask the client to administer the application preferably before going to bed to retain the medication for a prolonged period. The client should be asked to empty her bladder just before application. The client should remain recumbent for at least 10 to 30 minutes, not just 5 minutes.
3. a  RATIONALE: The nurse uses the cutaneous route to administer nitroglycerin to dilate the coronary arteries in a client. Cutaneous applications are drugs rubbed into or placed in contact with the

SECTION III: APPLYING YOUR KNOWLEDGE

SECTION IV: PRACTICING FOR NCLEX
skin. Drugs to be administered sublingually are placed under the tongue and are left to dissolve slowly, and become absorbed by the rich blood supply in the area. An otic application is instilled in the outer ear. A drug that has to be administered through a buccal application is placed against the mucous membranes of the inner cheek. These routes, however, are not used to administer nitroglycerin to the client.

4. c
RATIONALE: A paste is a drug in a thick base that is applied but not rubbed into the skin. Transdermal applications are drugs that are bonded to an adhesive and applied to the skin. Sublingual applications are drugs that are placed under the tongue and left to dissolve slowly. Buccal applications are drugs placed against the mucous membrane of the inner cheek.

5. a
RATIONALE: When using a patch, the nurse should be aware that patches are mostly used in the upper part of the body such as the chest, shoulders, and upper arms. Small patches can be applied behind the ear. Each time a new patch is applied, it is placed in a slightly different location. After application of the patch, it may take approximately 30 minutes for the drug to reach a therapeutic level. Thereafter, the patch provides a continuous supply of medication. In fact, the drug may still be active for up to 30 minutes after removal of the patch.

6. d
RATIONALE: To avoid skin irritation, the nurse should rotate the site of the application of the medication. The nurse should avoid applying the paste with bare fingers to prevent self-absorption. The nurse should tape the edges of the application paper to seal the drug between the paper and the skin. The nurse can prevent the intake of excess drug by ensuring that one application is removed before applying another. Any residue on the skin should also be removed.

7. a
RATIONALE: When administering eye medication to a client who has developed a sty, the nurse positions the client supine or sitting with his or her head tilted back and slightly to the side the medication is to be instilled to prevent the drug from passing into the nasolacrimal duct or being blinked onto the cheek. Instructing the client to look toward the ceiling prevents looking directly at the applicator, which usually causes blink reflexes as it comes close to the eye. To provide a natural reservoir for liquid medication, the nurse makes a pouch in the lower lid by pulling the skin downward over the bony orbit. To distribute the instilled medication, the nurse should instruct the client to close the eyelids gently and then blink several times.

8. b
RATIONALE: The nurse should be aware that bronchodilators cause hypertension and tachycardia. Either or both of these effects increase the risks for complications, especially in older adults with underlying cardiovascular disease. Bronchodilators may not cause bronchitis or asthma in a client.

9. a, c, e
RATIONALE: An otic application is a drug instilled in the outer ear. It usually is administered to moisten impacted cerumen or instill medications to treat a local bacterial or fungal infection. However, the medication should preferably not be used to remove foreign bodies because it may cause the object to swell and become more tightly fixed. Otic application by itself may not help in clearing the auditory canal.

10. a
RATIONALE: To avoid swelling of the nasal mucosa, the nurse should suggest using a nasal spray containing only normal saline solution. Swelling of the nasal mucosa occurs when administering medication frequently or administering more than the recommended dosage. The nurse could also suggest that the client follow the label directions. Using a spray that contains a reduced dosage of the prescribed medication, anti-inflammatory medication, or anti-allergy medication would not improve the client’s condition.

11. d
RATIONALE: The nurse should instruct the client to breathe through the mouth as the drops are instilled to prevent the client from inhaling large droplets of medication. To distribute the medication when it is instilled, the nurse should ask the client to breathe as the container is squeezed. To provide support and aid positioning, the nurse could place a rolled towel or a pillow behind the neck if the client cannot sit. The nurse aims the tip of the dropper toward the nasal passage to deposit the drug within the nose rather than into the throat.

12. c
RATIONALE: The nurse understands that sublingual application is placing the drug underneath the tongue so that it dissolves slowly. Buccal application is placing the drug against the inner cheek. Instillation is medication incorporated into an agent that is administered by rubbing it into the skin. Patches are drugs bonded to an adhesive applied to the skin.

13. b
RATIONALE: Before administering the nasal medication, the nurse should read and compare the labels on the drug with the MAR at least three times— before, during, and after preparing the drug—to ensure that the right drug is given at the right time by the right route. Administering the medication within 30 to 60 minutes of the scheduled time demonstrates timely administration and compliance with the medical order. The nurse should compare the MAR with the written medical record to prevent medication error. To avoid potential complications, the nurse should review the client’s drug, allergy, and medical history.
14. a
RATIONALE: The nurse should be aware that a suppository cream can be used to treat a client with a vaginal yeast infection. Scopolamine is used to treat motion sickness. Nitroglycerin cream is used to dilate the coronary arteries. Estrogen is used to treat the symptoms of menopause.

15. d
RATIONALE: A turbo inhaler is a propeller-driven device that spins and suspends a finely powdered medication. The propellers are activated during inhalation. A metered-dose inhaler is a canister that contains medication under pressure; the aerosolized drug is released when the container is compressed.

CHAPTER 34

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Sciatic
2. Axilla
3. Tuberculin

4. Intramuscular
5. Bunching
6. Radial
7. Conventional
8. Reconstitution
9. Filter
10. Insulin

Activity B
1. The figure shows the dorsogluteal site for administering intramuscular injections.
2. The primary muscle in this injection site is the gluteus maximus, which is large and, therefore, can hold a fair amount of injected medication with minimal post-injection discomfort.
3. The figure shows the scoop method for covering a needle.
4. Nurses scoop the needle within its protective cap or extend a guard that recesses the needle because these measures reduce the risk of a needle-stick injury.

Activity C
1. D
2. C
3. B
4. A

Activity D
1 → 4 → 3 → 2 → 5

Activity E
1. The parenteral route is a route of drug administration other than oral or through the gastrointestinal tract. This term is commonly used when referring to medications given by injection.
2. All syringes contain a barrel that holds the medication, a plunger located within the barrel that moves back and forth to withdraw and instill the medication, and a tip or hub.
3. A lower dose of parenteral medications may be indicated for elderly clients to prevent adverse effects. Age-related changes and possible chronic diseases may impair the older person’s ability to absorb and metabolize medications.

4. Pinching the muscular tissue together may be needed to avoid striking bone when administering an intramuscular injection if the older person has decreased subcutaneous fat.

5. Conventional syringes and needles are being redesigned to avoid needle-stick injuries, thus reducing the risk for acquiring a blood-borne viral disease such as hepatitis or AIDS.

6. It is important to rotate injection sites because, over time, the injection sites tend to undergo changes that interfere with insulin absorption. To avoid lipoatrophy and lipohypertrophy, the sites are rotated each time an injection is administered.

**SECTION III: APPLYING YOUR KNOWLEDGE**

**Activity G**

1. Typically, low-dose insulin syringes are used to deliver insulin in 30 to 50 units or less. A standard insulin syringe can administer up to 100 units of insulin.

2. The nurse should combine the different insulins just before administration. When injected within 15 minutes of being combined, they act as if they had been injected separately. Otherwise, when mixed together, insulins tend to bind and become equilibrated. The unique characteristics of each are offset by those of the other.

**SECTION IV: PRACTICING FOR NCLEX**

**Activity H**

1. **b**  
   **RATIONALE:** If the medication will be used for more than one administration, the preparer writes the date and time on the vial label and initials it. In some cases, when the directions provide several options in diluent volumes, the preparer also writes the amount on the vial. However, the nurse does not write the client’s name, illness, or syringe details on the vial label.

2. **b, c, d**  
   **RATIONALE:** The nurse places an injection in this site in the middle third of the thigh, with the client sitting or in a supine position. The rectus femoris site is in the anterior aspect of the thigh. The nurse places one hand on the client’s knee and the other below the trochanter when trying to locate the vastus lateralis site, not the rectus femoris site. The nurse palpates the posterior iliac spine and the greater trochanter to locate the appropriate landmarks of the dorsogluteal site.

3. **a**  
   **RATIONALE:** A 25-gauge needle is used most often because medications administered subcutaneously usually are not viscous. For intradermal injections, nurses usually use a 27-gauge needle, whereas a 20-gauge or 23-gauge needle is used for intramuscular injections.

4. **b**  
   **RATIONALE:** To reduce injection discomfort, the nurse should ask the client to lie in a prone position and point the toes inward, not outward, when receiving an injection into the dorsogluteal site. The nurse should ask the client to take deep breaths before receiving the injection. Although local anesthetics like EMLA are used to reduce discomfort, nurses do not ask clients to massage the injection site themselves. In addition, EMLA can take 60 to 120 minutes after application to create the desired effect, making it impractical. The nurse should not ask the client to avoid ambulating for 10 minutes after receiving the injection; the client should be asked to ambulate or move the area of injection as much as possible to reduce pain.

5. **d**  
   **RATIONALE:** To prevent injecting glass particles into the client, the nurse should remove the filter needle and attach a sterile needle for administering the injection. Inserting the filter needle into the ampule ensures sterility of the needle. Tapping the barrel of the syringe near the hub distributes all the medication to the lower portion of the ampule. Using a needle with a very small gauge is not a good idea because finer glass particles will either clog the needle shaft or enter the barrel.

6. **c**  
   **RATIONALE:** Before mixing any drugs, the nurse should consult a drug reference or compatibility chart because some drugs interact chemically when combined. Needle gauge, which refers to the diameter of the needle, and the tissue where the needle needs to be inserted do not make any difference when combining two drugs. Nurses should remember to withdraw exact amounts of the prescribed drug, not equal amounts of drugs,
from the different containers before mixing. A filter needle is used to act as a barrier against glass particles. It does not stop or promote the chemical reaction between two drugs.

7. c
RATIONALE: The nurse should aspirate and dispose of the entire contents of the excess medication from the vial container in the presence of a witness to comply with federal laws to prevent illegal drug use. Nurses do not dilute excess medication with saline solution to prevent illegal drug use, nor do they label the vial container containing the excess medication.

8. b
RATIONALE: The nurse should numb the skin of the client with an ice pack before the injection is administered. The nurse should apply pressure to the injection site when removing the needle to reduce discomfort. Likewise, the nurse should instill the medication slowly and steadily to the client, and change the needle before administering a drug that is irritating to the tissue.

9. d
RATIONALE: Adding 0.1 to 0.2 mL air to the syringe flushes all the medication from the syringe at the time of injection. A nurse can flush all the medication from a syringe regardless of the gauge of the needle or the shaft length of the needle. Attaching a long- or short-shaft needle with a small or big gauge to the syringe does not affect the flushing action. Filter needles do not promote flushing, but act as a barrier for glass particles when withdrawing medication from glass ampules.

10. a, d, e
RATIONALE: Currently, there are three different safety injection devices: injections with plastic shields that cover the needle after use, injections with needles that retract into the syringe, and gas-pressured devices that inject medications without needles. Injections with reusable needles that are immersed in an alcohol solution or boiling water, or injections with disposable needles that are cleaned after withdrawal of the drug from a multidose vial and replaces it with another before administration.

The nurse should rotate the sites with each injection to avoid a previous area where there has been local bleeding. Massaging the site is contraindicated, because this can increase the tendency for local bleeding.

13. b, c, d
RATIONALE: Bunching is preferred for infants, most children, and thin adults. Depending on the client’s size, regardless of whether they are diabetic or obese, the nurse either bunches the tissue or stretches it taut before administering the injection.

14. d
RATIONALE: Irritating medications are commonly given intramuscularly because deep muscles have fewer nerve endings. Intradermal injections, such as tuberculin, are commonly used for diagnostic purposes. Subcutaneous injections are given when the medication, such as insulin or heparin, is to be instilled between the skin and muscle and absorbed fairly rapidly. Intravenous injections, such as intravenous fluids or antineoplastic drugs, are administered via peripheral and central veins.

15. b
RATIONALE: The ventrogluteal site has no large nerves or blood vessels, and it is usually less fatty and cleaner because fecal contamination is rare at this site compared with the dorsogluteal site. The gluteus maximus muscle in the dorsogluteal site can hold large amounts of injected medication. Massaging any intramuscular injection site immediately after administration is not recommended because it can lead to further complications.

16. c
RATIONALE: Rolling the vial of insulin containing an additive between the palms mixes the insulin without damaging the protein molecules. The nurse should not insert the needle in the insulin itself to avoid coating the needle. Administering within 15 minutes of mixing avoids equilibration. Withdrawing specific units of insulin from the vial containing the insulin with the additive helps in preparing the prescribed dose.

CHAPTER 35

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Alcohol
2. Dementia
3. Percutaneous
4. Bolus
5. Pharmacist
6. Xiphoid
7. Medication
8. Antineoplastic
9. Percutaneous
10. Implanted
Activity B

1. The figure shows the piggyback arrangement done during secondary infusion.
2. The piggyback arrangement or secondary infusion is advantageous because it is administered in tandem with a primary intravenous solution.
3. The figure shows the placement of an implanted catheter.
4. The main advantage of an implanted catheter is that it provides the greatest protection against infection. Moreover, it can sustain approximately 2,000 punctures and can remain in place for several years.

Activity C


Activity D

3 → 4 → 1 → 2

Activity E

1. To avoid the hazards of infiltrating tissue with medications delivered intravenously, it is appropriate to collaborate with the prescribing practitioner on the possibility of administering the same drug by another route.
2. Bolus administrations are given either through a port in an existing intravenous line or through a medication lock.
3. A medication lock is a plug that, when inserted into the end of an intravenous catheter, allows instant access to the venous system.
4. Antineoplastic drugs are medications used to destroy or slow the growth of malignant cells and are commonly referred to as chemotherapy or just chemo.
5. A central venous catheter is a venous access device that extends to the superior vena cava and provides a means of administering parenteral medication in a large volume of blood.
6. Health care personnel should explain the purpose and potential side effects for each drug administered, especially by the intravenous route.

Activity F

P G H B
I N T R A V E N O U S
G O P R
G S A E
Y H R T
B O I R
A N N O
C G L
K

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. Elderly clients who need continued intravenous therapy after being discharged may require a referral for skilled nursing care because they require frequent and comprehensive assessment before, during, and after intravenous medication administration.
2. Increasing emphasis on early discharge may require the nurse to teach elderly clients, family caregivers, or both how to flush venous access equipment.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. b  
   RATIONALE: The nurse removes a refrigerated secondary solution at least 30 minutes before administration so that the solution becomes slightly warm and promotes comfort during instillation. Removing the solution 30 minutes before administration does not ensure medication accuracy but having a second nurse double-check does. To prevent medication errors and ensure client safety, nurses should check the client’s identity and documented drug allergies.

2. a, b, c  
   RATIONALE: Nurses and caregivers can absorb antineoplastic drugs through skin contact, inhalation of tiny fluid droplets or dust particles on which the droplets fall, or oral absorption of drug residue during hand-to-mouth contact. Antineoplastic drugs cannot be absorbed through radiation of heat or chemical vapors.

3. a  
   RATIONALE: One of its best features of a medication lock is that it eliminates the need for a continuous, and sometimes unnecessary, administration of intravenous fluid. It can be flushed with saline and heparin to maintain patency, but this is a secondary feature. An implanted catheter, not a medication lock, can sustain approximately 2,000 punctures. To verify patency of a medication lock, nurses need to obtain a blood return.

4. c  
   RATIONALE: Elderly clients tend to metabolize and excrete drugs at a slower rate. This factor may predispose them to toxic effects from the accumulation of medications. Elderly clients have decreased visual acuity and manual dexterity, but nurses can give additional instructions with time allowed for repeated practice. Elderly clients with dementia face confusion and disorientation with an acute illness, but this factor does not lead to toxic effects. Diminished protein components in the blood of elderly clients may lead to more “free drug.”

5. d  
   RATIONALE: A Soluset or a volume-control set is used to avoid accidentally overloading the circulatory
system. It essentially substitutes for the separate secondary container of solution, therefore eliminating the need for additional fluid. It is also used to administer intravenous medication in a small volume of solution at intermittent intervals. A central venous catheter is used to administer parenteral medication in a large volume of blood. Tunneling helps to stabilize catheters and reduce the potential for infection.

6. b  
**RATIONALE:** The nurse should reclamp the catheter of the central venous catheter to prevent complications such as air embolism. To administer medication according to a prescribed rate, the nurse releases the clamp of the catheter tubing and regulates the rate of infusion. Removing the needle from the port when the medicated solution has instilled terminates current use of the catheter. Instilling 5 mL normal saline in the tubing maintains patency.

7. a, b, d  
**RATIONALE:** Nurses should observe elderly clients who are receiving intravenous medications such as anticoagulants, sulfonamides, opiates, and antimicrobials for adverse effects. Normal saline and insulin usually do not lead to adverse effects when administered per the physician’s prescribed orders.

8. d  
**RATIONALE:** Opening the lower clamp of a volume-control set until it is filled with fluid and then clamping it purges unwanted air from the tubing. To fill the drip chamber with fluid, the nurse needs to squeeze and release the drip chamber until it is half full. To permit the fluid to enter the calibrated container, the nurse needs to release the clamp above the fluid chamber. To prepare the equipment for administration, all clamps need to be closed and the spike needs to be inserted into the intravenous solution.

9. b  
**RATIONALE:** To reduce skin discomfort, the nurse should apply a local anesthetic topically. The administration of intravenous solution is stopped if there are complications and when the physician orders it. Replacing the special needle or changing the self-sealing port is not a good idea. Implanted catheters have a self-sealing port pierced through the skin with a special needle when administering intravenous medications or solutions.

10. d  
**RATIONALE:** A secondary infusion is the administration of a parenteral drug that has been diluted in a small volume of intravenous solution, usually 50 to 100 mL, over 30 to 60 minutes. All the other intravenous volume solutions and rate of flow are incorrect.

11. b  
**RATIONALE:** If the client’s condition changes for any reason, the first thing that a nurse should do is cease the administration immediately. The nurse should then call for the lead physician and take emergency measures to protect the client’s safety. The nurse does not reduce the prescribed rate of intravenous medication on her own without the lead physician’s permission.

12. d  
**RATIONALE:** Covering the drug preparation area with a disposable paper pad is done to absorb small drug spills. To inactivate the drug, nurses should pour 70% alcohol over any drug spill. Nurses should wear one or two pairs of surgical latex, non-powdered gloves to reduce the potential of skin contact, and they should avoid inhalation of the drug spill.

13. b  
**RATIONALE:** The nurse should use sterile normal saline to fill the intravenous tubing before administration to maintain patency. Nurses do not use sterile bacteriostatic water for flushing, but for injection. Sterile isopropyl alcohol is used for cleaning the skin. Sterile hydrogen peroxide is usually used to disinfect and clean medical equipment.

14. c  
**RATIONALE:** The nurse should identify excess fluid volume as the nursing diagnosis because the client complains about a bloated abdomen and frequent urination. The client does not have risk for injury or infection because the intravenous equipment is sterilized and placed appropriately by the nurse per the physician’s orders. The client is bound to experience a little bit of discomfort, but not acute pain, from the intravenous administration.

15. a, d, e  
**RATIONALE:** Hanging the secondary solution higher than the primary solution instills the solution under greater hydrostatic pressure. Releasing the roller clamp on the secondary solution initiates infusion. Regulating the rate of flow by counting the drip rate and adjusting the roller clamp establishes the maintenance rate of flow to instill the solution. The nurse should clamp the tubing when the solution has instilled to prevent backfilling with the primary solution. Inserting the modified adapter within the port provides access to the venous system.

---

**CHAPTER 36**

**SECTION II: ASSESSING YOUR UNDERSTANDING**

**Activity A**

1. Epiglottis  
2. Cilia  
3. Viscosity  
4. Aerosol  
5. Dysphagia  
6. Suctioning
7. Oral
8. Nasotracheal
9. Trumpet
10. Pneumonia

**Activity B**
1. The figure shows a client using aerosol therapy.
2. Aerosol therapy improves breathing, encourages spontaneous coughing, and helps the client to raise sputum for diagnostic purposes.
3. The figure shows the nurse performing percussion.
4. Percussion, rhythmic striking of the chest wall, helps to dislodge respiratory secretions that adhere to the bronchial walls.

**Activity C**
1. E
2. A
3. D
4. B
5. C

**Activity D**

```
3 1 4 2
```

**Activity E**
1. There are many factors that can jeopardize airway patency, including:
   - Increased volume of mucus
   - Thick mucus
   - Fatigue or weakness
   - Decreased level of consciousness
   - Ineffective cough
   - Impaired airway
2. The structures that protect the airway from a wide variety of inhaled substances include the following:
   - Epiglottis—It is a protrusion of flexible cartilage above the larynx that acts as a lid that closes during swallowing. It helps to direct fluid and food toward the esophagus rather than the respiratory tract.
   - Tracheal cartilage—This ensures that the trachea, the portion of the airway beneath the larynx, remains open.
   - Mucous membrane—This is a type of tissue from which mucus is secreted, which lines the respiratory passages.
   - Cilia—These are hairlike projections that beat debris upward that collects in the lower airway.
3. The most common methods of maintaining the natural airway are keeping respiratory secretions liquefied, promoting their mobilization and expectoration with chest physiotherapy, and mechanically clearing mucus from the airway by suctioning.
4. Clients at risk for airway obstruction or requiring long-term mechanical ventilation are candidates for an artificial airway. Two common types are
   - An oral airway
   - A tracheostomy tube
5. An oral airway is a curved device that keeps a relaxed tongue positioned forward within the mouth, preventing the tongue from obstructing the upper airway. It is most commonly used in clients who are unconscious and cannot protect their own airway, such as those recovering from general anesthesia or a seizure.
6. Many elderly clients with pathologic pulmonary changes have a history of smoking cigarettes since their youth, working in occupations where they inhaled pollutants that affected their lungs, or living for an extended time in industrial areas known for toxic emissions.

**Activity F**

```
A IV PERCUSSION WB HYDRATION YA SPUTUM TRACHEOSTOMY
```

**SECTION III: APPLYING YOUR KNOWLEDGE**

**Activity G**
1. Because a tracheostomy tube is below the level of the larynx, clients usually cannot speak. Communication may involve writing or reading the client’s lips. Being unable to call for help is frightening; therefore, the nurse should check these clients frequently and respond immediately when they signal.

**SECTION IV: PRACTICING FOR NCLEX**

**Activity H**
1. a, c, d
   **RATIONALE:** The nurse should be aware that the lower airway consists of the trachea, bronchi, alveoli, and bronchioles. The upper airway consists of the nose and pharynx, which is subdivided into the nasopharynx, oropharynx, and laryngopharynx.
2. b
   **RATIONALE:** The tracheal cartilages or rings ensure that the trachea, the portion of the airway below the larynx, remains open. The epiglottis is a protrusion of flexible cartilage above the larynx that acts as a lid that closes during swallowing, helping direct fluid and food toward the esophagus rather than the respiratory tract. Mucous
membrane is a type of tissue from which mucus is secreted. It lines the respiratory passages and traps particulate matter. Hairlike projections called cilia beat debris upward that collects in the lower airway.

3. a  
**RATIONALE:** Aerosol therapy helps in raising sputum for diagnostic purposes. It also improves breathing and encourages spontaneous coughing. Percussion helps to dislodge respiratory secretions that adhere to the bronchial wall. Vibration is using the palms of the hands to shake underlying tissue and loosen retained secretions. Postural drainage is a positioning technique that promotes gravity drainage of secretions from various lobes or segments of the lungs.

4. c  
**RATIONALE:** The nurse should collect a sputum specimen just after the client awakens or after an aerosol treatment, because more mucus is available or is in a thin state. It may not be possible to collect enough thin-sputum specimen before the client goes to bed, after physiotherapy, or after percussion is performed.

5. a  
**RATIONALE:** Postural drainage is a positioning technique that promotes gravity drainage of secretions from various lobes or segments of the lungs. Aerosol therapy encourages spontaneous coughing. Vibration uses the palms of the hands to shake underlying tissue and loosen retained secretions. Percussion helps to dislodge respiratory secretions that adhere to the bronchial wall.

6. a  
**RATIONALE:** The nurse should perform percussion for 3 to 5 minutes, not more, in each postural drainage position. Percussion, the rhythmic striking of the chest walls, helps to dislodge respiratory secretions that adhere to the bronchial wall.

7. b  
**RATIONALE:** The nurse should apply a negative pressure from 50 to 85 mm Hg when using a wall suction machine on an infant, whereas 100 to 140 mm Hg of negative pressure is appropriate for adult clients and 95 to 100 mm Hg is appropriate for children, when using a wall suction machine. The nurse does not apply a negative pressure of 45 to 50 mm Hg for infants, children, or adults.

8. c  
**RATIONALE:** The nurse should encourage the client to cough, if coughing does not occur spontaneously, to break up mucus and raise secretions. To maximize the effectiveness of suctioning, the nurse should occlude the air vent and rotate the catheter as it is withdrawn. The nurse should wait until the client takes a breath before advancing the tubing for tracheal suctioning, to ease insertion below the larynx.

9. a  
**RATIONALE:** Nasopharyngeal suctioning involves removing secretions from the throat through a nasally inserted catheter. Nasotracheal suctioning removes secretions from the upper portion of the lower airway through a nasally inserted catheter. Oropharyngeal suctioning removes secretions from the throat through an orally inserted catheter. Oral suctioning is the removal of secretions from the mouth using a Yankeur-tip or tonsil-tip catheter.

10. b, d, e  
**RATIONALE:** Clients who have an upper airway obstruction, require prolonged mechanical ventilation, and are less stable and require oxygenation are likely candidates for tracheostomy. Tracheostomy is a surgically created opening into the trachea. Clients who are recovering from general anesthesia or a seizure are candidates for an oral airway.

11. a  
**RATIONALE:** To maintain aspiration, the nurse should perform suctioning. This also helps to clear saliva from the mouth. Positioning the client supine with the neck hyperextended opens the airway and facilitates insertion of the artificial airway. Holding the airway so that the curved tip points toward the roof of the mouth is done to prevent pushing the tongue into the pharynx during insertion. Rotating the airway over the top of the tongue ensures that the artificial airway follows the natural curve of the upper airway.

12. c  
**RATIONALE:** The nurse should understand that a possible cause of resistance when inserting the catheter is the result of contact between the tip of the catheter and the carina. When suctioning a tracheostomy, the nurse inserts the catheter a shorter distance, approximately 4 to 5 inches, or until resistance is felt, because the tube already lies in the trachea. The resistance is caused by contact between the catheter tip and the carina, the ridge at the lower end of the tracheal cartilage where the main bronchi are located.

13. a, c, e  
**RATIONALE:** Tracheostomy care includes cleaning the skin around the stoma, changing the dressing, and cleaning the inner cannula. The nurse need not change the outer cannula or clear the outer airway when performing tracheostomy care.

14. b  
**RATIONALE:** The nurse should be aware that respiratory cilia become less efficient with age, predisposing older adults to a high incidence of pneumonia. Usually the bases of elderly clients’ lungs receive less ventilation, contributing to retention of secretions, decreased air exchange, and compromised ventilation.

15. a, b, d  
**RATIONALE:** Inquiring about a current history of coughing, determining how long the cough has been present, and observing and describing any sputum are important when assessing elderly...
clients who have difficulty coughing. Inquiring whether the physician has been informed and checking the client’s medication against the medical order are not appropriate interventions in the given situation. Severity of chronic pulmonary diseases increases with age.

16. c 
RATIONALE: The nurse should be aware that elderly clients with difficulty swallowing (or dysphagia), often associated with stroke or middle and late stages of dementia, are more vulnerable to aspiration pneumonia. Older adults are at increased risk for cardiac dysrhythmias during suctioning because many have preexisting hypoxemia from illnesses and age-related changes in ventilation.

CHAPTER 37

SECTION II: ASSESSING YOUR UNDERSTANDING

Activity A
1. Supine
2. Recovery
3. Esophagus
4. Sternum
5. Bolus
6. Ribs
7. Rescue
8. Hands
9. Consciousness
10. Resuscitation

Activity B
1. The figure shows mouth-to-mouth rescue breathing.
2. During mouth-to-mouth breathing, a rescuer seals the victim’s nose, uses his or her mouth to cover the victim’s mouth, and blows air into the victim.

Activity C
1. C 
2. A 
3. D 
4. B

Activity D
4 → 2 → 3 → 1 → 5

Activity E
1. If the client can speak or cough, or if he or she is exchanging some air, then these signs indicate that the client has a partial airway obstruction. Infants cannot talk or make the universal choking signs; ability to cry is the best evidence of partial obstruction in this age group.
2. The process of ventilating the lungs through the victim’s mouth, nose, or stoma is called rescue breathing.
3. The ABCDs of CPR include airway, breathing, circulation, and defibrillation to restore breathing and circulation. CPR is performed when a client requires lifesaving assistance.
4. Mouth-to-nose breathing is performed when the client is an infant or small child, or when mouth-to-mouth breathing is impossible or unsuccessful.
5. An AED is a portable, battery-operated device that analyzes heart rhythms and delivers an electrical shock to restore a functional heartbeat.
6. Rescuers and nurses performing rescue breathing should use a one-way valve mask or other protective face shield if available, because these devices theoretically reduce the potential for acquiring infectious diseases such as hepatitis and AIDS. However, lack of a barrier device should not interfere with attempting rescue breathing.

Activity F

SECTION III: APPLYING YOUR KNOWLEDGE

Activity G

1. When performing CPR, older adults are at a greater risk for fractured ribs because of the increased likelihood of osteoporosis. Similarly, those with vascular disease may not receive adequate blood perfusion of the brain during CPR, and they may experience brain damage as a result.

2. Elderly clients who take daily doses of aspirin or other anticoagulant drugs are more apt to bleed internally during chest compressions.

SECTION IV: PRACTICING FOR NCLEX

Activity H

1. c

RATIONALE: When performing the chin lift technique or head tilt technique to open the airway, nurses assist the client to lie in the supine position on a firm surface without twisting the spine. The lateral position, Sims’ position, and Fowler’s position are not suitable for performing the chin lift technique or the head tilt technique.

2. c

RATIONALE: The nurse should observe for signs of partial or complete airway obstruction, such as inability to speak, coughing, audible wheezing, or the client holding the throat. Insufficient chewing, compromised swallowing, and aspiration of vomiting are causes of airway obstruction.

3. b

RATIONALE: Use of an AED in children from 1 to 8 years of age weighing less than 55 lbs is not recommended unless the device can deliver a pediatric “shockable” dose. If a client has an implanted defibrillator or pacemaker, the AED pad is placed 1 inch away from the implanted device. Elderly clients are at a greater risk for fractured ribs because of the increased likelihood of osteoporosis when performing CPR. Clients with dementia can also be administered shock with the aid of an AED.

4. c

RATIONALE: If a person has an implanted defibrillator or pacemaker evidenced by a hard object beneath the skin with an overlying scar, the AED pad must be placed at least 1 inch to the side of the implanted device. Placing the AED pads on the implanted device itself is not recommended. Nurses do not place AED pads between the sternum and vertebrae, but use this site for chest compression in clients and use the brachial artery in the upper arm in infants for promoting circulation.

5. a

RATIONALE: Periodically, rescuers should perform an assessment after five cycles of compressions and ventilations. They assess the victim to determine whether CPR is effective. Nurses do not assess the client’s condition after 10, 15, or 20 cycles of compression and ventilations. When an AED is not available and the arrival of emergency resuscitation personnel is delayed, CPR continues at a rate of 30 compressions to two ventilations.

6. a, b, d

RATIONALE: After early recognition and providing access of emergency services, the nurse should provide the client with early CPR, arrange for the cardiac defibrillator, and keep the advanced life support services ready for use. The nurse should not waste time checking the pulse or blood circulation of a client with cardiac arrest, but provide emergency care with great speed. Placing the client in a recovery position is done when the client starts breathing and has a normal pulse rate.

7. a

RATIONALE: When a person has a complete or partial airway obstruction, the face initially reddens and then becomes pale or blue. Signs of airway obstruction generally occur when the person is eating. He or she may make a high-pitched sound while inhaling.

8. a, b, c

RATIONALE: AEDs are located in many public access locations, such as schools, airports, and police stations. However, they are not readily placed at pedestrian subways or amusement parks. Once obtained, the user turns on the AED so that he or she can observe its monitor screen. Most AEDs have pictorial instructions and the capacity to provide voice instructions.

9. b

RATIONALE: To determine whether chest compressions are necessary, rescuers assess circulation by using two fingers to compress the carotid artery to the side of the trachea for an adult and simultaneously observing for breathing, coughing, or movement. Nurses place the heel of one hand and the other hand on top of it during chest compression, not when assessing the carotid artery of a client. Hands with locked elbows are used when giving chest compression to avoid rocking back and forth over the client. Nurses use the jaw-thrust technique to open an airway, not to assess the carotid artery.

10. d

RATIONALE: Nurses give rescue breathing to a client with a laryngectomy by sealing his or her mouth over the victim’s stoma. Because the upper airway is essentially a blind pathway, the nose does not require sealing. A one-way mask is used to reduce the potential for acquiring infectious disease when performing mouth-to-mouth breathing. The nurse covers or closes the client’s mouth when performing mouth-to-nose breathing.

11. b

RATIONALE: Holding the infant prone with the head downward, nurses use the heel of one hand to administer five back slaps between the shoulder blades. The rescuer turns the infant supine and...
uses two fingers to give five chest thrusts. Nurses alternate between five back blows and chest thrusts, not just turning the client between the supine and prone positions, until the object is dislodged. The rescuer does not use finger sweeps unless he or she can see the obstructing object.

12. a
Rationale: For assessment of spontaneous breathing, nurses observe for rising and falling of the chest, and listen and feel for air escaping from the client’s nose and mouth. Nurses check the client’s pulse rate as part of obtaining vital signs, not to assess spontaneous breathing. Nurses do not assess spontaneous breathing of a client on the basis of the change in skin color or movement of the mouth and nose.

13. a, b, e
Rationale: The decision to stop resuscitation efforts often is based on the time that elapsed before resuscitation began and whether the client’s condition deteriorates despite resuscitation efforts. Other factors include the age and diagnosis of the victim, as well as objective data, such as arterial blood gas results and electrolyte studies. It is not the wishes of the client’s family, but the written evidence of the client, that can stop resuscitation efforts. Resuscitation is not discontinued when rescuers or nurses are exhausted.

14. d
Rationale: The nurse positions his or her body over the hands to deliver a straight-down motion with each compression. The hands remain in contact with the client’s chest when the elbows are locked to avoid rocking back and forth over the client. Nurses either interlock their fingers or extend them after placing the heel of one hand over the other hand on the client’s chest for compression. Nurses do not use two fingers when giving chest compression; they use two fingers on an infant’s chest when performing the Heimlich maneuver.

15. b
Rationale: If the emergency involves someone within a health care agency, the initial rescuer can alert the resuscitation team by notifying the switchboard operator that assistance is needed and by giving the location of the emergency. When there is a client with cardiac arrest, nurses should not waste time alerting the lead physician or describing the client’s age and physical appearance. A nurse can assess the client quickly, but dialing 911 for help when the client is in the health care facility itself would be incorrect.

## Chapter 38

### Section II: Assessing Your Understanding

**Activity A**

1. Terminal
2. Hospice
3. Hydration
4. Death
5. Sucking
6. Autopsy
7. Coroner
8. Mortician
9. Dysfunctional
10. Paranormal

**Activity B**

1. The figure shows a nurse caring for a client in a home care setup.
2. The nurse caring for a client in a home care setup may help to coordinate community services, secure home equipment, and arrange for nursing visits. The nurse also assesses the toll of client care on the primary caregiver. The nurse encourages the caregiver to identify relatives or friends who will volunteer relief time with the client.

**Activity C**

1. D
2. C
3. E
4. A
5. B

**Activity D**

```
3   1   4   2
```

**Activity E**

1. “Dying with dignity” is the process by which the nurse cares for dying clients with respect, no matter what their emotional, physical, or cognitive state.
2. Brain death is a condition in which there is an irreversible loss of function of the whole brain, including the brainstem.
3. A death certificate is a legal document attesting that the person named on the form has been found dead; it also indicates the presumptive cause of the person’s death.
4. Postmortem care or care of the body after death involves cleaning and preparing the body to enhance its appearance during viewing at the funeral home, ensuring proper identification, and releasing the body to mortuary personnel.
5. Multiple organ failure is a condition in which two or more organ systems gradually cease to function. When the supply of oxygen begins to fall below levels required to sustain life, cells (followed by tissues and organs) begin to deteriorate. The cardiovascular, pulmonary, hepatic, and renal systems are most vulnerable to failure.
SECTION III: APPLYING YOUR KNOWLEDGE

Activity G
1. The client refuses to believe that the diagnosis is correct. She assumes that the test results are wrong. The client is in the first stage of dying, or denial, where she is using a psychological defense mechanism by refusing to believe the diagnosis.
2. To help the dying person cope, the nurse should:
   - Accept the client's behavior to demonstrate respect for the client's individuality
   - Provide opportunities for the client to express her feelings and help her to meet her individual needs
   - Try to understand the client's feeling to reinforce her uniqueness
   - Communicate with the client in a language that encourages her to choose the topic or manner of response.

SECTION IV: PRACTICING FOR NCLEX

Activity H
1. d
   RATIONALE: The statement, “Yes, I’m dying...” indicates that the client is in the depression stage of dying as the client realizes that death will come sooner or later. A client in the denial stage says, “How can it be? No, I’m not dying.” A client in the second stage of dying, or anger stage, feels victimized and may say, “What have I done wrong? Why me?” A client in the third stage of dying, or bargaining stage, tries to convince a higher power or God why he or she needs to live, and may say, “I have just finished college ... .”
2. b
   RATIONALE: Informing the client about preparing an advance directive indicates respect for the rights of the dying client. The nurse should not ask the client to avoid talking about death, avoid any reference to spirituality when talking to the client, or tell the client that the results of the diagnostic test look good. The Bill of Rights for a dying client states that the client has a right to express feelings about death in his or her own way. It allows the dying client to discuss spiritual experiences and to have his or her questions answered honestly.
3. a
   RATIONALE: When caring for a dying client, it is often helpful if the nurse offers to secure spiritual counseling, if requested, for the client and family members. Nurses who dedicate their careers to end-of-life care must be compassionate and caring, and must understand their own feelings regarding life and death. The client should not be restricted from talking about death with family members; otherwise, it may make the client feel unimportant and unwanted by the family. The nurse must not force or try to convince the client or family members to agree to organ donation, because some people feel very vulnerable and they should not feel pressured into consenting to organ or tissue donation.
4. a, b, c
   RATIONALE: When providing home care for a terminally ill client, the nurse coordinates community services, arranges for home nursing visits, and secures home equipment. Around-the-clock nursing care is provided to clients in a residential care facility. The nurse need not suggest transferring the client to residential care, because that is the decision of the client and the client’s family.
5. a
   RATIONALE: The nurse should assist the client to a lateral position to prevent choking and aspiration. The client’s position should be changed at least every 2 hours to promote comfort and circulation, and to prevent skin breakdown. Asking the client to sleep without a pillow, assisting the client to a semi-Fowler’s position, or ensuring that the client is supine at all times are not relevant interventions for this client, because they do not help to prevent choking or aspiration.
6. d
   RATIONALE: Although the client may designate himself as an organ donor, the nurse should discuss the possibility of organ donation with the client’s next of kin. The client’s eyes must not be harvested for donation without informing and obtaining permission from the client’s surviving spouse or next of kin. A pack of ice is usually placed over the client’s eyes to preserve their integrity when harvesting them for donation. It is important to discuss the matter of organ or tissue donation with the client’s family members and clarify their doubts regarding organ donation.
7. a
   RATIONALE: Clients who are certified by the physician as having less than 6 months to live are eligible for hospice care. If a client survives beyond 6 months, he or she continues to receive care as
long as the physician certifies that the client continues to meet hospice criteria. Clients with difficult behavior or clients requiring palliative care are not necessarily placed in hospice care. Clients who cannot live independently are referred to residential care.

8. d  
**RATIONALE:** A client placed under hospice care is provided care by a multidisciplinary team of professionals and volunteers who support the care given by the family. A client in residential care receives subacute or intermediate care in nursing homes or long-term care facilities that provide around-the-clock nursing care for clients who cannot live independently. A client in acute care is provided with sophisticated technology and labor-intensive treatment.

9. c  
**RATIONALE:** The nurse should provide wrapped ice cubes to be sucked. Sucking is one of the last reflexes to disappear as death approaches. A client with difficulty in swallowing should not be offered water or beverages even in small amounts because it could lead to aspiration followed by pneumonia. Eventually, the client may need intravenous fluids to maintain adequate fluid volume.

10. b  
**RATIONALE:** Nausea and vomiting may result in inadequate consumption of food. The client may have little interest in eating or may find the effort too exhausting. Poor nutrition leads to weakness, infection, and complications like pressure sores.

11. c  
**RATIONALE:** The lips of the client may need periodic lubrication as a result of dryness from administration of oxygen. Administration of intravenous fluids and total parenteral nutrition may be required if the client is unable to swallow or suck. Frequent mouth care may be necessary for clients who cannot swallow or expectorate.

12. d  
**RATIONALE:** The goal of non-narcotic analgesics is to provide relief from pain. Non-narcotic analgesics are not administered to dull consciousness, suppress respirations, or inhibit the client’s ability to communicate.

13. a, c, d  
**RATIONALE:** The nurse should identify himself or herself by name, title, and location to provide a more personal communication. The nurse should ask for the family member by name to ensure that the right person is provided with the information. The nurse should speak calmly and explain that the client’s condition is deteriorating, rather than tell the family that all answers to queries will be given at the facility, because this explains the purpose of the call. The nurse should not ask the family to rush to the facility without explaining the reason, because it could lead to confusion or contribute to a traffic accident.

14. a, d, e  
**RATIONALE:** Irreversible brain death is considered to be present if there is a flat encephalogram for at least 10 minutes, complete absence of central and deep tendon reflexes, and no spontaneous respiration after being disconnected from a ventilator. Unreceptiveness or unresponsiveness to intense (not moderately) painful stimuli confirms brain death. PaCO₂ greater than or equal to, not less than, 60 mm Hg after preoxygenation with 100% oxygen indicates brain death.

15. a  
**RATIONALE:** The nurse should clean secretions and drainage from the skin to ensure delivery of a hygienic body. The dentures need not be removed from the mouth, because they maintain the natural contour of the face. The nurse should remove all hairpins or clips to prevent accidental trauma to the client’s face. A small rolled towel is placed beneath the chin of the client to close the mouth, not under the head.